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PC review

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F15 III

ADVENTURES
From Colossal Cave to Monkey Island

SPECIAL
Original thinking: Lord British and Chris Roberts speak out

COMPETITION
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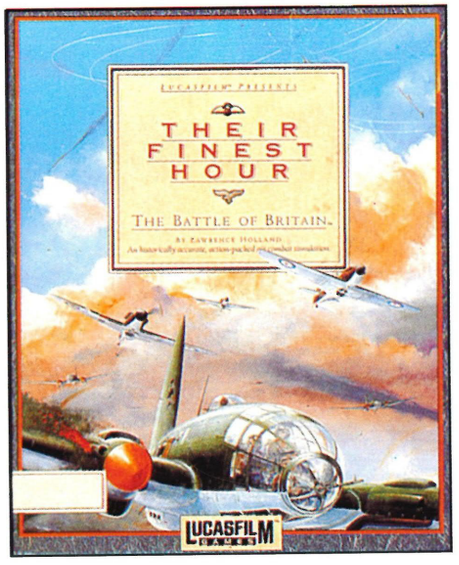
PC review
F15 Strike Eagle III
ISSUE 16 FEBRUARY 1993

FLIGHT FOR PC

Only you can stop the Luftwaffe

The Summer of 1940. Hitler's war machine has humbled all of Europe - except Great Britain.

Now, the all-conquering Luftwaffe plans to soften up Southern England for an invasion known as Operation Sea Lion.





Only the RAF can halt their relentless progress. The odds are stacked against them.

Now, above the Home Counties; Spitfires and Hurricanes are locked in deadly combat with Messerschmitts and Heinkels. There can only be one winner.

This is The Battle of Britain.



Graphically stunning, historically accurate and thrillingly realistic (with instant-replay feature), Their Finest Hour resets the stage for the ultimate dogfight.

One thing's certain, this Lucasfilm spectacular will provide you with many fine hours of pure entertainment.

Available on: Atari ST, Amiga and PC and Compatibles (CGA, EGA, MCGA, VGA and Tandy ® 16 colour. Requires 512k Ram. Supports AdLib™ sound card). Mouse or joystick.

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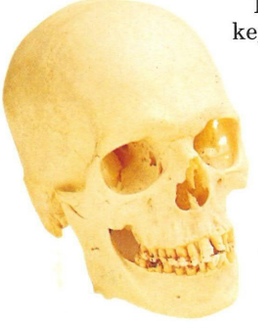
LAUGHS FOR PC

Side-splitting pirate adventure

Just when you thought it was le end for LeChuck, he's back.

The legend states that "when LeChuck wants you dead, you're dead"- grim news for his old adversary, young Guybrush Threepwood.





But fear not. Big Whoop holds the key to great power. All is not lost.

In this stunning graphic sequel, young Guybrush's adventures will have you rolling in hysterics. Beware, you'll laugh so hard, milk will flow from your nose.

Behind every pirate is a really gnarly chair and in front of Guybrush is a saga so savage it'll put hairs on your chest.

With 256 colours (PC version), variable difficulty modes, interactive reggae music and "point 'n' click" interface, you'll be transported to Monkey Island in a flash.



So, brace yourself, the fun starts here. Who knows when it will stop?

Available on: Amiga (32 colours) and PC (VGA/ MCGA. Requires 640k Ram AT or compatible. Supports AdLib™, Roland™, Soundblaster™ and SoundMaster™II sound cards. Hard drive required.

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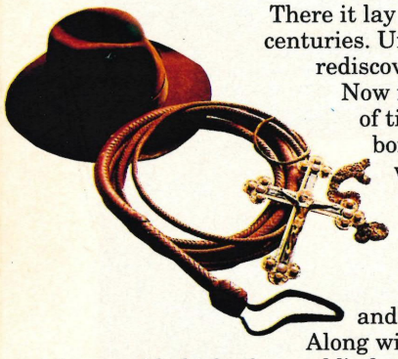
ADVENTURE FOR PC

Who can save Civilisation from destruction?

Who else? It has to be Indy.

It all began a few thousand years ago, when Atlantis sank to the ocean bed. With it, the secret of the most destructive force on earth also sank without trace. Or did it?





There it lay undisturbed for centuries. Until the Nazis rediscovered the Kingdom. Now it will only be a matter of time until they have a bomb so powerful it will draw World War II to a conclusion. Schnell!

Enter the man with the funny hat and the bull whip. Along with Sophia, his trusty side-kick, the world's future rests on their shoulders.

Is this too much to ask? No way!

Join the intrepid duo in dazzling 3D with full music and sound effects as The Fate of Atlantis and the world is decided.

So, here goes!



Available on: Amstrad and C64 Cassette & Disk, Spectrum Cassette, Atari ST, Amiga; PC and Compatibles.

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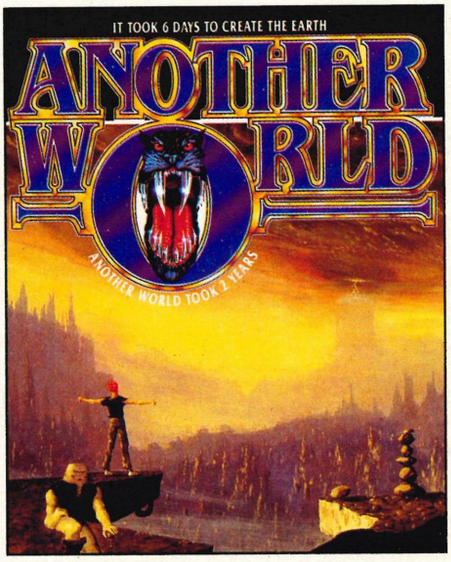
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ADVENTURE FOR PC

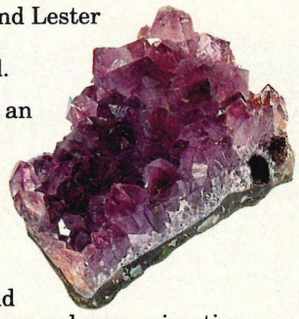
You're about to enter "Another World"

It was a one-in-a-million chance. But it was about to happen.

Young scientist Lester Chaykin was busy experimenting in his laboratory. He'd just reached a crucial point in a test on sub-atomic particles, when zap,



a bolt of lightning struck and Lester was teleported into a different dimension. Into Another World.



He was on his own, against an unknown quantity.

From the designers of Future Wars - Another World took two years to create. And it's easy to see why.

There's zoom, panorama and close-up shots, as well as a unique polygon animation technique for fluidity.



Delphine's in-house recording studios provide the finishing touch.

Quite simply, you ain't seen nothin' yet.

Available on: Atari ST, Amiga (32 colours) & PC (CGA, EGA, VGA, Tandy ®, AdLib™ & Roland™).

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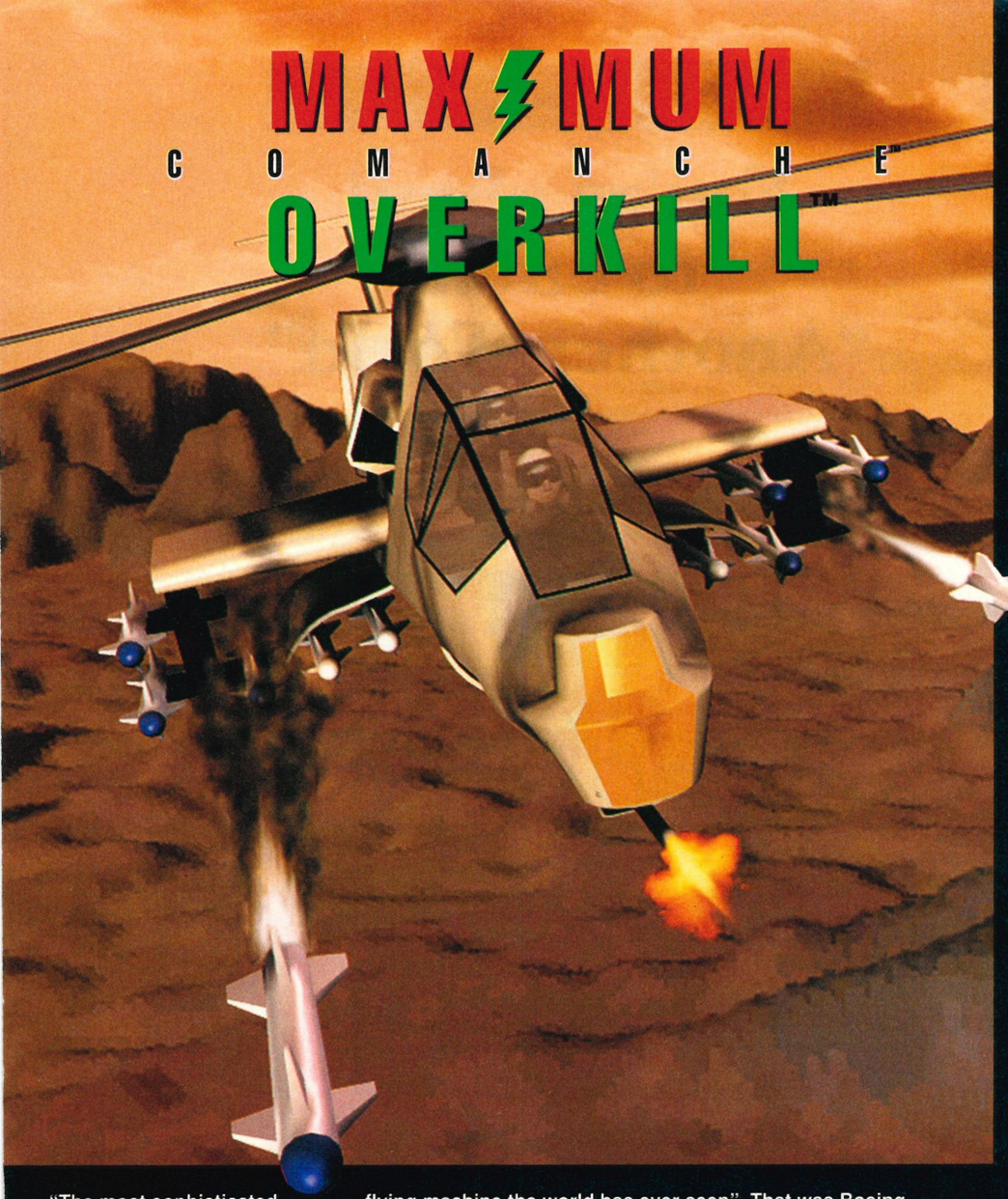
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MAXIMUM COMANCHE™ OVERKILL™



SEEING IS BELIEVING



Stunning in-game graphics will test your courage and will-power to the limit ... even at a top speed of 328 km/h, you don't miss a single detail of the frontline battlefield.



So realistic you'll feel the G-force of the 360 m/m vertical rate of climb. Amazing graphics out-shine fractal geography for accuracy and speed.



You'll need to program your laser range-finder/designator at a moment's notice and consult the aided target detection/classification system to eliminate mistakes - and the enemy.



You're at the controls of the most powerful flying machine ever devised ... in the most powerful PC flight sim ever created ... have you got the skill and the sheer nerve to play your part in the theatre of conflict and complete your mission?

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 specification.

"The most sophisticated flying machine the world has ever seen". That was Boeing Sikorsky's brief from the US Army.

The response? The Multimission RAH-66 Comanche.

In seconds this high-tech helicopter converts from a stealthy scout into a lethal gunship. It's the most sophisticated rotor craft devised. And it's going to revolutionise the face of modern warfare.

To simulate this 21st century military marvel, Novalogic have now developed a state of the art software technique called Voxelspace™.

Voxelspace performs 1 million 3-D calculations per second. That's 500 times faster and 500 times more detailed than its nearest rival, giving authentic topographical detail down to the smallest boulder.

Thanks to Voxelspace and satellite mapping data, low-altitude approaches are amazingly real as you weave between mountain peaks before swooping down to hug the valley floor on the final lap of your mission.

You've also got an awesome array of fire-power lined up on your 6 internal universal missile rails - including a choice of Hellfire or Stinger missiles or 70mm rockets - plus a 3-barrel 4,000 rounds-per-min turreted cannon.

This flight simulation is as near to sitting at the command seat of the world's most technologically advanced flying machine as you can go without a top priority pass and permission from the President.

- Smoothest, richest terrain graphics ever seen in a real-time simulation.
- Unequalled speed and manoeuvrability matches exactly the performance characteristics of the new RAH-66 Comanche
- One minute learning curve
- Superbly realistic sound effects and dramatic musical score

Comanche™ Maximum Overkill™. An ultra-advanced flight sim of an ultra-sophisticated flying machine. **NOTHING ELSE DARES TO COME CLOSE.**

Available on: PC & Compatibles (VGA, minimum memory 4Mb, minimum 386/25 MHz Processor required and Hard Drive required). Sonic support (AdLib, Roland and Soundblaster).

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PC review

FEBRUARY 1993 ISSUE 16

Printed in the UK

contents



12 **COVER DISKS**

3.5″ disk owners are in for a real treat this month. Everybody's favourite suicidal rodents are back in their greatest adventure yet as Lemmings 2 hits your PC screens with a vengance. Also for 3.5″ owners is Castles 2, sequel to the classic strategy game from Electronic Arts. 5.25″ owners needn't feel left out though. Some of the most useful utilities and glorious games await, as well as our comprehensive PC Review Index.
Turn straight to page 12 for full details on using the disks.

FEATURES

30 **The history of adventures**

Ciarán Brennan takes a trip through time to take a comprehensive look at the origins of the adventure game. How have things changed? Who wrote the first graphic adventure? Just how different are today's games from the classics of yesteryear?



38 **British by any other name**

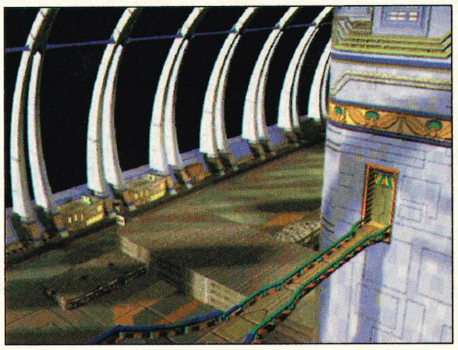
Who are the real people at Origin and what are they up to? Paul Presley travels to their Texan home to find out.

42 **Bulletin boards**

All across Europe people are talking to each other with their PCs. Find out how to get connected as Paul Breeze takes you for a guided tour.

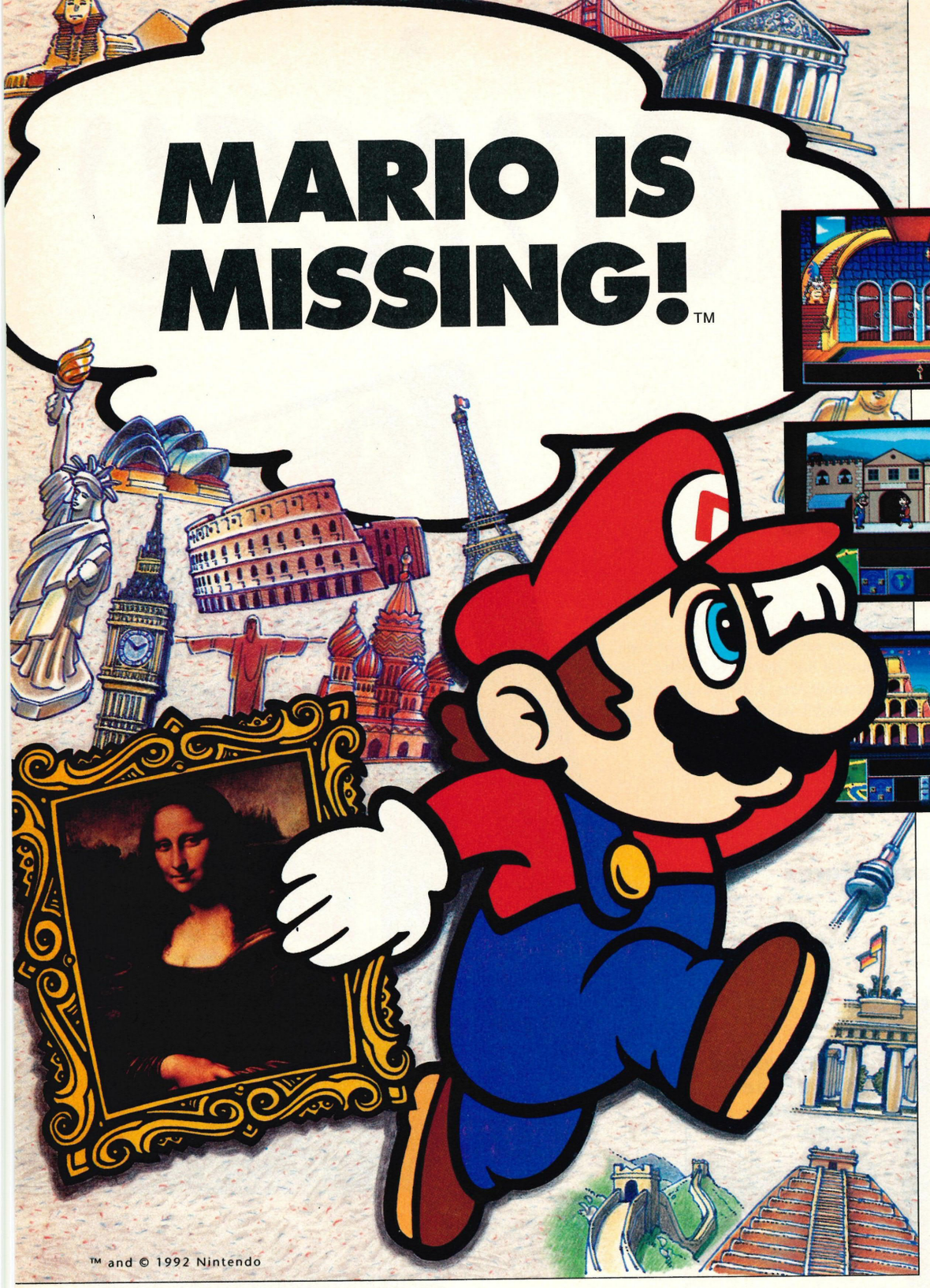
47 **Amstrad upgrade**

Ever wanted your humble 1640 to run today's great games? Mike James investigates a curious new motherboard that allows you to do just that.



One of the exceptional screens from Privateer, currently in development at Origin, profiled on page 38.

MARIO IS MISSING!™



Bowser and the Koopas are at it again. This time they've captured Mario *and* they're stealing the world's treasures... so you've got to stop them.

You'll be Luigi, Mario's baking brother, coming to the rescue. Following the Koopas through time portals... using your wits to win out... ruining Bowser's day.

Talk to local people and search for clues as you visit 19 different cities. Cairo, New York, Tokyo, Paris... fasten your seatbelt and foil the Koopas to put treasures like The Sphinx, Big Ben and The Mona Lisa - not to forget Mario himself - back where they belong.

It takes brains and agility. Plus, by the time you've finished, you'll know the world inside out. Mario's gonna be really proud of you.

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PCR 1

PC review

FEBRUARY 1993 ISSUE 16

GAMES

50 **Preview**
Be George Bush or Bill Clinton in the latest political simulation to emerge from across the pond. Also Space Quest V from Sierra.

55 **Reviews**
58 pages of the latest in top quality game reviews. This month: F-15 III, Comanche, Car & Driver and many more.

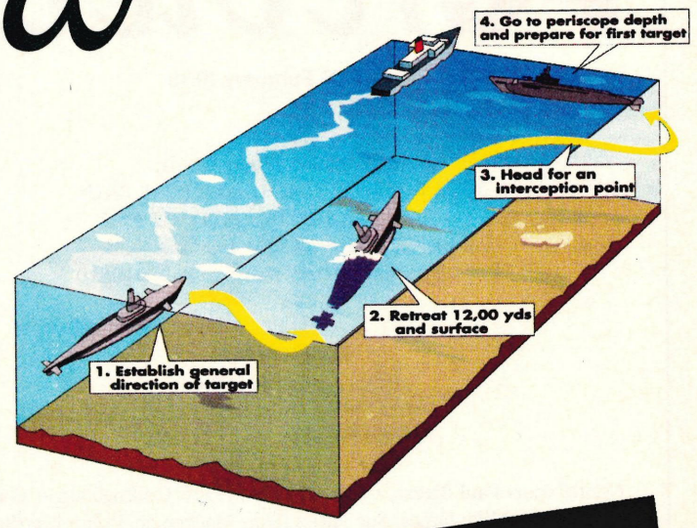


110 **Reviews Extra**
The best (and worst) of the rest. Everything we couldn't fit anywhere else is squeezed into two pages.

112 **Shareware**
What's new in the world of shareware with Sam Mackenzie. Plus, as always there's our Shareware Finder Service to help you locate whatever you need.

116 **QED**
Laura Bow finally concludes her investigations and names the guilty culprit. Meanwhile Indy discovers Atlantis, Simulation School takes you into the silent world of the submarines and all the usual cheats, hints and tips are on offer.

146 **Classic Game of the Month**
Bullfrog head honcho Peter Molyneux talks of life, love and Sid Meier's Civilization.





Car & Driver features some very fast sports cars — reviewed on page 74.

REGULARS

20 **News**
Intel announces a new range of upgradable processor chips, Microsoft moves in on the home market and your chance to win a Harrier jacket.

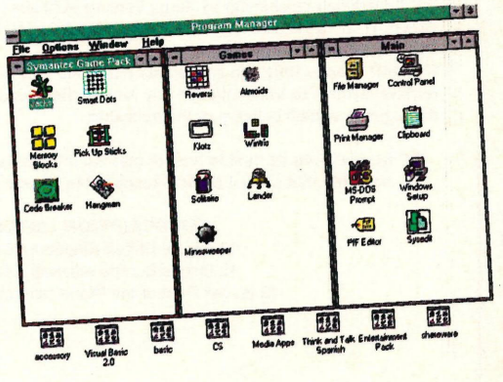
126 **Upgrading Your PC**
Everything you ever wanted to know about the mysteries of Windows is revealed in this month's guide.

132 **Q&A**
Mike James helps out with your queries.

136 **Letters**
Your views on the PC world.

144 **Subscribe to PC Review**





Windows 3.1 and how it make life with your PC easier — starts on page 126.

PC review

Issue 16 February 1993

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Page output and colour origination by Team Graphics, 105-109 Oxford St, London W1. Advertising typesetting by Xerox Ventura Publisher. Printed by the Capricorn Group, 17-21 Hovefields Ave, Burnt Mills Industrial Estate, Basildon, Essex. Distributed by BBC Frontline.

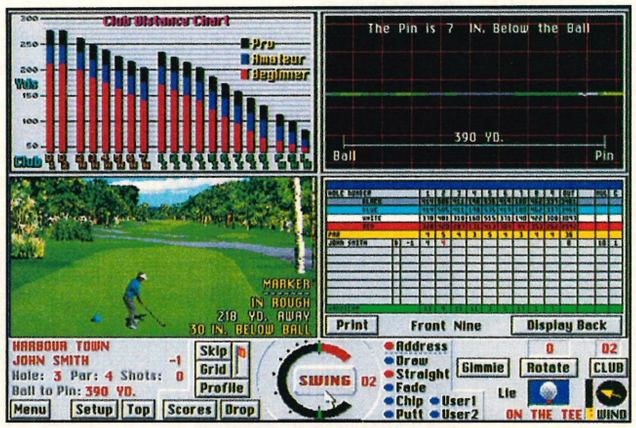
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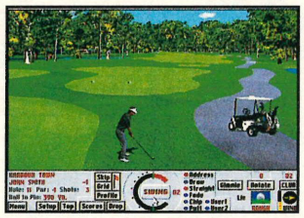
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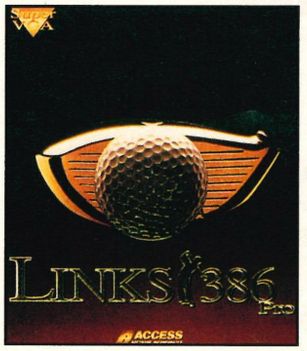
Links 386 Pro. The rest are strictly amateur.











There are other golf simulation games. And there's Links 386 Pro.

It's like trying to compare a crazy golf tournament with the Ryder Cup.

The 386 Super VGA graphics are so realistic, you'll imagine you're driving up the fairway of the featured championship course, Harbour Town, or any of the 7 separate championship courses currently available.

All of the features on Links 386 Pro leave other games flailing in a bunker of mediocrity. With over 345 different options of viewing windows you are able to set up the screen the way you like it, perhaps showing profile from ball to pin, the leaderboard and the club distance chart. You can even choose the colour of your golfing attire!

But the real beauty of Links 386 Pro is that it's simply great fun to play around on. Again and Again.

Whether you're a pro or not.

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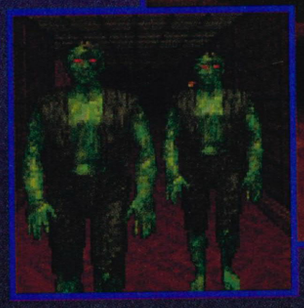
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THE LEGACY











Home is where the heart stops...

Moving can be such a distressing experience. Especially when you've inherited an eerie, archaic mansion in New England. And you're blissfully unaware that the spirits of your wicked ancestors live on here. For centuries, they've been planning your homecoming. And they don't want you to leave...alive.

If you can survive the tension, use your magic skills against loathsome rock fiends and death leeches. Your life depends on destroying the evil entity which controls the ghouls, ghosts and ghastly creations that lurk in the rooms of gloom. But death may seem preferable to tackling your greatest fear - the unknown.

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IF YOU CAN'T STAND





Whilst publishing his underground comic Jack Deebs has unwittingly created a parallel universe inhabited by cartoon characters known as DOODLES. You are transported into COOL WORLD and seduced, through engaging messages, by the Doodle vamp... HOLLI. Visual jokes and gags punctuate your adventure as you hop to and fro between reality and COOL WORLD.
But Holli's dream is to shed her Doodle indentity... to become a real woman - with a real interest in Jack! Her dream could destroy both worlds.
Kiss goodbye to Jack... and hello to oblivion!

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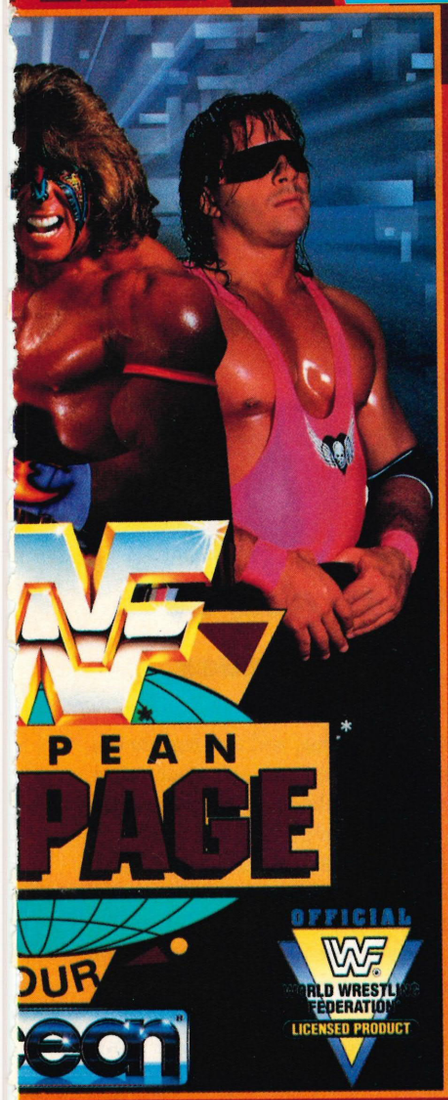


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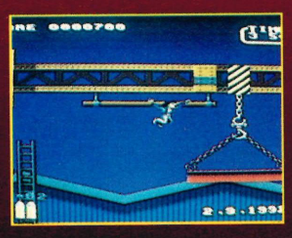
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ampage* Tag Team Title.





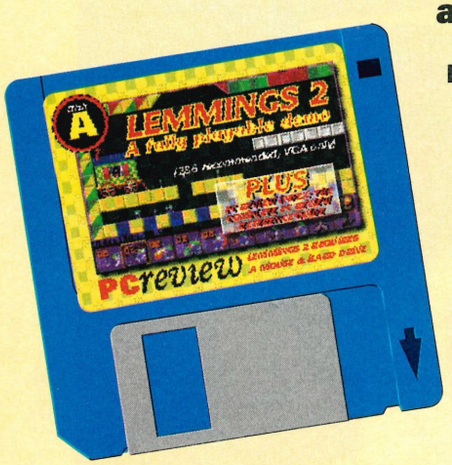
A multi-level shoot 'em up based on aspects of all three LETHAL WEAPON movies. You can choose to be either one of the two high fire-power cops... each having his individual strengths - and weaknesses! There are many missions to complete including the rescue of a kidnapped girl, the persuit and arrest of drugs runners, finding and arresting a police murderer, plus many more. You choose the level to suit your objectives within the game-play.
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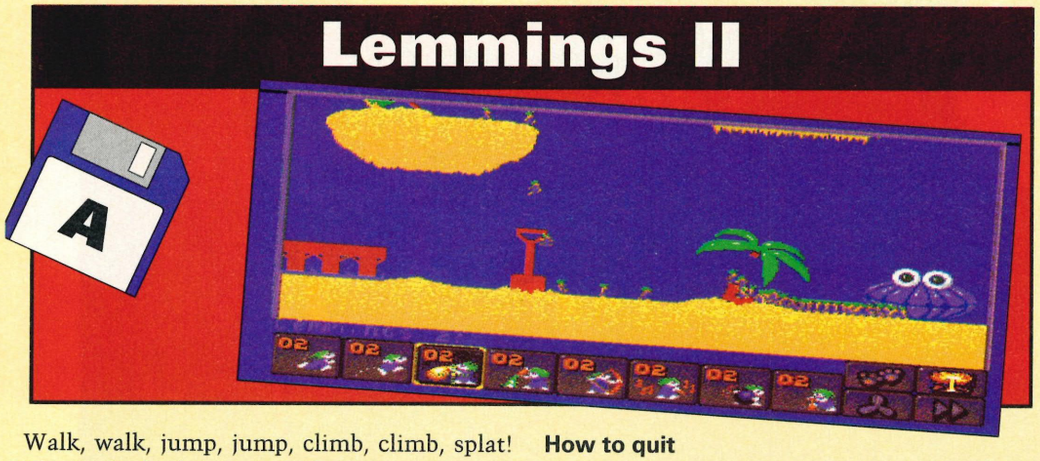
Cover disks

What's small, blue and goes splat? No, it's not your cover disk being used as a frisbee by your five year old nephew, but you're getting warm. Yes, the lovable lemmings are back, and they are infesting the four giveaway levels on this month's disk. If you prefer something a little less cute, try your hand as a member of the French aristocracy in our interactive demo of Castles II. And, by popular demand, we are proud to present the complete PC Review Index.





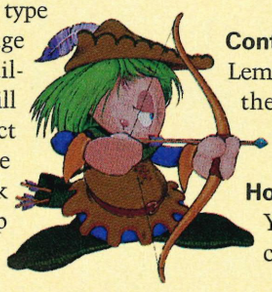
Lemmings II



Walk, walk, jump, jump, climb, climb, splat! They're back, they're cuter than ever, and we've got four fully playable levels for lemmings lovers to try. Help to save the little darlings, or just be cruel and watch them diiiieeee!

How to start

Log on to the directory in which you have installed the Lemmings 2 demo and type **l2 [enter]**. You may see a message showing how much memory is available. The sound requester screen will appear next. Use the mouse to select the sound option you require, then the main options screen will appear. Click on play. Now click on the level map to begin playing the first level.



How to quit

From within the game, press Esc. From the score screen, press Esc. Select Exit from the options screen.

Hardware required

Any PC with VGA, although a 286 or better is recommended. Microsoft mouse required.

Control

Lemmings II is controlled entirely using the mouse. Refer to the description below for details.

How to play

Your objective in this demo is to complete four levels in order. Two feature the circus lemmings, and two feature the mediaeval lemmings. You can see what other lemming types are available in the full game by selecting the Map option on the main options screen. Please note that the Load and Save options on this screen are disabled.

When you select play, you will be shown the level screen. The left side of this screen shows what lemmings functions are available, and how many of each there are. To the right of this is a map of the level with its title and the time allowed to complete it. Move the mouse left and right to view the two levels in each section. To begin play, click on the map of the level.

Your objective in each level is to get as many lemmings as possible from the entrance (a trap door or an animal head) to the exit (a tent or a castle). Only a small part of each level is shown on screen at once, but you can scroll to other parts of the level by moving the mouse to the edges of the screen. The message line shows the currently selected function, the number of lemmings on the level, the number that have made it home, and the time remaining.

The four icons at the bottom right of the screen have the following functions:

Paws	Pause game
Explosion	Invoke Armageddon. This kills off all the remaining lemmings.

Fast forward	Makes the lemmings pro ceed at an accelerated rate. Do this to speed up a level once you have found the solution.
Fan	Blow balloon lemming. Move the cursor on to the screen and hold down the button to blow a balloon lem ming away from the fan.

Some objects on certain levels can be moved. Do this by clicking on the arrows near to a movable object to shift it in the desired direction.

Normally lemmings will walk in one direction until they hit an obstacle, in which case they turn around, or until they get killed. One way that lemmings can get killed is by falling too far, so take care that they only walk into short drops. Individual lemmings can be given different functions to help them and their fellows to get home. Give a lemming a function by clicking on the appropriate icon, then highlighting the relevant lemming (a green box will appear around a lemming when it is highlighted) and click again. Note that you can use each function a limited number of times. The number of uses remaining is shown next to each function. These are the lemming functions available in this demo:

Runner	The lemming will turn green and will run fast for the rest of the level.
Jumper	The lemming will leap across chasms or obstacles.
Stomper	This lemming will jump up and down to break through the plat form he is standing on.
Stacker	This lemming will stack bricks to make a wall.
Attractor	An attractor will play a pipe and make all the lemmings near to him stop and dance. They will stay and dance until the attractor is turned into another type of lemming.
User	The user will use the next object he comes across (like a cannon or a ballista).
Archer	The archer will stop and begin to aim his bow. Move the cursor in he direction you want him to fire and press the left button to fire.
Ballooner	The ballooner will blow up a large balloon and begin to float upwards until the balloon hits a solid object bursts. To make ballooners float in the right direction, use the fan function.
Filler	The filler pours quick setting cement into any gap or hole he is



Electronic Arts has recently created a successor to its popular mediaeval strategy game, Castles, and so you can see just how good it is, we've included a fully playable demo on this disk.

How to start

Log on to the directory in which you have installed the Castles II demo and type **c2demo [enter]**. Configure the game as you require in the options screen, then click on Play.

How to reconfigure the game

On the options screen select the player you wish to be and the difficulty level, turn plots on and off, set up the distribution of commodities, and turn battles on and off. You can also change some of these factors from within the game by clicking on Opts.

How to quit

From within the game, click on Opts, then click on Quit, and finally click on OK.

Hardware required

A 286 or better PC, with EGA or VGA, and a Microsoft compatible mouse.

Controls

Castles II is controlled entirely using the mouse. Refer to the description below for details.

How to play

The ultimate goal of Castles II is to be crowned King of 14th century France. This is accomplished by petitioning the Pope to back your claim to the throne once you have expanded your empire to a point of considerable wealth and power. All the while you must keep your people happy and maintain good relations with the Pope. Once you have begun to capture territories and establish your empire, it becomes necessary to build castles.

Castles II is a task based game. There are three different types of tasks: administrative (green), military (red), and political (blue). For each type of task, you have a certain number of ability points, shown in the upper-left corner of the screen. The bottom number shows total points, while the top number shows available points. These points can be applied to different tasks, and will accumulate as you perform tasks successfully.

When a task is being performed, the task bars at the top-right of the screen show what percentage of the task has been completed. You can cancel a task by clicking on the relevant bar and then clicking on Cancel. The more points you apply to a task, the quicker it will be done. You can apply points from any category providing that there are more points from the relevant category than from the remaining two categories. If you achieve five points in a category you will be given a second task bar, allowing you to perform two tasks in that category simultaneously.



Mandelbrot Magic



Mandelbrot Magic generates colour displays (slides) of the Mandelbrot Set and Julia Sets on IBM PC-compatible computers with colour graphics adapters.

The Mandelbrot Set is perhaps the most famous of a fascinating group of mathematical structures known as fractals. Fractal geometry is a complicated mathematical field, but Mandelbrot Magic is easy to use and will automatically create spectacular slides when you specify a few simple parameters.

How to start

Log on to the directory in which you have installed Mandelbrot Magic and type

mm [enter]

A title screen will be displayed. Next, a shareware information screen will be displayed. When you press a key, this disappears and the main control panel appears.

How to quit

You can only quit Mandelbrot Magic from the main control panel. If you press Esc, you will exit from the program and return to DOS. You will be asked to confirm that you do, in fact, want to quit.

If you want to quit while a slide is displayed, first return to the control panel by pressing Esc and confirming that you want to end the display, then press Esc again

Hardware required

Any PC with CGA, EGA, or VGA. A hard disk is recommended, as is a maths co-processor.

How to use the program

The control panel enables you to enter all of the parameters used while creating or displaying slides. The parameters for each slide are stored with that slide. Specific functions such as loading files, displaying slides or creating new slides are invoked by pressing the Function keys (F1 through F10).

The control panel is divided into two sections — a parameters section on top and a function key menu on the bottom. The top section contains two types of fields — data fields where you will enter values for use in generating and displaying slides and status fields which just display information.

The arrow keys, Home, End and Return can be used to move among the data fields. When entering data, pressing Backspace will delete the last character or digit.

Error messages and prompts appear in boxes in the middle of the screen. Most messages and prompts can be cancelled by pressing the Esc key.

This program comes with several sample slides. Two of these, **m1-cga.pic** and **m1-ega.pic**, are complete and can be displayed immediately.

The others are incomplete; you can finish them by loading the appropriate file into the program (F9), then pressing F8 to finish creating them.

For more detailed instructions, and a discussion of Mandelbrot and Julia sets, log on to the directory in which you have installed Mandelbrot Magic and type

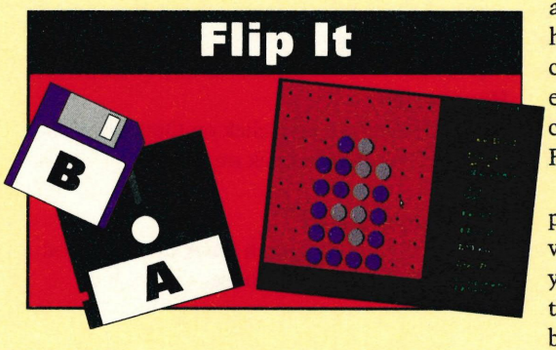
list mm.doc [enter]

To obtain a printed copy of the documentation, set up your printer and type

copy mm.doc prn [enter]

This command tells MS-DOS to 'copy' your file, but to the printer (prn), rather than elsewhere on your disk(s).

Flip It



One of the most popular board games to be recreated on a computer is Reversi, or Othello, as it sometimes known. We've included this shareware version of the classic game because it plays such a strong game and offers many variants on the original.

How to start

Log on to the directory in which you have installed Flip-It and type

flip46sh [enter]

Select the graphics mode you require (Text, CGA, EGA, or VGA), then hit space twice to exit the intro screens, and finally hit space once more to begin play.

How to quit

From within the game, hit Esc and then Y to exit to the options screen. Then hit Esc to get to the adverts, hits space twice to exit the adverts and finally hit Esc to exit the game.

Hardware required

Flip-It should work with any PC.

Controls

When playing, move your cursor by using the numbers around the 5 on the numeric keypad and hit return to place your piece.

Esc	Abort back to main menu.
minus,plus keys	Alter average response time in seconds.
F1	Show moves, or pass if none.
F2	Make computer take your go.
F3	Auto-play. (Esc ends)
F5	Toggle Two-player/setup mode on/off.
F6	Toggle computers best line of thought display on/off.
Ctrl-F	Force a move early.
v	Load a game-file off disk then replay.

How to play

Reversi is traditionally played on an eight by eight board, with square A1 at top left and H8 at bottom right, although with Flip-It you may alter the board size. Your object is to capture your opponent's pieces by sandwiching them in a diagonal, horizontal or vertical line. So if you have a piece on C5 and I have one on C4 you can move C3, capturing mine on C4. This is easier to see than describe, so have a go — you can view possible moves with F1, or even hit F3 for an automatic demo.

Note that a move is only legal if it captures pieces — you cannot just move to any old vacant square. If you can make no moves at all, you must pass a go, by hitting F1. When neither side can move, the game is over and the biggest score wins (unless you selected play-to-lose).

Hint: try to occupy the corner squares, and keep your mobility high — also try to keep your score low early on in the game. Remember that territory changes hands very rapidly in Reversi, so your ultimate aim is to occupy stable corner squares, and then the territory outwards from a secure corner you occupy.

For in depth instructions you should read the two documentation files. Do this by typing

type flip.doc | more [enter]

and

type flip2.doc | more [enter]

You'll find the | key (usually) to the left of the Z key, and you need to hold down Shift as you hit it, or you'll get a slash character instead.

To obtain a printed copy of the documentation, set up your printer and type

copy flip.doc prn [enter]

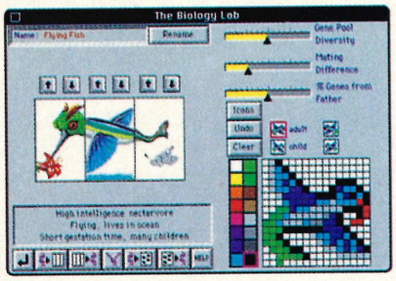
and

copy flip2.doc prn [enter]

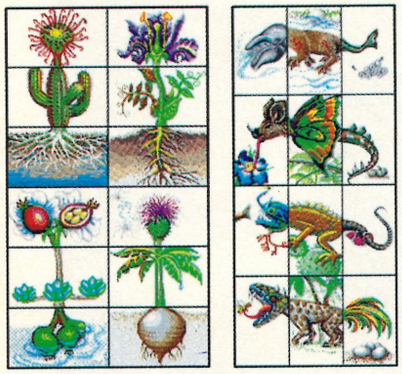
As with the example above, this command copies a file, but to the printer, rather than to another file.

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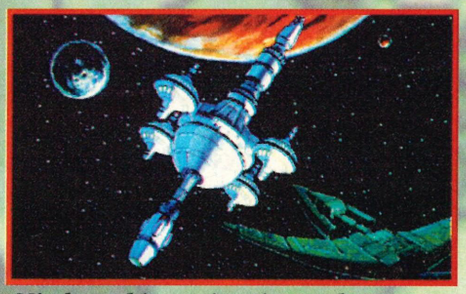
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"THE NEXT MUTATION"



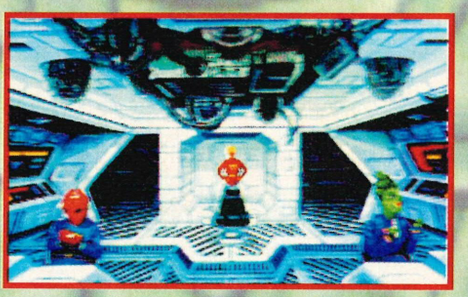
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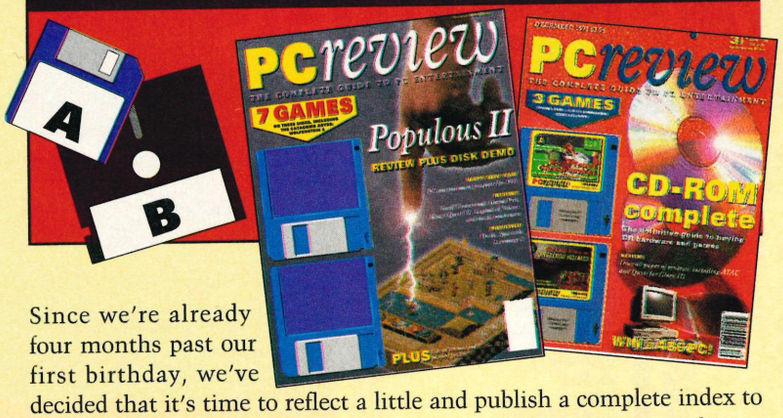
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PC Review Index



Since we're already four months past our first birthday, we've decided that it's time to reflect a little and publish a complete index to the contents of the magazine to date. But rather than just print this on the back page of the magazine, we've included it as a text file on this month's disk.

What hardware you require

The index can be used on any machine.

How to use the index

The index is supplied in two forms. The first is a complete list of all the articles in the magazine, while the second lists just the reviews. You can view the files by logging on to the directory in which you have installed the files and type **list index.txt** or **list reviews.txt**, alternatively, since both are pure ASCII files, you could view them using a word processor or text editor. To obtain a printed version of the files, prepare your printer and type **copy index.txt prn** and **copy reviews.txt prn**.

Arj



Arj is the latest and best file compression suite of programs available. Using these you will be able to squeeze much more on to your disks, and reduce the time spent sending files via the telephone network.

How to start

For security reasons, Arj is supplied as a self-extracting module, and before you can use the programs you must expand them to their correct form. To do this, log on to the directory in which you have installed Arj and type **arj220 [enter]**. When **arj220** starts, you will see several lines of text describing Arj and then a line asking if you wish to continue extraction. Entering "yes" or "y" will continue the extraction. If there are any duplicate filenames in the current directory, the program will prompt you for overwriting. You can say "yes", "no", or "quit". Once the files have been extracted you may, if your wish, erase the file **arj220.exe**.

Arj is a powerful suite of programs, and you are strongly advised to read the supplied documentation before attempting to use them. Do this by logging on to the directory in which you have installed Arj and, having already run the self-extracting module, type **type arj.doc | more**. To obtain a printed copy of the documentation, set up your printer and type **copy arj.doc prm**.

What hardware you require

Arj should work with any PC.

How to use the cover disk

1. Put the cover disk in any disk drive and log on to that drive. For instance, if you have put it into drive A: type:
   A: [Enter]
2. Now type **PCR [Enter]** to load the installation program.
3. A list of programs on the disk will now be displayed. Use mouse or cursor keys to select one to install and then press Enter.
4. The program will select a drive or directory to install the program to. If you are happy with the suggested location, press the enter key and installation will begin, otherwise backspace over the suggested path and enter another one. The program will now be installed to the desired location.
5. Once you have installed all the programs that you wish to, press Esc from the main menu to return to DOS.

Helpline

If you have difficulty in getting your disk to operate, please telephone our helpline number below before returning the disk.

Disk Helpline: (0685) 350505

The helpline operates between 10.30 am and 12.30 pm weekdays.

Please note

PC Review's cover disks are rigorously checked at each stage of production for all known viruses and duplicated under strict quality control.

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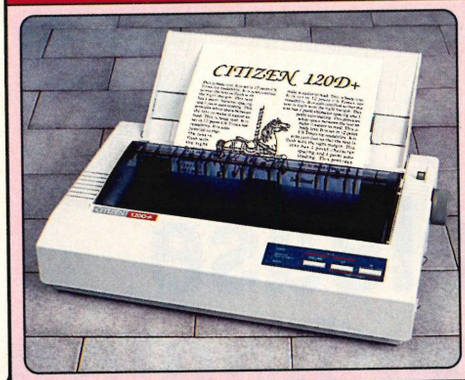
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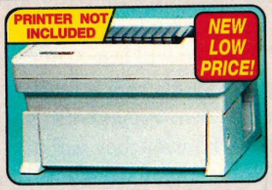
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24 PIN PRINTERS



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Intel to release pent up technology

Just as most of us have finally got used to the idea that the 486 chip is now the only sensible purchase, chip manufacturing giant Intel (which invented the '86' range of microprocessors) has announced that work is almost complete on its successor.

One major and noticeable change which is ushered in with this latest release is that the tedious procession of ever-increasing numbers has been called to a halt. Instead of being simply dubbed the 586, Intel's latest processor will go by the name of 'Pentium'.

The main reason for this major change, it seems, is that names can be trademarked, while numbers cannot (although it's a near certainty that the new processor will quickly become known as the 586 anyway).

The reason Intel has been pushing the 486 standard so hard of late (and appears so keen to keep a grip on the new technology) is that it has spent the last couple of years in a damaging price war with two rival manufacturers, AMD and Cyrix, both of whom took advantage of this trademarking problem to produce a 386 chip of their own.

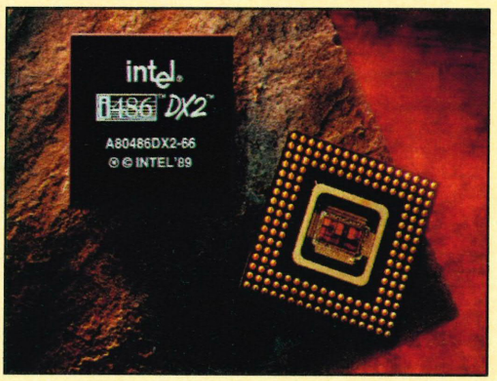
Because this has been one of the major contributing factors to the constant price cutting of PCs throughout the 90s, it's obviously in Intel's interest to call an end to this profit damaging competition (although even in spite of the price wars, the corporation managed to turn in profits of $241m from a turnover of $1.4bn in the final quarter of last year).

AMD, which held a 'patent cross-licensing' agreement with Intel that allowed it to produce a 386 chip of the same specifications as Intel's, is currently attempting to produce a 486-style chip of its own, using a process known as 'reverse engineering' (reverse engineering is working out what exactly a competitor's product does, and then reproducing these functions by completely new means, thus avoiding any copyright infringement).

Details are sketchy as to the new processor's exact specifications, but Intel is prepared to acknowledge that it will be a 64-bit affair (the equivalent of a whopping 3,000,000 transistors), with a performance in the 100 mips (million instructions per second) range, will support enhanced multi-tasking and will be backwardly compatible with the entire '86' range.

Before you start breaking open your piggy bank to scrape the pennies for a new machine though, it should be noted that even if the Pentium is released later this year, the 486 will still have a couple of years of active life left in it. David Wu, a New York based computer industry analyst, was recently quoted in The Independent newspaper as saying: "The 486 will last a couple more years. It won't peak before 1995. By that time AMD should have its own version out, but Intel will have the 686 – whatever they call it."

One thing which is for sure though is that the 386 standard – which was dominant until only last year – is now as good as dead, at least as far as chip manufacturers are concerned, which may lead to some more than adequately powered home machines coming on to the market in the next few months.



INBRIEF...

PSION HAS LAUNCHED a number of new titles for use with its Series 3 pocket PC. The new arrivals are Personal Accounts and Expenses, Spellchecker and Thesaurus, Professional Finance and Berlitz Interpreter. All four are available now, priced at £49.95 (except for the Berlitz translation program which will set you back an extra £20).

FROM THIS MONTH onwards, all of the new PCs in Evesham Micros' Vale range, from the 'Prestige' models and upwards, will incorporate the latest VL Bus technology, which can speed up graphics performance on many applications by between 15 and 20 times. Further details from Evesham on (0386) 765500.

NEWS INTERNATIONAL'S proposed major consumer electronics exhibition, which is scheduled to take place at London's Olympia in September, has signed up two major PC hardware manufacturers: Commodore and Amstrad. The Live '93 Show will feature computers and games alongside other consumer electronics projects including cameras, televisions, videos and so on. Mindscape has adopted two of London Zoo's chimpanzees, Mandy and Bobby, as part of its promotional campaign for the forthcoming Maxis program, SimLife. This promotional stunt is part of London Zoo's Adopt an Animal scheme, which will also be promoted in every copy of SimLife. "Both Maxis and ourselves are anxious to help and support the animals of London Zoo," says Mindscape's European marketing manager Anne Jacobs, adding "we're all very excited about it, and Mandy and Bobby seem to be too."

EMPIRE SOFTWARE is to follow the success of its recent Combat Classics, with a new compilation of four games with a sporting theme. Sports Masters features PGA Tour Golf and Indianapolis 500 (which were both originally released by Electronic Arts), Infogrames' Advantage Tennis and European Championship 1992, originally from Elite. The compilation is available now, priced at £34.99. Ocean is to bring together three of its biggest licences in a star-studded compilation, The Dream Team. All of the games are arcade oriented and feature Bart Simpson saving the world in The Simpsons: Bart vs the Space Mutants, the real-life cartoon characters that are the WWF grapplers, in WWF WrestleMania and the king of computer game tie-ins himself, Arnold Schwarzenegger in Terminator 2, Judgement Day. Priced at £29.99, The Dream Team is available now.

LAST MONTH'S GAMESMASTER LIVE show, which took place in Birmingham's NEC has been declared a roaring success by its organiser, Xponent. Taking its theme from the Channel 4 computer games show of the same name, Gamesmaster Live attracted 74,281 people over its three day span. It's believed that the Gamesmaster Show will be staged once again this year, using the same venue and a similar date.

EUROPRESS SOFTWARE has passed a significant milestone, with the sale of the 500,000th program from its Fun School range. The firm celebrated this event with a tea party for a group of children, including the lucky purchaser of the landmark game.

LAST MONTH'S REVIEW OF Formula One Grand Prix was subject to fault. Paul Presley stated that the game was virtually unplayable on anything other than a 386DX. Upon further investigation we have found that by removing several levels of detail, including the ground texture on the surface of the track, the game is perfectly workable and achieves a fine sense of speed. Our apologies for any inconvenience caused.

Rymans goes for games

Remember last month's forecast for 1993, where Virgin Games' Andrew Wright said: "PC games shouldn't be sold next to console stuff, but in bookshops or places like Rymans"? Well, PC Review must have more influence than we thought, as no sooner had that issue hit the streets, when we received a call from that self-same stationery chain, informing us that a number of its shops were about to begin stocking PC entertainment software.

Over the next few weeks, 19 Rymans and 33 Wildings stores (which belong to the same chain) will begin to stock a selection from a range of 17 games, which includes a wide variety of styles from MS Golf for Windows to Lemmings (all at discount prices).

In addition to this range of software, the Wildings shops will also carry the Zydec Soundpack, which includes a sound card and speakers and is priced at £140.99. This concentration on PC-compatible software is in keeping with a major re-emphasis in the Wildings chain, as all of its shops will change to becoming computer specialist stores over the next few months. For further details of the complete list of participating shops and currently available games, call Rymans on (081) 569 3000.



Get a job !

Job hunters looking for a little help from their computer can now call upon a choice of two CV creation packages from US developer, the original Perfect CV Computer Kit, and the newly launched CV Express, which is directly aimed at users with little or no work experience.

Like its predecessor, CV Express is based on the best-selling book written by career consultant Tom Jackson. However, in contrast to the more complex Perfect CV package, CV Express is aimed at the job-hunter with limited work experience, who has no need for the full package's complexity.

Taking into account the fact that inexperienced users will have little need for a chronologically presented work history, this new package presents two options: a 'functional CV', which places the emphasis on the user's skills, and a 'targeted CV', which concentrates on his or her ability to carry out a specific job.

Both CV Express and the Perfect CV package will run from floppy disk on any PC, as long as it's equipped with DOS v2.1 or higher. For more details contact UK distributor KIMS on (04865) 3406.

And not content with aiding and abetting the jobless, KIMS also has help on hand for those already in employment, in the form of CareerBuilder 2, a 'career development' package. Based on a 'lifeskills' book entitled Build Your Own Rainbow, CareerBuilder 2 provides information on such topics as further education, self-employment and job stress assessment.

Both CV Express and CareerBuilder 2 are available now, priced at £19.95 and £34.95 respectively.



Philips streamlines CD-i

Philips has introduced a new CD-i player especially to cater for the European market. The new CD-i 220 is designed to fit in with the firm's Matchline series of televisions and video recorders, and replaces the 205 model, which was initially developed for the US market.

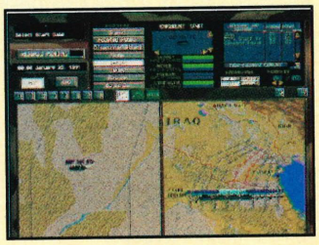
The physical changes are purely cosmetic, and do not in any way affect software compatibility (the only major difference is that the original machine's curved CD tray door has been replaced by a more conventional flat affair).

However one other change which may have a greater effect on a potential user's decision is that currency fluctuations have forced Philips to raise the standard player's price from £499 to £529.

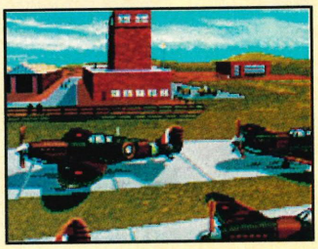
On the subject of CD-i sales figures, Philips is still reluctant to reveal just how many players have actually found their way to a comfortable home beneath television sets, preferring instead to simply claim that its multimedia machine is "doing as well, if not better, than CD audio at the same stage."

Further details on CD-i are available from Philips on (081) 689 4444.

COMING SOON



Set in the Gulf War, Three-Sixty Pacific's Patriot (from the people who brought you Harpoon) is a land-based war game which puts the player in command of more than 2,500 military units. Boasting 256-colour graphics and a massive illustrated weapons database, patriot is priced at £34.99.



A follow-up to its Fighter Command strategy game, Impressions' Air Force Commander is available either as an upgrade to existing users or as a standalone package in its own right. Concentrating on strategy and covering many theatres of war, from the Battle of Britain to the present day, Air Force Commander is priced at £34.99 (or £14.99 as an upgrade).



Mike Singleton's post Cold War epic, Ashes of Empire, will be released shortly on the Mirage label. With the disintegration of the Soviet Union and Yugoslavia as its background, Ashes promises topicality at the least.



Mindscape's psuedo-sequel to the critically acclaimed D/Generation, Contraptions, features the exploits of Gadgetco's new repairman, as he goes about his tasks on the first day of his new job. With hilarious consequences ...

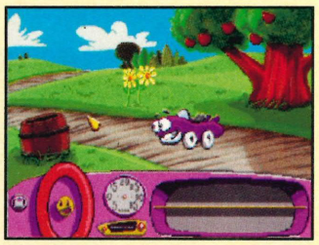
COMING SOON



Chocks away for Dogfight, MicroProse's latest fight 'n' flight exxtravaganza. Developed by 'Prose's Leeds office (the chaps who used to be Vektor Grafix), Dogfight features 12 planes from six different historical scenarios which can face-off in any combination.



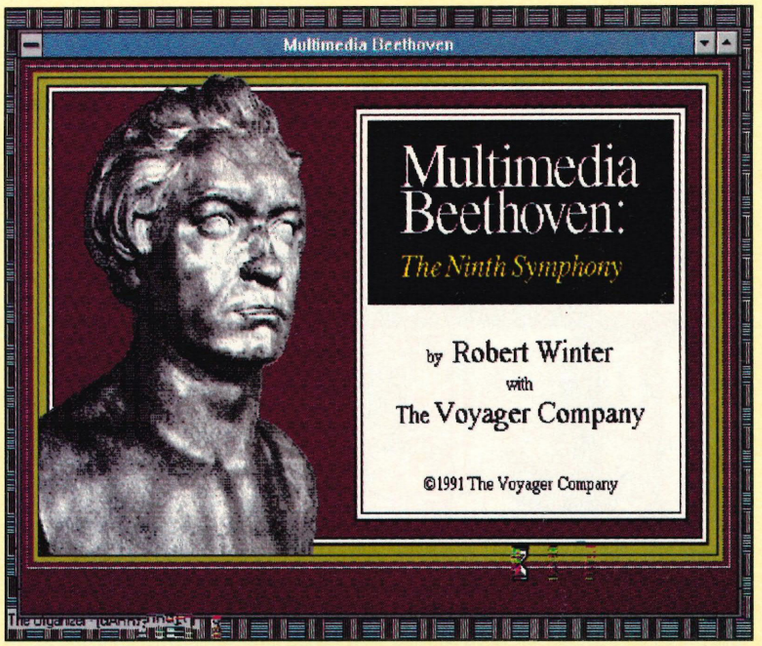
Mindscape takes Nintendo's infamous game hero Mario on a tour of the world, as he's kidnapped along with many of the world's other great treaures in Mario is Missing, an 'infotainment' program for kids of all ages.



The first release from Humungous Entertainment will be Putt-Putt Joins the Parade, a multi-media style animated adventure for children. Featuring cartoon-style characters and clear digitised speech, Putt-Putt will be available soon in both CD-ROM and floppy disk versions.



Three Sixty's military campaign continues with V for Victory II: Velikiye Luki, a Russian campaign scenario set in an ancient fortress during the bitter winter of 1942-43.



Microsoft continues push into home

In keeping with the recent announcement by its millionaire boss, Bill Gates, that Microsoft is going to lead the way in bringing a computer into every home, the software giant has announced a number of further home specific releases.

The latest of these is Microsoft Money 2.0, a personal finance package for the non-corporate user. Incorporating advice and help with the setting up and tracking of loans, account balancing, budgeting and a financial 'coach', Microsoft Money will retail for £59.95 (although early birds can avail of an introductory '£10 off' offer).

In addition to all of this financial advice, Microsoft is also extending its line-up of CD-ROM titles, adding Cinemania, Encarta, SoundBits and Musical Instruments to its existing roster of Multimedia Works and Beethoven.

Cinemania is an interactive movie guide which incorporates more than 19,000 film reviews, dating from 1914 to 1991. It also contains actor biographies, information on producers and directors, a list of academy awards and numerous still pictures and dialogue excerpts.

Another reference work, Microsoft Encarta, is a 28-volume encyclopaedia with over 17,000 elements including pictures, animations and audio samples. In all, there are more than 21,000 articles available, separated into 94 categories.

Available in three separate volumes, Microsoft SoundBits is a collection of sound effects designed to let the user customise his or her PC. The three compilations are: Classic Cartoons from Hanna-Barbera (including The Flintstones and Yogi Bear), Classic Hollywood Movies (with contributions from Groucho Marx and Humphrey Bogart among others) and Sounds From Around the World (a compendium of musical samples from around the world).

Finally, Microsoft Musical Instruments is an audio-visual look at musical instruments from around the world. This reference work includes histories of the instruments, along with photos and sound bites – all contained in more than 200 separate articles.

Cinemania and Musical Instruments cost £49, the SoundBits are £29 apiece and the encyclopaedia will set you back £299. For further information, contact Microsoft on (0734) 270001.

Paper chase

Since 1867, researchers into Britain's 19th century history have made use of Palmer's Index, a complete catalogue of topics covered in the world's most famous newspaper, The Times.

Published by London bookseller Samuel Palmer, the index worked its way both forward and backwards from its initial publication, and now covers every issue of the newspaper from its launch in 1790 until it ceased publication in 1941.

This comprehensive index now runs to 450 separate quarterly issues – making it ideal fodder for release on CD-ROM, courtesy of Cambridge-based publisher Chadwyck-Healey.

Palmer's Index to the Times on CD-ROM will be available from may 1993. However, there is one small drawback which budding historians should be aware of – the two volume release (covering the period from 1790 to 1905), will cost an impressive £4,800.

Synchronised thinking

Following last month's announcement that the ancient Chinese Tao philosophy was to be used in a new form of management software (see 'Decisions, decisions ...', Issue 15), a similar software package has emerged which utilises the teachings of that other great school of Chinese philosophy, the I Ching.

Developed in the US by Visionary Software, Synchronicity is a tool for decision making and personal development, which takes into account the interconnection of all things.

Synchronicity, the computer program, doesn't make predictions or offer advice. Instead it offers a fresh perspective on any given situation, which is supposed to trigger the user's own decision-making process.

Synchronicity is distributed in the UK by London-based Inspiration Technologies, and is available now, priced at £29.95 (plus £2 for postage). For further details, contact Inspiration Technologies on (071) 286 8465.

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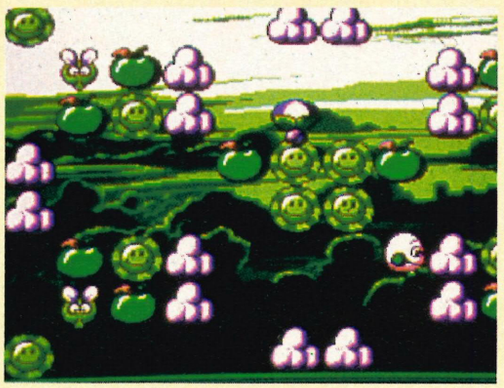
Code Masters aims for dizzy heights

Budget software specialist Code Masters has announced its intention to devote its resources to publishing for the PC throughout the forthcoming year.

Marketing manager Richard Eddy announced this departure, saying: "As PCs are recognised as the most versatile computer for the family, 1993 is the perfect time for us to kick in with a series of top releases."

The firm, which has up until now specialised in low-cost games for the more basic games computers, experimented with PC publishing in 1992, releasing Fantasy World Dizzy to check out the market's potential – that game (which was priced at £9.99) reached number one in the PC charts, so Code Masters declared the experiment a success and began work on a number of new titles.

Code Masters' first release of 1993 is the Dizzy Collection, a five-game compilation featuring



Fantasy World Dizzy, Magicland Dizzy, Kwik Snax, Dizzy: Prince of the Yolk Folk and Fast Food.

The Dizzy Collection is out now priced at £35.99. Further details from Code Masters on (0926) 814132.

New CD platform trips in

Yet another newcomer has joined the fight to become the big name in the multimedia CD-ROM market, as Electronic Arts' founder, Trip Hawkins, has announced details of his new company's '3DO' system. Described as a 'state of the art' CD home entertainment system, it's expected that the new machine will be a direct competitor for Philips' CD-i player.

The 3DO machine, produced by the eponymous 3DO corporation, is the result of a collaboration between Hawkins, the US media giant Time Warner and Japanese electronics firm Matsushita. The first players are expected to go on sale in the US in the late Summer, priced at roughly $700.

Sources who attended a recent three-day development conference for the machine in San Francisco have revealed that the first players will probably appear under the Panasonic brand name.

The initial batch of software will be provided by 3DO itself, along with a number of extra titles from Electronic Arts (Hawkins retains close links with the software giant which he founded). Twenty further developers have registered to produce software for the new platform, although there are no release details available yet.

WIN very smart Harrier jackets, and equally smart Polo shirts

If you bought PC Review Issue 14, you can't have failed to notice that we were rather taken with Domark's Harrier AV8b Assault program, awarding it a coveted nine out of 10, and praising it to the skies in the process. It's certainly a daunting first shot in the battles of the Harriers between Domark and MicroProse.



Lately, we've been even more taken by Domark's Harrier jackets. Sturdily made, waterproof and fully lined, these zip-up bomber-style jackets come in a particularly fetching navy blue (with extremely dazzling orange lining) with elasticated cuffs and waistband and lots of useful pockets to put things in. A discreet, yet tasteful, logo brands it as an exclusive Harrier AV8b Assault jacket.

In an extraordinary burst of generosity, Domark has offered six PC Review readers the chance to win a Harrier AV8b Assault jacket. Furthermore, should you not be one of the first six out of the hat for the jacket, there are 10 stylish and demure Domark polo shirts, in sophisticated black, for runners-up.

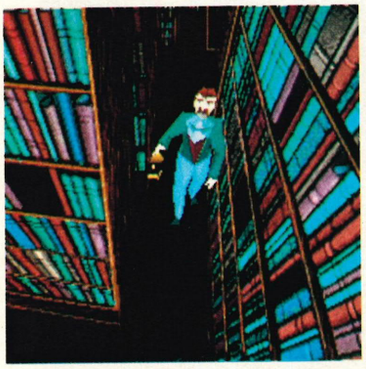
And all we want from you is the answer to the following question:

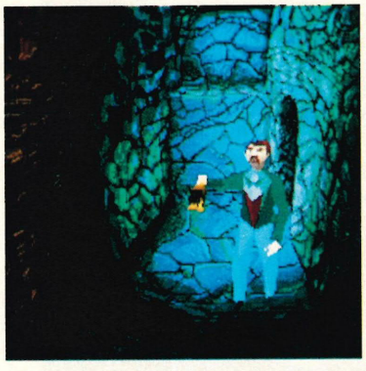
The Harrier is a special aircraft because it has a V/STOL capability. What does V/STOL stand for?

Put the answer on a postcard (or back of sealed envelope, etc, etc), add your own name and address (one size fits all, so don't worry about your measurements) and send it to: Harrier jacket, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Get your entry in by February 1st, and we'll do a grand draw then.



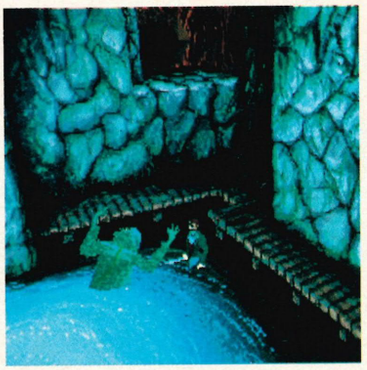


ALONE IN THE DARK

When night falls it's time to scream.

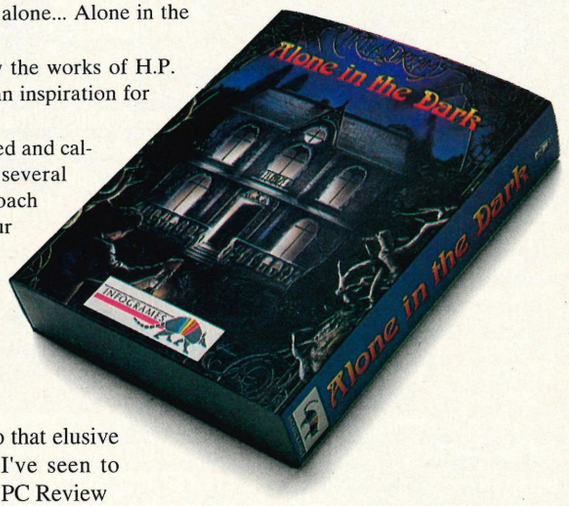




EXPERIENCE MYSTERY AND TERROR, FULLY ANIMATED IN 3D

Derceto. The mere name of this sinister mansion is enough to fill anybody with dread. It is also said that an evil presence resides within. Suspended by a rope, Derceto's owner, the painter Jeremy Hartwood breathed for the last time. No suicide note was ever found, the case was wrapped up and the body was bagged. In your quest for the truth, you will have to overcome your fears and enter the house before nightfall. After this time however, you will be alone... Alone in the dark.

Alone in the Dark is an arcade/adventure game inspired by the works of H.P. Lovecraft - the author of the Cthulhu series of novels, and an inspiration for most of today's horror writers.

All the characters and the objects you'll use are fully animated and calculated in real-time 3D and the action is viewed through several unique camera angles in each room. The movie-like approach mixed with fluid animation adds immense atmosphere to your terrifying investigation into the macabre. You'll have to explore each room searching for useful objects and items that will help you survive. For in the darkness of Derceto lurk the vilest and most evil-minded of creatures. Entering Derceto is the easy part, leaving could be hell!



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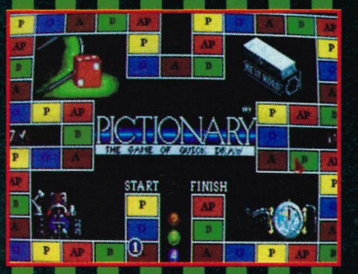


PC PRIME CONTENDER

£12·99

You take the part of a young adventurer attempting to save a beautiful princess.
Time is ticking away, you'll have to move fast to escape your cell and evade the many cunning traps placed in your path. Non stop action is combined with the exploration and puzzle-solving challenge of a top flight adventure game. With hundreds of fantastic rooms to explore, you must use all your sword fighting skills to do battle with violent opponents and foil the Grand Vizier's despicable plans. The animation sequences are so uncannily human they must be seen to be believed. © 1989, 1990 Jordan Mechner

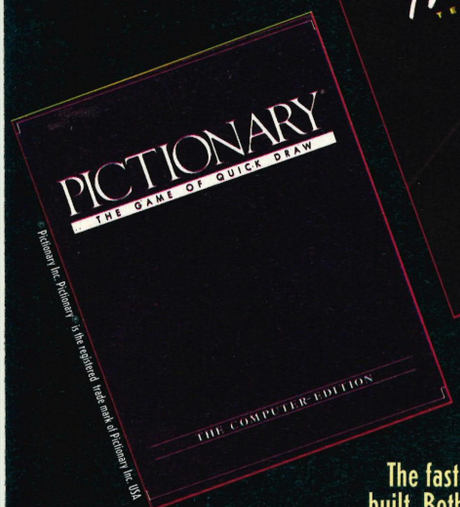




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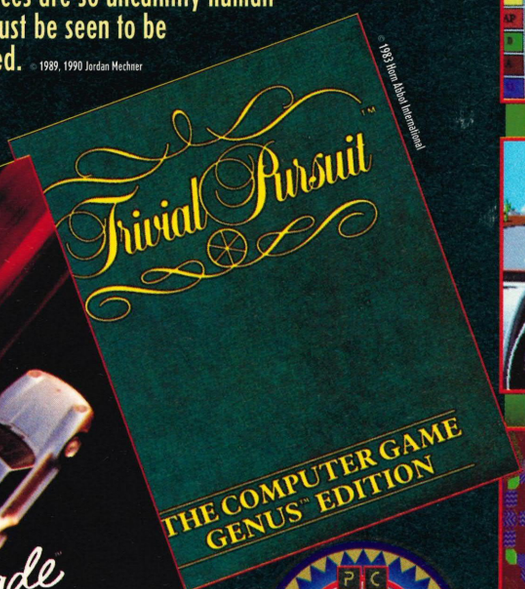




The hilarious best seller...
now on your computer!
It's a fun and easy way to learn to draw with your computer.
You're not an artist? Don't worry - most people aren't. That's a big part of the fun and besides, there isn't much time, you're racing against the clock.
So you need to draw on your wits as well as draw pictures!
Challenging the computer, you can even play alone!
Pictionary on a computer: all the fun of paper-and-pencil Pictionary... plus a lot more!

£9·99

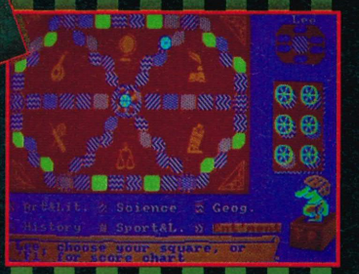




Head-to-head racing with the world's fastest production cars!
The Ferrari F40®.
The Porsche 959®.
The fastest production cars ever built. Both are capable of travelling 200mph. Both are capable of nailing 60mph in less than four seconds.
Which car is king?
The Duel: Test Drive II pits the fastest ever Ferrari against the fastest ever Porsche in a race that has only been run in the minds of engineers and enthusiasts.
Until now.
You're behind the wheel of the most technologically advanced supercars on earth, rocketing down roads that are as eye-catching and dangerous as the vehicles themselves.

PC PRIME CONTENDER

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What makes the computer version so special?
Sound and music questions - can you name THAT tune? - played backwards!
Graphical questions to puzzle and ponder over.
Text questions (many linked to graphics and music) to tease and amuse you.
The Dice is thrown and all possible moves flash automatically.
Play Trivial Pursuit on your own or with your friends!
It retains the pure good fun of pursuing trivia that the whole family will enjoy enormously.

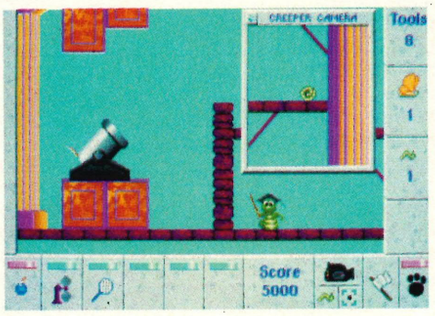
Hit Squad

PC

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WIN One Amstrad Mega PC





PLUS 10 copies of Creepers

After pioneering the PC plus games plus add-ons market, Amstrad has gone the whole hog with the Mega PC — two machines in one box. The Mega PC comprises a 386SX-based PC, complete with 1Mb RAM, Ad Lib compatible soundboard, VGA card and monitor and 40Mb hard disk, *and* a Megadrive, produced by Amstrad under licence from Sega.

Sounds intriguing? Well, we're offering an Amstrad Mega PC as first prize in this absurdly easy to enter competition. Read on, though, to see exactly what the winner will be walking off with.

Built into the main casing of the PC, the Megadrive uses the VGA screen and sound is output through the stereo speakers built into the monitor.

A flap on the machine's front panel conceals either the 3.5" disk drive, as used by the PC side of things, or the Megadrive cartridge slot. Slide the flap over to expose the cartridge slot and the machine is immediately in Megadrive mode. Slide back again and you're back with the PC. You can even switch modes in the middle of a PC application and then come back to exactly where you were — the switch doesn't reset the PC.

The Mega PC also includes a spare bay which will take a Megadrive CD drive when these become available (though you should note that it doesn't take a PC CD-ROM). There's also a host of extras included in the pack: MS-DOS 5, Counterpart graphical front end, on-screen tutorial, mouse and mouse driver, PC joystick, Megadrive joypad, serial and parallel ports and a single free expansion slot.

For full details and specifications, see the news report in Issue 15.

Runners-up

OK, so only one person will get to win the Mega PC, but we also have some fine runners-up prizes looking for a good home.

Psygnosis's new game, Creepers, is an enjoyable and addictive game requiring dexterity and a little bit of lateral thinking, as you steer the caterpillar-like creepers of the title safely through obstacle courses to the end of the screen. You'll need to build bridges, position ramps, or use other on-screen tools, in order to keep the creepers rolling, and prevent them tumbling into oblivion.

There are 10 copies of Creepers for the runners-up in this competition.

Rules

The winner of the Amstrad Mega PC will be the first correct entry drawn at random after the closing date. The winners of Psygnosis's game Creepers will be the next 10 correct entries drawn at random.

No entries received after the closing date will be considered.

Only ONE entry per person, please.

No employees, or their relatives, or associates of Amstrad Consumer Electronics, Psygnosis, or EMAP Images are eligible to enter the competition.

The editor's decision in all these matters is irrevocably final.

How to enter

On this page you'll find portrayed four screens from games. Three of them are PC screens, and three are Megadrive screens. All you need to do (you've guessed) is sort out the console pictures from the PC illustrations, and tell us which is which.









Once you've worked out which machine the games shown are running on, fill them in on the form below, and send it to

Mega PC competition
PC Review
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

The closing date for this competition is February 17, 1993, and no entries received after that date will be considered. The results will be announced in the June 1993 edition of PC Review.

Win an Amstrad Mega PC
The answers are as follows:

Format (PC/Megadrive)

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Again, unlike the competition, the LP1200 includes a powerful document description language as standard. This language, 'LAYOUT', offers unique opportunities to develop custom-made printing systems. Forms and document templates can be designed and stored electronically in the LP1200's FLASH ROM, alleviating the need for pre-printed forms!

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See how the Ricoh LP1200 compares to its Laser Printer Competitors

FEATURES	EPSON EPL4100	HP L/JET IIIP	M'MAN TALLY MT904+	IBM 4029 Model 010	RICOH LP1200
Average Street Price (excl. VAT) (*expected)	£569	£699	£699*	£750	£699
Official RRP (excl. VAT)	£945	£1,179	£1,099	£1,099	£1,195
Maximum resolution in dots per inch	300 x 300	300 x 300	300 x 300	300 x 300	400 x 400
Windows 3 Driver @ 400 dpi	-	-	-	-	YES
Print Speed	6ppm	4ppm	4ppm	5ppm	6ppm
Straight Paper Path	YES	-	-	-	YES
PCL 5 Printer Command Language	-	YES	YES	-	YES
HP-GL/2 Vector Graphics included	-	YES	YES	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	0.5Mb	1Mb	1Mb	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	<45 secs	<60 secs	60 secs	33 secs	45 secs
First Page of Text Output	<20 secs	<40 secs	34 secs	20 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Upgradable Firmware	-	-	-	-	YES
IC Card Slot	YES	-	-	YES	YES
Scalable Resident Fonts - in HP LJ III Emulation	-	8	8	0	8
Resident Bit-Mapped Fonts	11	14	14	16	14
AGFA Intellifont Scalable Font Technology	-	YES	-	-	YES
HP LaserJet III Emulation Included	-	YES	YES	-	YES
EPSON FX Emulation Included	YES	-	YES	-	YES
IBM ProPrinter Emulation Included	-	-	YES	-	YES
Standard Tray Capacity	100	70	100	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.65p	2.00p	1.71p	1.64p	1.65p
Min-Max Paper Weight in gsm	60-157	60-105	60-120	60-131	60-157
Able to print on OHP Film	YES	YES	YES	YES	YES
Able to print on card (157gsm - Manual Feed)	YES	-	-	-	YES
Standby -Noise Level	<40dB	31.7dB	<35dB	38 dB	<38dB
Printing -Noise Level	<50dB	43.3dB	<46dB	50 dB	<48dB

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Silica Systems are pleased to introduce the revolutionary Ricoh LP1200. It has all of the specifications that you would expect to see in today's most technically advanced laser printers, plus a unique additional feature which places it far ahead of the competition - FLASH ROM. This 'Future Proof' technology protects the investment you make when you buy a Ricoh LP1200, as it enables you to keep up to date with new laser firmware developments. FLASH ROM is an area of memory inside the LP1200 which holds the printer's controller instruction firmware. If new firmware is developed, eg an update to the printer's command language, it can be downloaded into this memory. Other manufacturers would require you to buy a new printer! Fonts, macros, graphics and additional emulations can also be stored in FLASH ROM, or on removable, industry standard FLASH ROM IC cards. The new Ricoh LP1200 is the only laser printer to offer this FLASH ROM facility. The LP1200 comes with a 100 sheet A4 paper tray (letter and legal trays also available as extras) and the facility to feed single sheets of paper and card up to 157gsm. An optional extra universal feeder provides the facility to automatically feed up to 150 sheets, from sizes of 98mm x 148mm to 216mm x 356mm in size at weights of up to 158gsm. The universal feeder also feeds up to 15 envelopes, overhead transparencies and labels automatically.

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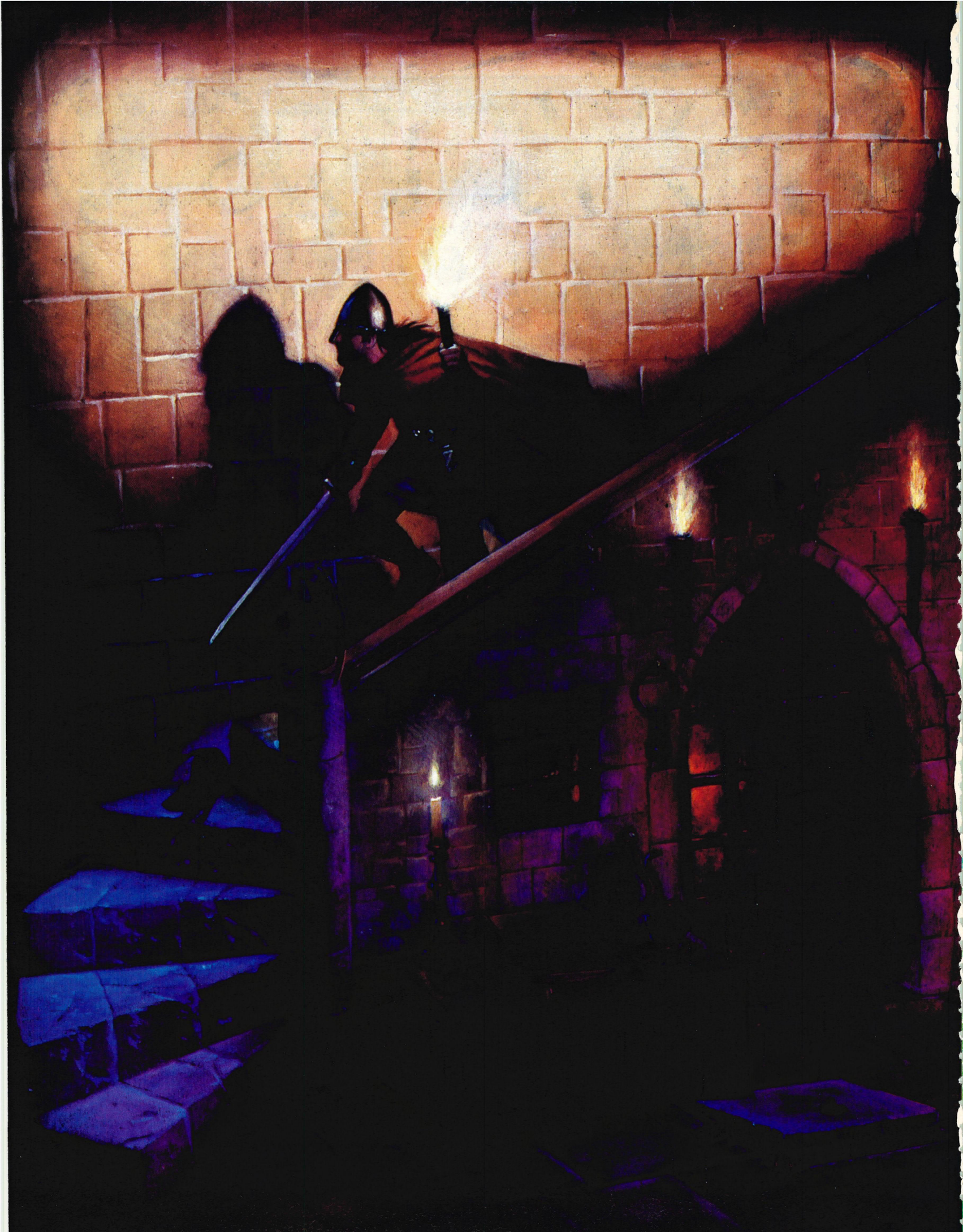
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The changing face of the adventure game

"You are standing in an open field west of a white house, with a boarded front door. There is a small mailbox here."

Thus began Zork 1, the first part of what's probably the most famous trilogy of 'text adventure games'. And in those two small sentences, a generation of computer users looking for something a little more stimulating than bouncing a white dot back and forth across a screen found its spiritual home.

Those of you following the BBC re-runs of Star Trek may have seen a recent episode entitled Shore Leave, where Kirk and the crew found themselves unwittingly cast as the playthings of an alien race of unparalleled intelligence. In summing up the aliens' reasons for kidnapping the crew of an entire starship for such a seemingly trivial reason, Kirk utters the immortal words "The greater the intelligence, the greater the need for the mental stimulation which only games can provide."

This pearl of wisdom goes some way towards explaining why, even in the earliest days of mainframe computing – at a time when the very notion of a desktop computer was confined to such flights of fancy as Gene Rodenberry's classic science fiction series – the sharpest of minds spent their stolen leisure hours attempting to create new worlds in purely text form, for other users to explore and conquer. The lack of any graphic portrayal whatsoever wasn't even noticed.

In these days the 'worlds' which these pioneering developers attempted to create were often only slightly bigger than the computers on which they were created, but despite the amount of real estate occupied by the hardware, the games were very often played without the aid of even the crudest graphics display, with all information delivered via computer print-out.

It's generally believed that the first true adventure game was Colossal Cave. Written in Fortran in the mid to late 60s by a duo called Crowther and Woods (whose Christian names appear to have been swallowed up by the great database of time), this tale of underground trickery and mystery became a blueprint which was followed by the adventure games genre for as long as it lasted.

Although this seminal game was undoubtedly the beginnings of the true adventure, veteran games writer and occasional PC Review contributor Steve Cooke remembers an earlier, if slightly more basic, attempt at using the computer for 'pleasure'.

"The first adventure game I came into contact with was probably Hunt the Wampus," he recalls. "This didn't have any location descriptions or anything like that, so it didn't require a display of any sort – it simply had a grid set up in memory where all of the 'rooms' were connected and the player just typed in one of four words: backwards, forwards, left or right (or just B, F, L or R). What the program did was set the grid up and place the Wampus in one of the rooms, and you simply moved from room to room in an attempt to find this creature. Once you'd found it you could either fight or run – and that was about it really!"



Cooke is, however, a little hazy as to what exactly was the point of this early computerised pastime. "I can't really remember to be honest," he offers. "I remember playing it and thinking it was terribly exciting, but I can't actually remember why."

With the coming of the first wave of home computers (or 'micros' as the inevitable jargon dubbed them), notably the Apple II and the Commodore Pet, a number of text adventure games became available – usually variants on the Colossal Cave theme (sometimes with very little variation indeed) and often in the form of type-in program listings.

These early games were, more often than not, set in underground environments and were based on systems which could only cope with verb/noun commands: go north, open door and so on. There was never any character interaction, and the location descriptions were often sparse to the point of vagueness, but their sheer novelty kept many a pathfinding gamer burning the candle at both ends in an attempt to find their solutions.

The Apple II had been launched in June of 1979, and it didn't take very long for a number of enthusiasts, usually Californian and usually equipped with only a rudimentary programming knowledge, to attempt to produce entertainment software for the machine.

Then, in May of 1980, a very significant event took place – a number of Californian software shops began to stock a zip-locked plastic bag containing a single sheet of paper and an Apple disk carrying a game called Mystery House. Written by housewife Roberta Williams and duplicated and 'distributed' into the shops by her husband Ken, this was the first game from the newly-incorporated On-Line Systems.

Apart from being the small seed which was eventually to grow into the software giant we now know as Sierra On-Line, this game was also significant in that it was the first to carry graphics alongside its location descriptions (although the game's crude line drawings were barely worthy of the title).

Other companies which came into existence at about this time included Interplay and Origin, which also produced their early efforts in a similar 'cottage industry' fashion. In fact, it wasn't until late 1981 that On-Line was able to purchase its first 'state of the art' dual disk drive Apple computer and thereby cut its disk duplication time to under five minutes!

The launch of the second generation IBM PC XT in March 1984 opened up a whole new direction for adventure designers. Faced with this new machine's 'advanced' four-colour CGA graphics and enhanced memory, American designers began to concentrate on producing more graphically-oriented games. The most important of these was probably Roberta Williams' King's Quest, which made its debut soon after the XT's launch.

In its earliest form, the adventure asked the player to work his or her way through a story, solving a number of puzzles along the way. These games were invariably played in the first person, with the player treated to a written location description and then entering a typed command to either change location or attempt to solve a puzzle.

The earliest adventure games could only cope with the simplest of verb/noun combinations. The part of the program which deciphered these user inputs was known as its 'parser' (from the grammatical term, to parse, which basically means to make sense of a sentence). However, with the dawn of the animated adventure, these simple constructions were replaced by ever more complex systems, where the game's main character was moved from location to location by use of the cursor keys – other actions (picking up and dropping of objects for example) were still executed by the tried and trusted method of typed commands.

Rather than just rolling over and dying, the text adventure made many game attempts to hang on in some form. The now legendary developer Infocom, which numbered three of the star names of adventure writing, Brian Moriarty, Steve Meretsky and Dave Lebling, among its ranks, continued to produce ever more complex adventures with more diverse plotlines and increasingly sophisticated parsing.

"What Infocom's games offered was that they enabled the player to carry out numerous actions which weren't really relevant to the story"

What Infocom's games offered was that they enabled the player to carry out numerous actions which weren't really relevant to the story. This allowed the player to experiment and play around with the world to a much greater extent than ever before. And although this didn't necessarily make the games any better – especially if you subscribe to the theory that the plot is everything – it did raise the possibility that there was more than one way to complete a game, thereby making the world more 'real'.

Although long since scattered to other software publishers, the Infocom still has a substantial following on both sides of the



Above left: Lure of the Temptress uses its own Virtual Theatre game system. Above: Cyberdreams' Darkseed uses a smart cursor as an interface between the user and the action, although written messages were still presented to the player.



Steve Meretsky's Leather Goddesses of Phobos 2 was a graphically-led affair, unlike its text-based predecessor.



Atlantic. In the UK, the only adventure writers to come close to Infocom's reputation were the Level 9 team, based around the Austin family. Kicking off with a 'version' of Colossal Cave Adventure, Level 9 brought out a number of text-only adventure, until bowing to the inevitable and including graphic illustrations to accompany the text.

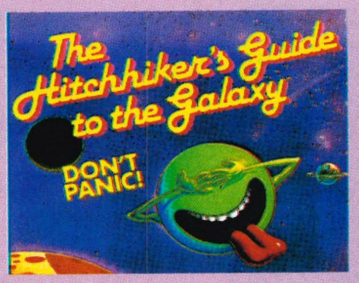
Infocom may have steadfastly refused to lie down in the face of advancing technology, but just about every other adventure game developer seemed to suddenly and collectively realise that their chosen genre had nowhere left to go. Rather than concentrate on producing better and better stories, adventure specialists began to develop games with bolted on gimmicks – which usually amounted to a series of pretty, but irrelevant, graphics.

This tradition had begun with an early 8-bit version of J R R Tolkien's The Hobbit, which was the first adventure to offer an illustration with each new location, and carried on with releases from numerous companies, most notably Magnetic Scrolls. This spawned yet another branch of adventure gaming, as these extraneous graphics gradually sprouted equally extraneous animations.

If these were 'illustrated' adventures, in the sense that the graphics simply porttrayed the location, while in order to move the story on at all, you still needed to type commands, there were also embryonic graphic adventures, in which the animation reflected the action.

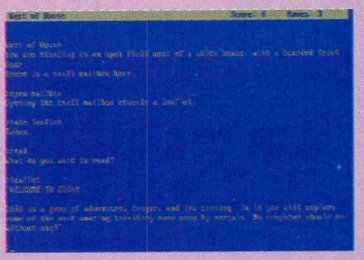
One of the earliest and most famous was Valhalla, released for the Commodore 64 and Spectrum machines in the early 80s. Valhalla was one of the first games to boast interaction between computer-generated characters, although by today's standards, it would be kind to call this rudimentary. Set in Norse times, Valhalla featured a number of stick figures who wandered on and off-screen randomly — much of the player interaction involved greeting each new pinman as they reappeared. However, Valhalla caught the imagination, and led to much discussion and theorising about the future of these graphically-driven wondergames. It unfortunately turned out to be a one-hit wonder: producer Legend Software made much of its follow-up title, The Great Space Race, which, when released ▶

MILESTONES



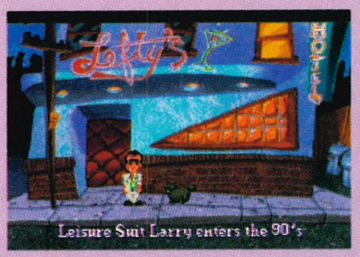
The Hitchhiker's Guide
Infocom, £29.99 (on CD-ROM)

Hitchhikers' took the adventure game genre to the masses, selling more than 250,000 copies worldwide. Although the book's plot, characters – and, indeed, its tone – were almost faithfully recreated, there were still enough infuriatingly brilliant puzzles within this game (notably the legendary 'Babel Fish' teaser) to keep even Douglas Adams himself amused for many hours. Although there are no longer any floppy disk versions of Infocom games available, Virgin has released some compilations on CD-ROM, priced at around £30, while the Disc Company has some bumper Infocom collections (Lost Treasures of Infocom I and II) at £45.99.



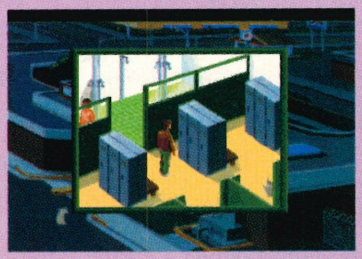
Zork
Infocom, £29.99 (on CD-ROM)

Infocom bores (of which there are many) will bang on for hours about how great the company's games were – not only technically, but also because of the strength of their plots. And this is where it all began, with you in search of the treasures of Zork. The really entrenched Infocom bore, however, will also try to sell you the delights of other titles, such as Suspect, the absorbing whodunnit set in the refreshingly unusual situation of a masked ball.



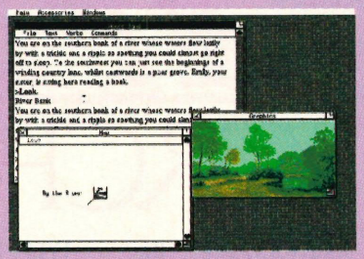
Leisure Suit Larry
Sierra On-Line, £44.99 (on CD-ROM)

Although puerile schoolboy humour was nothing new to adventurers, Al Lowe's slightly smutty tale of the luckless pursuit of women by the game's eponymous hero certainly struck a chord, especially in the City of London where a rash of computer viruses in 1989 was blamed on the many pirated copies of this game which were at that time circulating through dealers' offices. As you'd expect, the original Larry looks about as current as a pair of paisley flares at the moment, but there's still a certain something about this game which keeps its appeal close to timeless.



Police Quest
Sierra On-Line, £29.99

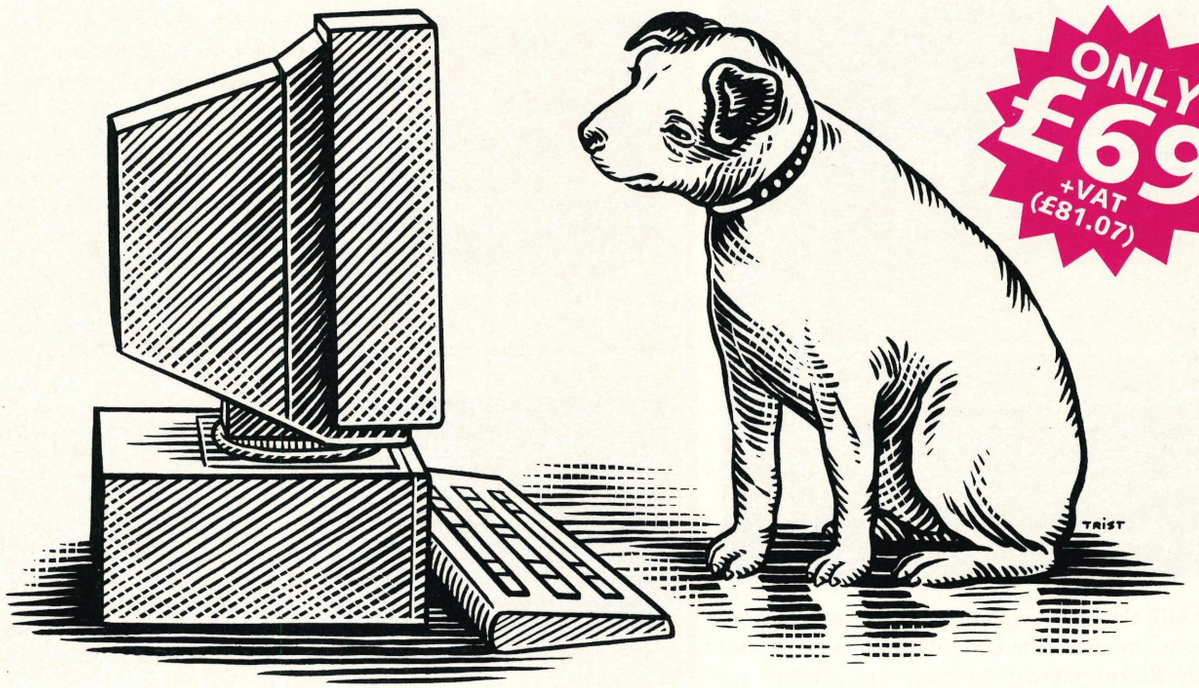
Released as long ago as 1987, Sierra's cops and robbers story benefitted from the fact that it was developed by an ex California Highway Patrolman, Jim Walls. Although the graphics look decidedly crumbly in this high-resolution, VGA age, the story is easily strong enough to keep those of you who aren't too concerned with cosmetics happy, while the strict attention to genuine police procedure provides a strong hook which was somehow lacking in the rest of the series which followed. The original release of Police Quest I is no longer available, but Sierra has just released an enhanced version of the game with true VGA graphics.



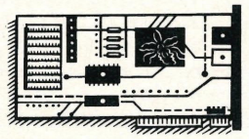
Wonderland
Virgin, £34.99

Lewis Carroll's classic children's fantasy came alive in what proved to be the last release from the influential British development team, Magnetic Scrolls. A strange hybrid between the traditional text adventure and an animated Windows affair, Wonderland offered text and puzzles of a high enough quality to keep the purist happy, while also keeping up the standard of presentation with sensitivity to the original book.

HIS MASTER'S CHOICE

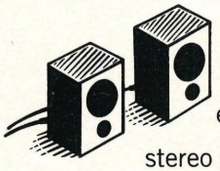


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turned out to be something of a botched job and deservedly sunk into oblivion.

But other publishers took up the themes which Valhalla made well-known, and over the years, the clearly marked line between arcade game and adventure game became obscured. Arcade games moved from being simple fixed screen affairs to being multi-screen, multi-location affairs, and began to offer elements which had up until then been the exclusive domain of the adventure game, travel and exploration to name but two.

Before moving to more recent times, an honourable mention is also due to the number of adventure writing tools which appeared. The British software market has always had a slightly Heath Robinson air to it, and programs such as The Quill, and the Graphic Adventure Creator, provided 'engines' for the buyer to use to write their own text — or text with illustrations in the latter case — and construct their own storyline. A few games written with one or other of these tools even made it to commercial release.

The PC's failure to take off in the UK until at least three years after it had become the accepted home computer format in the US only served to increase the divide which had always existed between American and British adventure developers.

The ever-expanding base of American users equipped with hard disks and higher-spec graphics capabilities led to Sierra On-Line abandoning the single disk game in favour of multi-platter affairs which took advantage of the added realism offered by EGA and VGA (one drawback of these multi-disk games was that users who didn't have access to a hard disk often found themselves asked to insert another floppy, just for the program to tell them that they had made a wrong move and their game was over – although this was a small price to pay for their games' increasing sophistication).

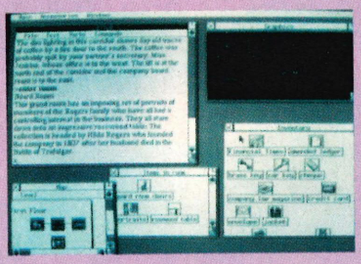
Although Sierra took an early lead in the new animated adventure field, with such notable releases as Leisure Suit Larry, Space Quest and Police Quest (and see over the page for a pictorial history of the long-running King's Quest saga), it gained a notable rival in the form of George Lucas' software offshoot Lucasfilm Games, which entered the fray with Maniac Mansion in 1987.

Viewed purely and simply as a standalone adventure game, Maniac Mansion was nothing really special, but it is crucially important to the development of future Lucasfilm adventures in that it was the first game to use the SCUMM development system (SCUMM stands for Script Creation Utility for Maniac Mansion) which has grown in sophistication with every subsequent Lucasfilm release.

The rivalry which developed between Lucasfilm and Sierra On-Line led to both firms making enormous advances in their development technology in a relatively short space of time. With each new release, further innovations were made, to the extent that in the last two years, the need to type a single word of text has been eliminated from all adventure games, while even the first-time user is catered for with the increasingly intuitive mouse-based graphical interfaces.

The end result of this competitive development means that there are now almost as many adventure interface systems as there are games themselves, and all with the idea that th e player shouldn't have to do any typing in order to make the on-screen character perform any actions and move the story on. Thus Lucasfilm has adopted a 'picture above icon' approach, while Sierra utilises a more traditional menu bar system. Sierra also uses 'smart' cursors, in which you click the mouse button to cycle the cursor between (for example) walking, collecting, ▶

MILESTONES continued...



The Magnetic Scrolls Collection
Virgin, £34.99

Having developed the 'Magnetic Windows' system for Wonderland, Scrolls decided to apply the new system to some of its later adventures, which had originally come to the PC at a time when the interest in text-based adventures was fading. The result of this was that you could pick up Corruption, Fish! and Guild of Thieves in one bargain package.



Indiana Jones and the Last Crusade
Kixx, £9.99

Based on the highly successful final chapter in the Indiana Jones cinematic trilogy, Last Crusade was a joy to behold. Although it stuck loosely to the film's plot, it threw enough spanners in the works to keep even Indy's most dilligent fans guessing. Lucasfilm hadn't quite put the final polish to its SCUMM system at the time of this game's release, but it's still close enough to state of the art to keep all but the fussiest adventurers happy.



Secret of Monkey Island (1 & 2)
Lucasfilm, £39.99

Developed at roughly the same time as Indiana Jones and the Last Crusade, Ron Gilbert's hilarious swashbuckling tale used a similar incarnation of the SCUMM system, but incorporated a lot more humour than most games of this type. The sheer ineptitude of the hero, fledgling pirate Guybrush Threepwood, and the imaginative fight scenes (which relied heavily on proving the old adage about sticks and stones to be wrong) made this an instant hit and an enduring classic to boot. The second game in the series benefits from newer programming techniques, but the original's still the best in terms of pure entertainment.



Spellcasting 101
Legend, N/A

Like Magnetic Scrolls' Wonderland, Spellcasting 101 harked back to earlier type-in systems, although it did pay a little more than lip service to the 90s with the inclusion of graphics, an element of 'point and click' control and a Windows-style presentation. But for most adventure aficionados, the simple fact that this was written by the legendary Steve Meretsky (of Infocom fame) is a guarantee of quality. In time-honoured adventure tradition, Spellcasting 101 has already been joined by Spellcasting 201 (The Sorcerer's Appliance, reviewed in Issue 1), and 301, Spring Break, has just recently been released.



Indiana Jones and the Fate of Atlantis
Lucasfilm, £37.99

Without doubt the finest adventure of this year, Indiana Jones and the Fate of Atlantis received a well deserved nine rating when it was reviewed in PC Review Issue 11. This was the first Indy game to surface without the benefit of a film to base its plot on, but this didn't detract in any way from its quality, as Indy and his sidekick Sophia outrun and outwit a posse of Nazi treasure hunters after the lost gold of Atlantis. In fact, if all future Indiana Jones games keep up this level of quality, then Harrison Ford can happily hang up his hat.

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KING'S QUEST: SIX OF THE BEST

Sierra On-line has made its name with long-running serial adventures. Below you can trace the development of the King's Quest saga



King's Quest I – Quest for the Crown
Sierra, £39.99
The game that started them all and started Ms Williams on her career to international stardom. King's Quest I has just been re-released in a vastly enhanced state. Gone are the original 16-colour EGA screens, replaced with higher resolution versions (left) and a beefed up musical score.



King's Quest II – Romancing the Throne
Sierra, £39.99
The sequel takes King Graham of Daventry across time and space, to rescue his beloved, imprisoned by an evil vampire. Number two in the series further enhanced Roberta's reputation as a master story-teller and game designer. KQ2 has yet to be upgraded, but plans are afoot.



King's Quest III – To Heir is Human
Sierra, £39.99
KQIII took the best-selling series in a different direction. Instead of focusing on King Graham, Roberta told the tale of a young wizard's apprentice who escapes from his tormentor and discovers his true family (surprise, surprise, the Grahams of Daventry).



King's Quest IV – The Perils of Rosella
Sierra, £39.99
Concentrating again on a different member of the family, Roberta placed a female hero in the story this time, Graham's daughter Rosella. This proved to be the most popular game yet, due to it's enhanced graphic and sound interface (the music was actually written by



King's Quest V – Absence Makes the Heart Go Yonder
Sierra, £44.99
The fifth of the series was the first to employ Sierra's new SCI system, doing away completely with any text input on the part of the player and using 256-colour graphics to tell the story. The game is a bit sugary and definitely for the young though.



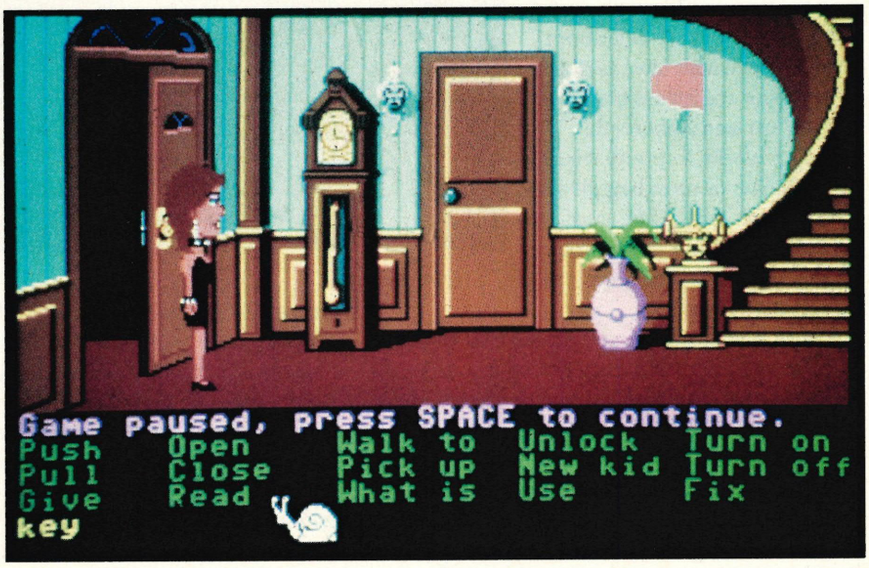
King's Quest VI – Heir Today, Gone Tomorrow
Sierra, £44.99
KQVI is essentially a sequel to KQIII. Bringing Graham's young son to the fore once again, it tells of his trek across distant shores to find his love. Incredible graphics and a wonderful intro sequence really create a great sense of atmosphere.

or speaking modes — smart cursors are also found in Leather Goddesses of Phobos 2, Darkseed and Virgin's KGB, but every new adventure which crops up seems to take a slightly different approach, and eliminate the words in favour of pictures as far as possible.

There are always exceptions, of course, and Steve Meretsky, who as one of Infocom's leading lights can be assumed to know what he's talking about, still sees a place for text for description and for instigating the action of the story, as in the Spellcasting series.

The increase in popularity of CD-ROM is likely to be the next development that takes adventures that much further — and thus much less easily classifiable as an adventure. The huge capacity of compact disc means that speech can be sampled and stored without threatening to take over all available storage space. In this case, locations can be described by a narrator, and characters will actually talk to you instead of communicating through thought bubbles (the time will surely come when you'll simply be able to natter to your PC to move thje story on a bit). Many of the 'enhanced' CD-ROM versions of adventures simply substitute speech for some of the on-disk text, and, playing the CD version of Loom, or King's Quest V, you can appreciate the difference in atmosphere.

Even now, the term 'adventure' covers a broad church of gaming styles — there are those who would argue that distinctions between adventures and more illutsrtaive RPGs, or the more thoughtful arcade games, has effectively become blurred. However, adventures have an enormously wide appeal, and



Maniac Mansion, above, was the first outing for LucasArts' SCUMM interface: just click on the words on the lower half of the screen to effect the desired action.

many people come to PC gaming after becoming intrigued by the antics of Indy, Guybrush Threepwood, or Larry. The emphasis on ease of use can only help this.

Whether the proliferation of gaming systems continues into the distant future, or one of the throng emerges supreme and becomes some sort of new 'standard', one thing which seems clear is that the text adventure is gone forever as all of the major software companies lead us closer and closer towards achieving the holy grail of the 'interactive movie' ■

British
By Any Other Name

Origin's logo boasts, "We create worlds". But who exactly are 'we'? Paul Presley visits the role-playing supremos to find out who else works in Lord British's court.



When you think of Origin, two people spring to mind immediately — Richard Garriott and Chris Roberts. What many people don't realise is that there are actually over 170 people working for the Texan developer, almost all of whom have as much to say about the games produced as Garriott and Roberts do.

Origin works in pretty much the same way as most large developers these days. The staff is split into individual development teams, each of which works on a different project.

These teams are complemented by separate graphic and audio departments which create all the presentational tools for the designers ideas. Currently there are five projects underway (six if you count the Origin screen saver that's about to be launched for Windows users), dealing with everything from mediaeval wizardry to futuristic space trading. Despite all of this, Garriott is only involved in the projects in a minor way. His main creative efforts are being channelled into the eighth of the Ultima role-playing series, a game which is still very much in the early stages of planning.

Ultima and beyond

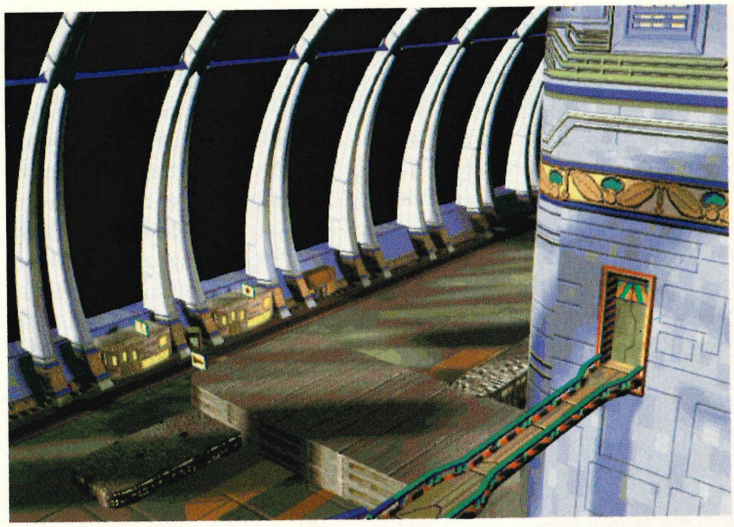
In fact it's not just Ultima VIII that he's working on. Garriott has already planned out the future of the Avatar (the series' noble hero) right through to Ultima X and beyond. "Each of the Ultima games is part of a trilogy," he explains. The current trilogy has started with Ultima VII — The Black Gate, will go through Ultima VIII and end up with Ultima IX. They all follow a similar path, dealing with the final days of the Guardian and maybe even the final days of Britannia. U7 saw the Guardian attempting to invade Lord British's homeland, U8 will see the Avatar taking the battle to the Guardian's own world and U9 will culminate with the final battle between the two.

This trilogy theme has also been accounted for in the marketing designs of the game. "If you look at the box for U7 it is completely black," he continues. "U8 will be a similarly minimalistic design but dealing with fire and U9 will be white, a cloudy effect. When you look at these when stacked up in shop stores you'll see a wall of black — the black gate if you will — a wall of fire and a wall of white clouds."

Garriott doesn't want to stop there. Ultima X should see some breakthroughs in game-playing technology. Origin is currently testing the water with that old favourite Virtual Reality. Like most people that have played the current Virtuality games, Garriott hasn't been that impressed with what he's seen. Naturally he figures that as time goes on the technology will improve, hopefully to the point where home Virtual Reality kits will be available.

To this end he is looking at making Ultima X fully compatible with VR. "This doesn't mean that people without such extravagant devices won't be able to play the game. I'd like to make it so that the game is fully compatible with whatever machine the player has. If he has a standard 386 PC he or she will be able to play it in the normal style. If that player happens to have a control glove, the icon controls and hand movements will be linked together to allow the player to get closer to the game. If he also has a helmet then the game will make use of that, drawing him even closer."

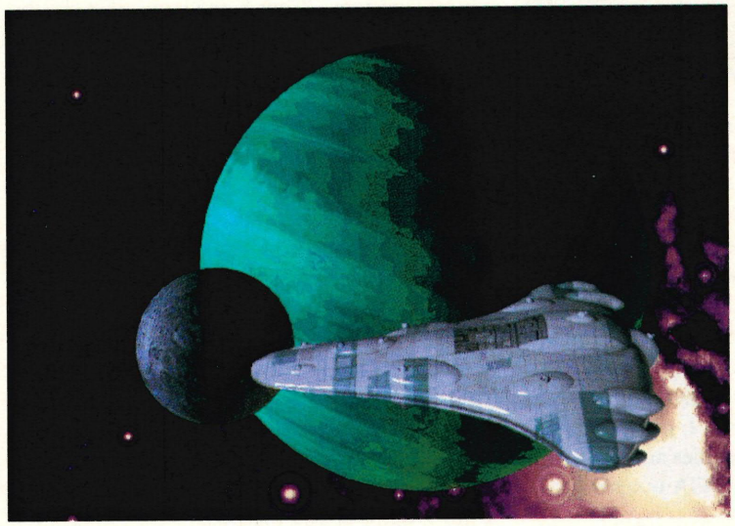
On a more immediate note, we're going to see the sequel to Ultima VII. Not, as you'd probably expect, Ultima VIII but Ultima VII Part Two — The Serpent Isle. "I've made it a habit of always using new technology for each of the Ultima games, with each Roman numeral comes a new interface," says Garriott. The Serpent Isle doesn't make any significant advancements on

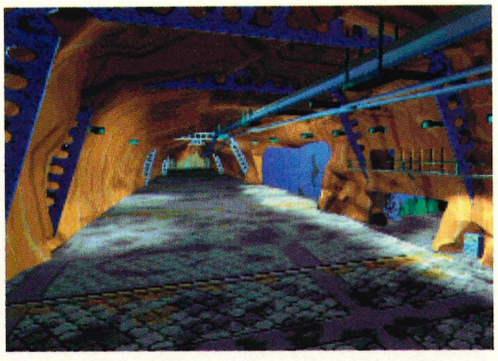


Ultima VII, it just furthers the story, therefore it doesn't warrant a new number. Garriott isn't fully involved with Serpent, the project leader for this task being Warren Spector, previously responsible for Ultima Underworld and The Worlds of Ultima Series.

The nature of the Ultima series has become much more serious and realistic over the last few years, so much so that U7 had to have a Voluntarily Rated MP-13 sticker on its box, an unofficial

Above and far left: hi-res images from the forthcoming Privateer. Although this level of detail will only be available on high-end machines, graphics like these are not just used for the intro sequence. Space ships will fly around in full hi-res glory.





Location shots from Privateer.

censor guide similar to the film world (whether or not this actually helped to boost sales — the promise of graphical violence and adult subject matter inflaming the desire of the general pub-

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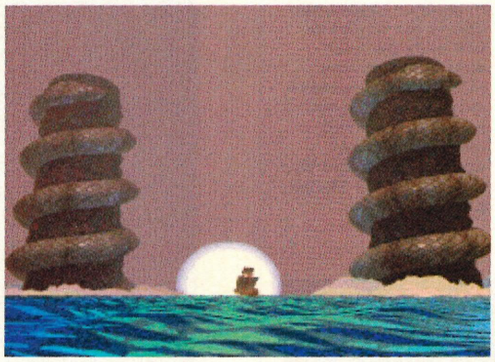
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lic — is another matter entirely). Serpent Isle looks set to follow this trend, especially when you consider that there's a nude love scene contained within. Yes, believe it or not, the saintly and noble Avatar sheds his clothing and climbs into bed with a sultry temptress in this latest instalment of his life story. But before all of you moral censors out there start getting flustered, don't worry. It's not wonderfully explicit, you just see a rear view of our hero before the screen fades to black. A brief text interlude informs you of what happens and things carry on as before.



Back to the abyss

Spector is also the project manager for the sequel to one of the most influential games of last year. Underworld is back and looking twice as good, twice as large and twice as entertaining. This is one of the few titles that Origin feels it has to 'farm out' to an out-of-house programming team, Looking Glass Technologies (formerly Blue Sky, programmers of Car and Driver — see page 74 for review) being the highly talented individuals. "I have nothing but the greatest of respect for these guys," comments Spector. "They really do a fantastic job and I can't recommend them highly enough. The work they did on Underworld I was astounding, this time round it's even better."

In the design of Underworld II — Labyrinth of Worlds, Spector and Looking Glass have relied on player feedback to improve things. The most notable difference is of course the graphic quality. Gone are the single colour, pixel creatures — bats that look like they've just stepped out of an Atari VCR console and worms that are simple coloured lines — Underworld 2 uses 256-colour technology to its best effect. Bats have transparent wings, skeletons look as though they've starred in many a Sinbad film, and the terrains take things into completely new dimensions. There's even one area where the player is transported back into Ultima I, complete with mono colour, wire-frame graphics and stick men monsters being hit by your VGA weapons.

Strike out

What has happened to Strike Commander? That's a question that's been on the lips of most people since Christmas 1991 when it was first announced that Chris Roberts' flight sim to end all flight sims was on the verge of a release. Strike has become something of an albatross for everybody's neck at Origin (when a new game suffers a set-back or has to be delayed, a commonly heard phrase is, "At least it's not a Strike Commander!"), although it does now appear to be finished and looks set to be released in March.

Roberts' other big-name game, Wing Commander, has also been the influence for what looks like a cross between WC and Elite. Privateer is to Wing Commander what Star Trek: The Next Generation is to Star Trek. It takes the settings, the technology and all the background material on the WC universe and expands on it, exploring life away from the Confederation and military life. It also dispenses with the limiting story-telling aspect to the previous game, preferring to give the player a feeling of freedom. You can go anywhere (within reason), do anything (within reason) and shoot anyone (within reason).

The principal designers of the game are Joel Manners and Scott Russo, a pair with plenty of design experience behind them (Manners has been strongly involved with Strike Commander while Russo previously worked for Disney). Although they are using much of Wing Commander's background for the game they don't feel limited with what they can do with the new program. "Chris hasn't imposed any restrictions on us, so we've been given a pretty free hand with what we can do," says Russo.

Privateer, like everything else at Origin, is still in the early stages of development, but it is already breaking new ground with its graphic technology. Take the hi-res images on the previous pages, for instance. They may look like pictures from an intro sequence, but according to Russo, Manners and the artists working on Privateer, these are in-game shots and everything you see is animated. Obviously this kind of presentation is only going to be available for the more powerful machines (we're talking 386DXs with SVGA at least here), but they do show what a computer game is capable of and the shape of things to come. Things to come from Origin, at any rate.■

Top: More hi-res wondery from Privateer.
Above: Serpent Isle sets sail for new realms of adventure
Below: Ultima Underworld II — Labyrinth of Worlds.







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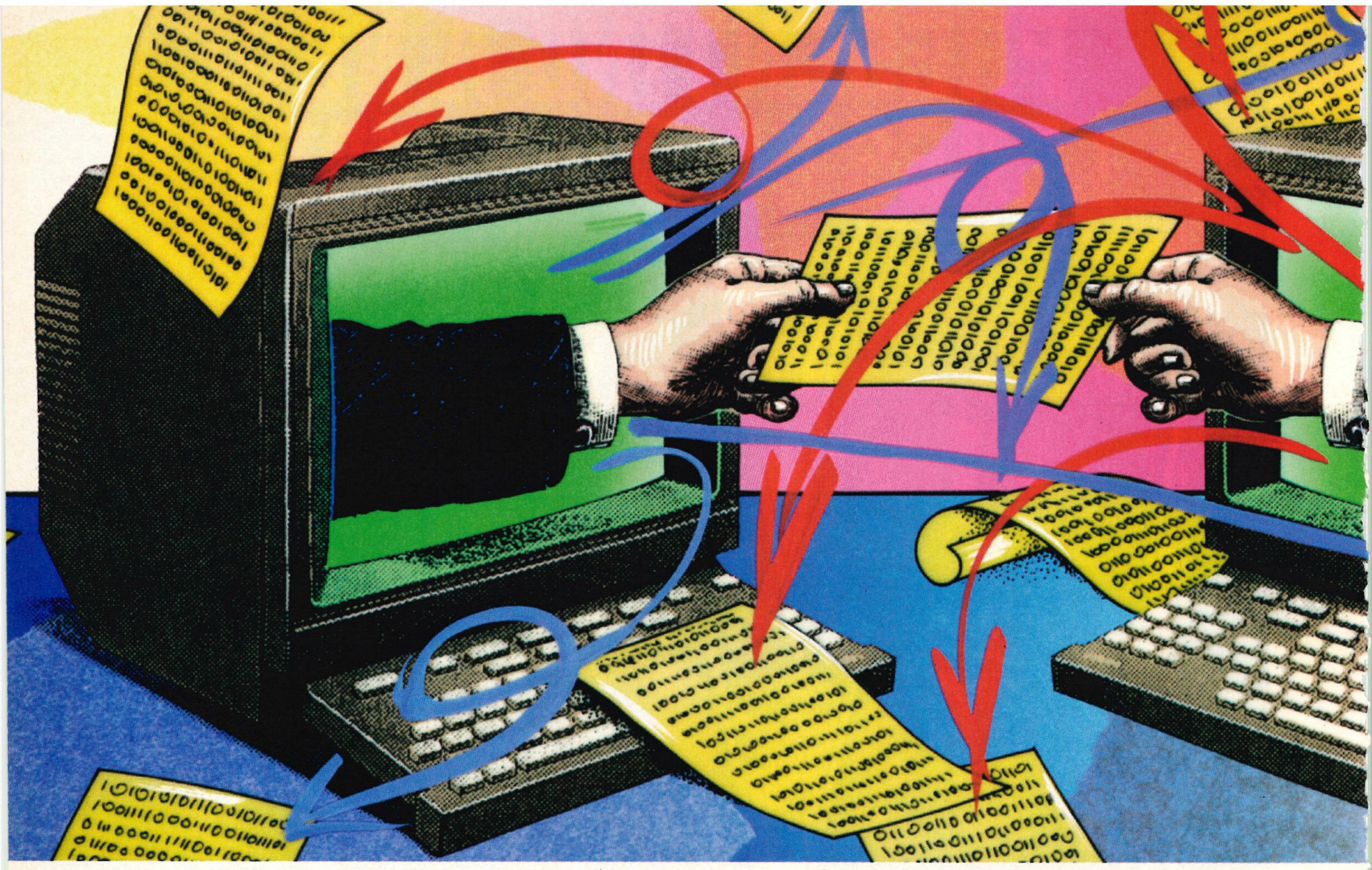
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Dial a game

With a modem and communications software, you can dial up a bulletin board for help with games, for a chat, or to try out software. Paul Breeze explains what you need and how to go about it

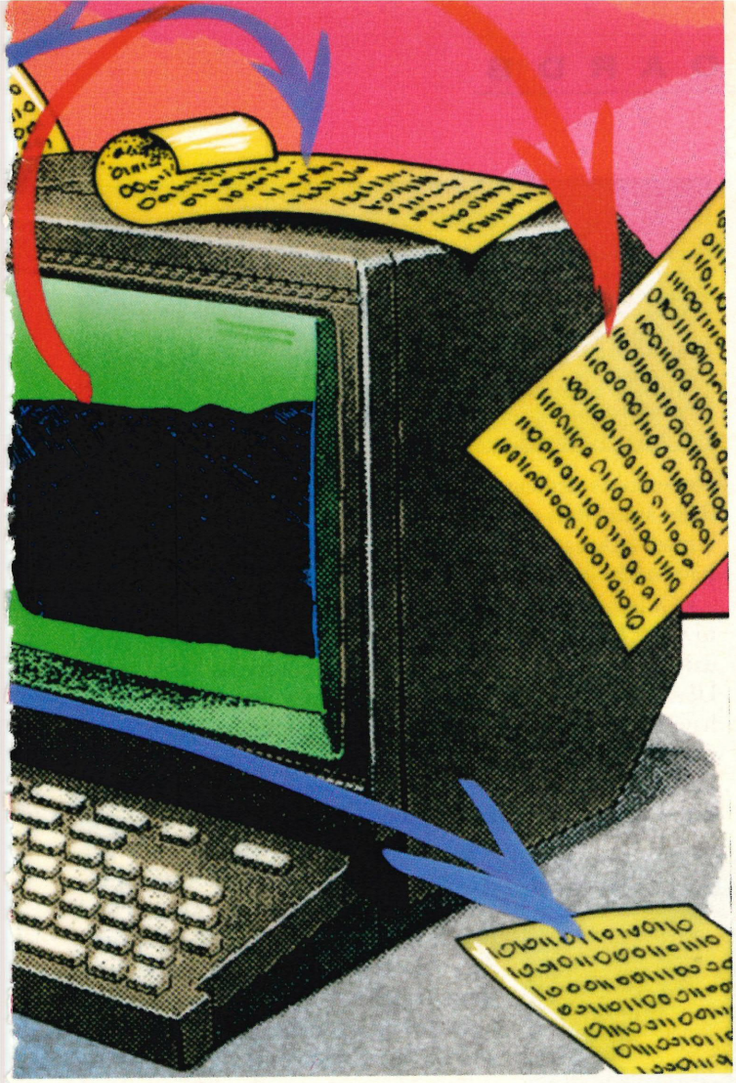
If you wander down to your local games emporium you are unlikely to find anything on the shelves for under £30 and at that price it's probably not a bad idea to find out if the software is any good before parting with hard cash. Reading about the game in PC Review is a good place to start, but the only way to be absolutely certain is to play it. Failing that, the next best thing is to play a demo.

Where can you find the demo you want? If you're lucky it will be on a magazine cover disk. If not, then you've had it – unless, that is you happen to have a modem handy.

Today, games companies such as Virgin and Sierra have their own computer bulletin boards (BBS) while others can be found on commercial BBS like Compuserve. For the price of a telephone call you can connect to the BBS and transfer the demo you want to your own computer. Then you can find out if the graphics really are out of this world. But bulletin boards don't only carry games demos. Many have enormous libraries of shareware games and much more besides.

The idea of the bulletin board came originally from the USA, and more specifically from hackers. The term hacker didn't always mean someone who breaks into other people's computers. The word was first used in the 70s (or maybe the late 60s ...) to describe a computer enthusiast, someone who got their kicks hacking (ie, messing about with) computer code. And it was hackers, in this sense, who first popularised the bulletin board.

The idea was to have one computer that all the hackers could call to swap ideas, chat, or simply be rude to one another. The name bulletin board was used to describe this electronic message board, but is use soon grew far beyond simple messages.



Choosing a Modem

If you are in Birmingham and you want to talk to someone in London or Tahiti, the simplest solution is to pick up the telephone. So too with computers. The telephone system is so widespread and standardised that it provides the ideal means for one computer to talk to another.

Unfortunately the telephone is an analogue device designed for voice messages. Like an old vinyl LP, it carries a replica of the sound waves that transport the message through the air. Computers, of course, don't speak with an analogue voice. They only understand digital (like a compact disc). Enter the modem.

The modem is a modern miracle. It converts the analogue telephone system into a digital communications network. Any computer equipped with one can (at least in theory) talk to any other with one. The modem works a bit like radio. It first generates a carrier wave which it sends down the telephone line and then superimposes the digital information on top of it.

There are two things to look out for when buying a modem. The first is its speed and the second is the standards it conforms to. The speed of a modem is rated in baud, which roughly equates to the number of ones and noughts it can squeeze down the line each second. At the bottom end of the scale there are still modems working at 300 baud which have not yet been consigned to the dustbin. At the top, the latest machines screech along at 14,400 baud.

However fast a modem can talk, it's no use to anyone if it doesn't speak a recognisable language. This is where standards come in. Modem communications are governed by a series of V standards that define transmission of data at different speeds and in certain special formats. The important ones are V22 (1200 baud), V22bis (2400 baud), V32 (9600 baud), V32bis (14,400 baud) and V42bis (a system for data compression that will speed up transfer on modems equipped with it).

When buying a modem, get the fastest you can afford, but do check that its highest speed conforms to one of the standards. There are 9600 baud modems advertised that are not V32 compliant; like Martians, they can talk to one another but not to anybody else. A modem should also be approved by BT and have a green circle to prove it. It is illegal to use an unapproved modem (though not to be sold it).

Modems come in two varieties, internal and external. If you like flashing lights you can buy an external variant that will sit on top of your desk. Far simpler, however, if you have a spare expansion slot inside your computer, is an internal modem. It only requires one connection, to the telephone socket, and as a bonus it is cheaper.

There are plenty of modems around, mostly expensive. Many come with built in fax facilities too, but if you don't need a fax, don't pay for it; one without will be cheaper. And unless you are really skint, don't buy one that's slower than 2400 baud. The cheapest modern (BABT approved) 2400 baud modems cost around £130, although there are still some of the old Amstrad modems to be had for around £80. A 9600 baud machine won't leave much change out of £400.

In those early days, communications hardware was primitive by present standards. As its performance improved, people started to send large files of data and software to one another in addition to messages. An underground computer subculture had been born.

What started out as fun soon became big business. In the USA now there are several thousand bulletin boards and in this country there are hundreds. Many of these are run by enthusiasts and some by companies offering a service to their customers but an increasing number are commercial operations set up with the aim of making money.

BBS can be divided into three categories. The first is free boards. Company BBSs, set up to help customers, are usually free. (But don't forget that you have to pay for the telephone call.) Games company boards will give you game demos and sometimes hints, but there are other useful company boards too. For example, Central Point Software (081) 569 3324, the company responsible for PC Tools has a board where you can download a free anti virus program. And Seagate (0628) 478011, a US company that makes hard disks, has one to help people having problems installing a new disk. These are just two of many.

The second category of BBS is boards run by enthusiasts. They make up by far the largest group. Anybody with a modem and the right software can set up their own BBS and many people do. Some cater for specific hobbies or interests, others are aimed at particular brands of computer, while the majority are free-for-alls that anybody can call to leave and read messages or transfer software or files. Most have a healthy games section. (And incidentally, the best place to find the software to set up a BBS is from another BBS.)



Electronic Arts' forum on CIX not only offers demos of games such as Car and Driver, above, but will also answer queries from its customers

When you call one of these BBS you have to observe a certain code of conduct. The man or woman in charge is called the sysop (standing for system operator) and the sysop is God when it comes to deciding who can do what on their board. Most of these boards expect some sort of payment, although it may not be cash.

When you first call you will be allocated a new user status which is the lowest level of access. This will allow you to see what the board has to offer, how many shareware games it has, but probably not much else. To gain a higher status, especially if you want to download games or files to your computer, you must actively participate. That means leaving messages and uploading files or programs to the board. ▶



Virgin's own bulletin board is currently offering demos of Dune 2 and Caesar's Palace, among others

BBS of this type control your access in two ways. One is by time. You are allocated a certain amount each day. The second is download to upload ratio. If you transfer a file of a certain size to the BBS then you might be allowed to copy files of up to twice that size to your own computer. If you play by the rules, or the Sysop likes you, that 1:2 ratio can be increased to 1:5 or even 1:10 if you are particularly favoured.

An increasing number of these boards run a subscription membership too. Pay an annual fee (it shouldn't be more than £10) and you can gain unlimited access.

If you are prepared to pay for the privilege of using a BBS then you might also be interested in the third category. These are fully commercial on-line services. They charge a monthly subscription plus a fee for the time you are connected to the BBS.

There are two main commercial systems in the UK, CIX and Compuserve. CIX (standing for Computer Link Information Exchange) is based in England. It runs a wealth of conferences dedicated to all sorts of different subjects from flight simulators and backgammon to Microsoft Windows and viruses (you can contact PC Review there, too) and many that have nothing to do with computers at all.

CIX is a good source of shareware games and a friendly place to visit. However, the place with the biggest and most up to date library of all is Compuserve. Compuserve is based in the USA but has set itself up in this country now, so you won't have to call America in order to connect. The great thing about Compuserve is that a lot of software developers use it so you can find the latest releases of shareware games and the most up to date versions of shareware programs. Not only that; a lot of games companies run forums, too. There are two Games Publishers Forums, cleverly named A and B, where you can find demos from companies like Electronic Arts, Accolade and Origin. There are also game updates. Origin, for example, has uploaded fixes for bugs in both Ultima 7 and Ultima Underworld.

To make contact with a BBS you need four things; a computer, a telephone line, a modem and a communications software package. Assuming that you have the first two, the last two are a matter of judicious investment. Modern modems are generally reliable so its a matter of buying the best you can afford (see panel). Most will come with software and you can find other communications programs on the BBS themselves.

Once the modem and software are installed and running (and that isn't always straightforward, see PC Review Issue 11) you are ready to go.

Before dialing a BBS you need to know its phone number, the maximum speed at which it can operate and a set of three figures and letters that determine the way it receives data down the telephone line. The parameters to look out for are the number of data bits (usually 7 or 8) the parity (none, odd or even) and stop bits (invariably one). As a rule of thumb, most BBS will work with 8-N-1; but don't be caught out by Compuserve, it is 7-E-1.

Once you have sorted these out, dial up and follow the instructions on the screen. But two words of caution. One, even if the BBS is free you have to pay for the telephone call, so beware of any BBS that is charging chat-line rates. They won't be able to offer anything you can't get somewhere else at the standard rate. And two, always be on the look out for computer viruses. There is no better way of spreading them than via a BBS.

A word of warning

Using bulletin boards can run up some hefty phone charges if you spend a lot of time uploading and downloading. Whoever pays the bills in the household should make sure that the modem is connected to a PC on which its use by other members of the family can be monitored. It is also a good idea to keep a weather eye on just what is being downloaded by youngsters; many bulletin boards have 'adult' areas with varying degrees of security over who is able to access them.

Bulletin boards

Virgin Games (081) 964 4033
Sierra Online (0734) 304227
(Mindscape is planning to set up its own BBS, but hasn't yet and Domark is thinking about it too.)

CIX (081) 390 1244
Compuserve (071) 490 8881

Computer Pages (081) 893 7700

Glossary

Download. To transfer a file from a BBS to your computer.

Upload. To transfer a file from your computer to a BBS.

File transfer protocol. A special format for transferring files from one computer to another without errors. Typical names are X-Modem, Y-Modem and Z-Modem. X-Modem is the simplest but Z-Modem is generally considered the best.

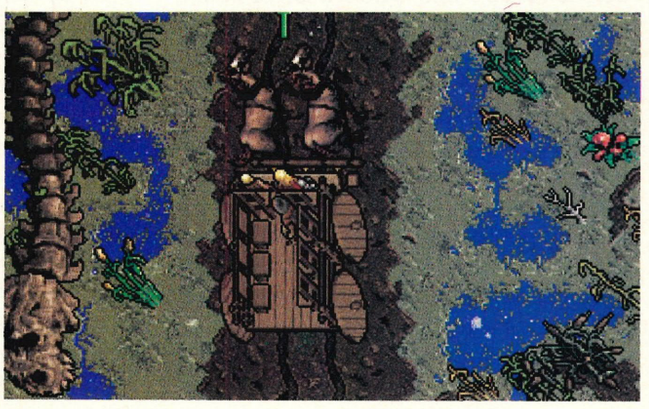
Sysop. The person in charge of a BBS.

On-line. Being connected to a BBS.

Conferences or forums. Areas on a BBS dedicated to a particular interest. You usually have to apply to join a conference, although that may involve no more than typing in your name.

Data bits, parity and stop bits. Special protocols used by BBS to send and receive data.





(Top left) Accolade's Compuserve forum currently holds over 100 new courses for its Jack Nicklaus series

(Left) Origin has uploaded bug fixes for Ultima VII on its forum on Compuserve

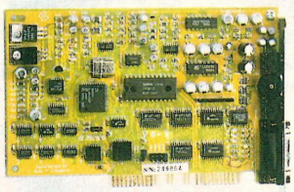
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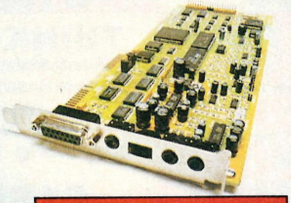
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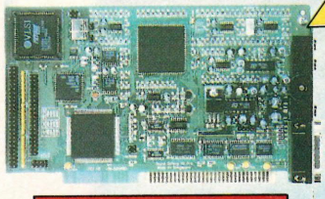
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Stereo input	No	No	Yes
SOFTWARE CONFIGURABLE	No	No	Yes
MIXER SUPPORT	No	No	Yes
DYNAMIC FILTERING	No	No	Yes
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MIDI PORT	Yes	Yes	Yes
BUNDLED SOFTWARE			
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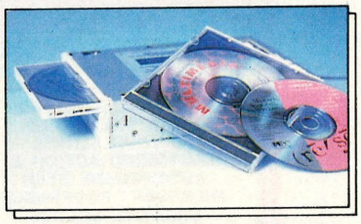
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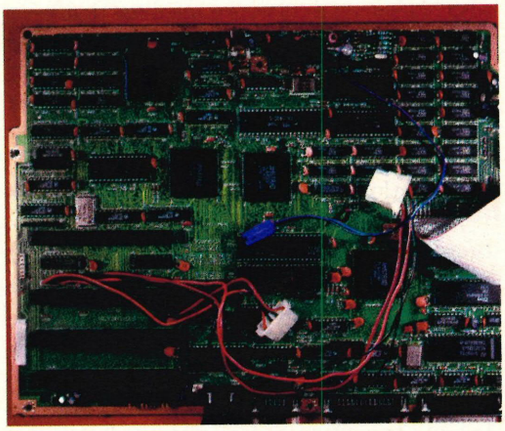
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Upgrade your Amstrad 1640

Mike James brings news of a motherboard designed specifically for the Amstrad 1640, and what's more, there's a 386SX processor on it



The Amstrad 1640 mainboard, and Greengage board: notice that all the connections are in the same place on both boards — this is one of the things that makes the Greengage special.

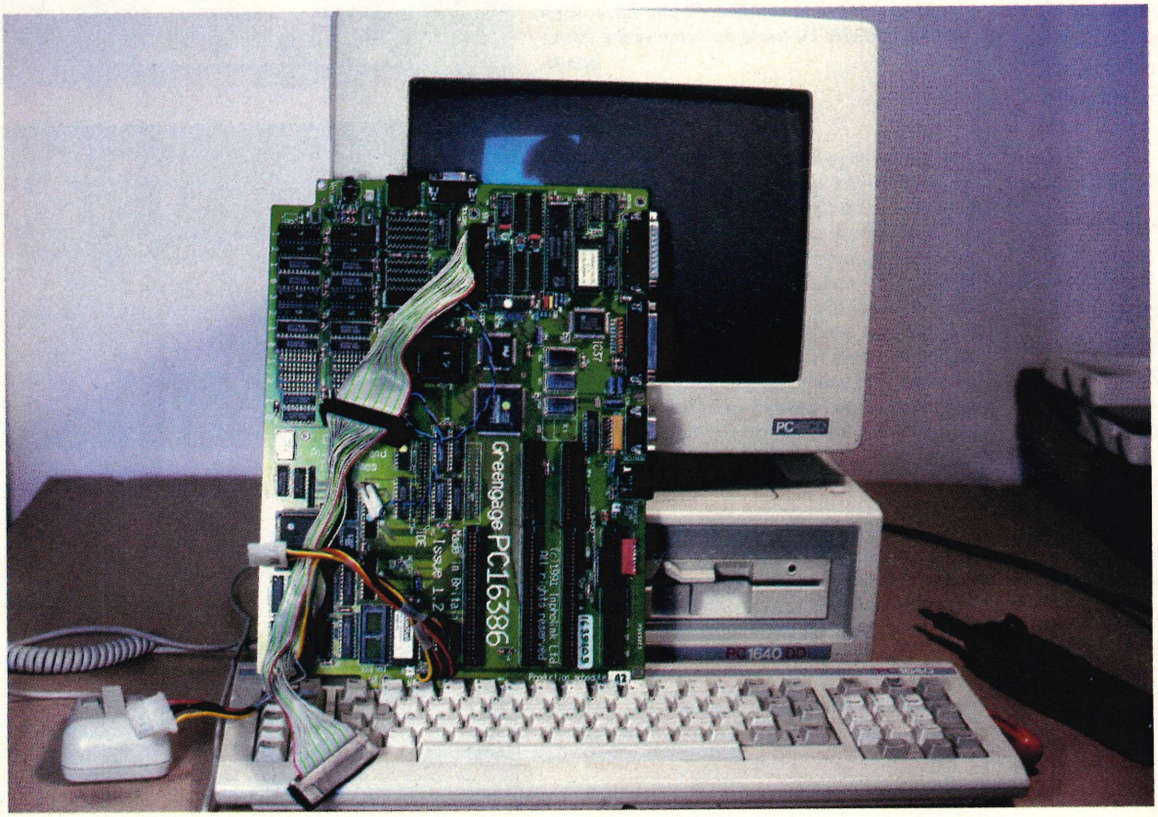
The Amstrad 1640 was a good machine in its day and a lot of people made a good choice in buying one back in 1986. But the PC market has changed beyond all recognition since then. Graphics and processor standards have moved on, and many publishers are writing for machines more powerful. If you want to run the latest software, be it games or Windows 3.1, the 1640 leaves a lot to be desired.

Unlike most machines of its class the obvious solution, to upgrade the mainboard, isn't a possibility. The reason is partly that the 1640 mainboard is a non-standard size and partly because it contains extra electronics that other mainboards don't. As a result I have never been able to give a satisfactory answer to all the questions that I get about what to do with an Amstrad 1640 — apart from sell it and start again. Now there is an alternative.

The Greengage is a mainboard that has been specially designed as a replacement for the 1640 mainboard. It has a 20MHz 386SX processor and so in theory at least it gives 1640 owners the possibility of running most advanced software at a reasonable speed. The basic machine comes with 1Mb and this is enough unless you want to run Windows in which case you need 5Mb. One drawback of the board is that it doesn't take standard SIMMs and you need to buy a small memory expansion card.

All the connectors on the replacement card are in the same place and so you still have the serial, parallel and mouse port as before. The video controller is also built into the mainboard. This is logical, but you have to realise what this means. The video controller is only EGA, when the most common standard for 386 machines is VGA. I say the choice of EGA is logical, because the 1640 monitor is also EGA standard and a swap to VGA would mean changing the monitor and providing a separate power supply, and this would make the upgrade too expensive – approaching the price of a new machine.

You can also retain the existing hard disk controller, even though this is an XT controller in what has now become a AT machine. This could cause problems with software that tries to use the disk drive directly but as long as you are aware of the restriction it shouldn't be too much of a problem. The only other change that you ought to know about is the need for only two CMOS batteries rather than four — two dummy batteries are provided.



One optional upgrade is to the keyboard, of course. If you want to, you can do it yourself, making two small wiring changes to make it more like a standard AT keyboard. This isn't difficult but you do have to solder. If you don't want to do it, you can send the keyboard back and have it done for you.

What have you got at the end of the upgrade and is it worth it? Well you do have a 386SX and that is certainly something worth having. It isn't entirely standard — EGA video and usually an XT disk controller — but it isn't that eccentric a machine, either.

If you simply upgrade the mainboard you are also likely to end up with a machine that has a rather small disk drive — if you think that 20Mb–40Mb is a tight squeeze for XT-oriented programs, you are in for a considerable shock when it comes to running software that has been designed specifically for a 386.

If you think that a hard disk upgrade is the next step, then be careful to do your sums because a hard disk upgrade plus a mainboard upgrade could be close enough to the cost of a complete new machine not to be worthwhile.

So is it worth it? The argument is still finely balanced. There are jobs that the unmodified 1640 can do quite well — simple word processing and spreadsheets for example. If you can find a useful job for your 1640 or sell it then you are probably better off upgrading the whole machine. If you feel trapped by the past and cannot afford to get rid of the machine then the Greengage 386SX upgrade is a way out at a reasonable, if not bargain basement, cost.

Greengage is going on to produce a replacement 2086 upgrade and hope to be working on a similar 1512 upgrade , but the problems in this case are somewhat greater because the 1512 is restricted to CGA graphics. However, watch this space because we'll report on the effectiveness of these boards when released.

Greengage 1640

Prices

1Mb — £295 plus Vat

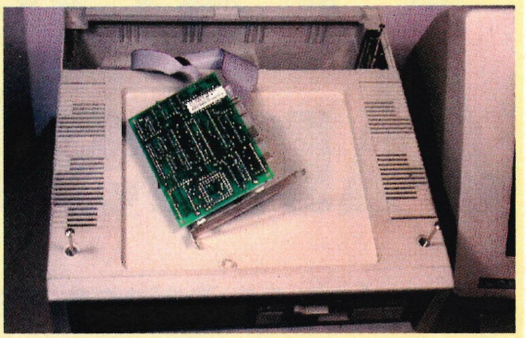
5Mb — £423 plus Vat

These prices are for a recycled board, that is, you send your old board, in the packaging provided, to AIM. If you want to keep your old board as a spare, add £70 to the price.

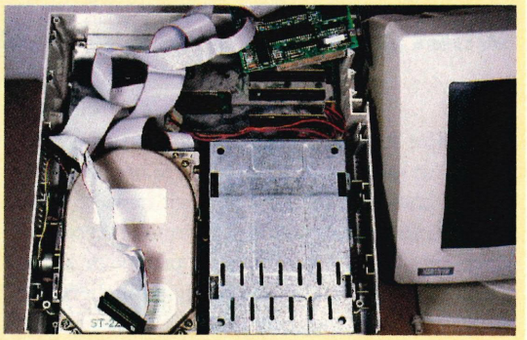
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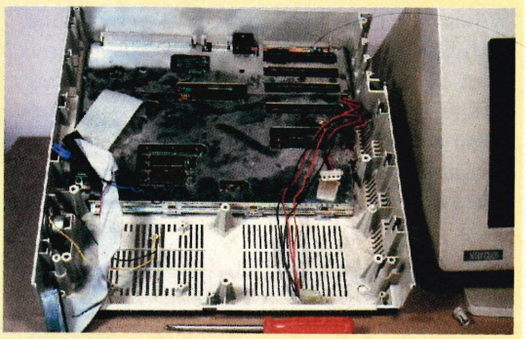
Although the Greengage comes with a very good set of instructions you might like to know a little about what is involved before you take the plunge. So here is a step-by-step guide to upgrading your 1640.



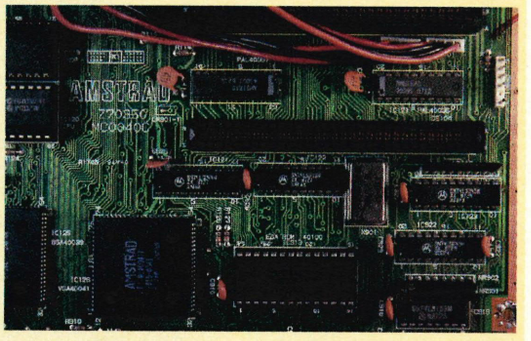
After carefully unplugging and lifting off the monitor, your next task is to open the case. The easy part is undoing the four screws, one at each corner. As long as you know that the three screws under the expansion cover are there, removing them is equally straightforward! If a hard disk is fitted, it is obviously a good idea to remove the controller card — but leave it connected to the drive as this saves you the trouble of having to reconnect it.



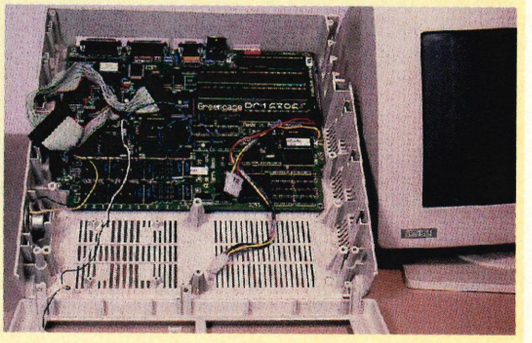
When you lift off the top part of the case you can see quite a confusing mess! If you study the layout you should be able to identify the disk drives and see the mainboard lurking beneath. The next job is to remove the disk drives, a matter of six screws. The power supply cables should be removed from each disk drive but the ribbon cable can be left attached to the hard disk. Both drives should be lifted out complete with their mounting brackets and put somewhere safe.



Now you really can see the mainboard, or rather the dusty metal screen encasing it. The screws holding the metal screen in place also hold the mainboard: you have to remove all of them. After lifting off the top screen you come to the most difficult part of the whole job — manoeuvring the mainboard out of the case. If you have been struggling for half an hour or more, the chances are you have forgotten to unplug the mouse and pull off the loudspeaker volume control knob! Even if you have done both it can still be tricky to remove the mainboard.



The Greengage mainboard has a full complement of chips apart from a video BIOS. What this means is that you have to remove the video BIOS chip from the Amstrad mainboard — it's the rectangular chip marked 'Amstrad 40100'. This is easy as long as you are patient. The best way is to lever the chip up gently using a large screwdriver, working on each end alternately. Fitting the chip is just a matter of placing it in the socket and pressing: be careful not to bend any pins. You can always send the whole mainboard back and the job will be done for you.



Placing the new mainboard back is much easier than removing the old. You don't need the top metal cover, just the bottom one. Once the nice new shiny board is in place you only have to plug all the wires back in, refit the disk drives and put the case back together. This seems easier because you have seen it all before on the way out! When you finally get to switch on you should be greeted by your new high speed machine.

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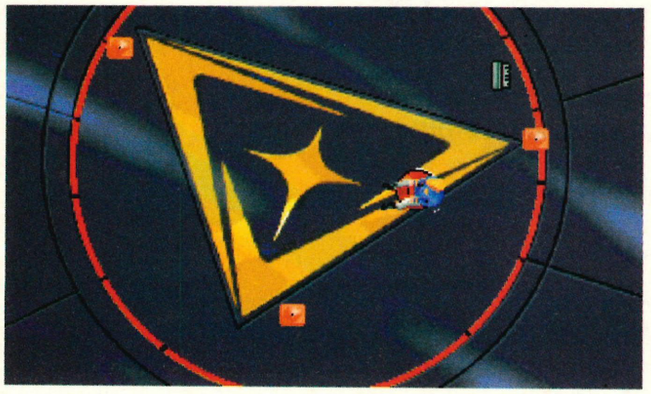


Space Quest 5

The irrepressible Roger Wilco is back, and this time he's boldly going where no man in his right mind has gone before ... to become a cosmic dustman

Title	**Space Quest V**
Publisher	**Sierra On-Line**
Contact	**(0734) 303322**
Release date	**February**
Genre	**Graphic Adventure**
Price	**£44.99**

What Larry Laffer is to women, Roger Wilco is to space travel — a walking nightmare. He's one of those people who, despite being too incompetent to tie his own shoelaces successfully, always manages to land on his feet.

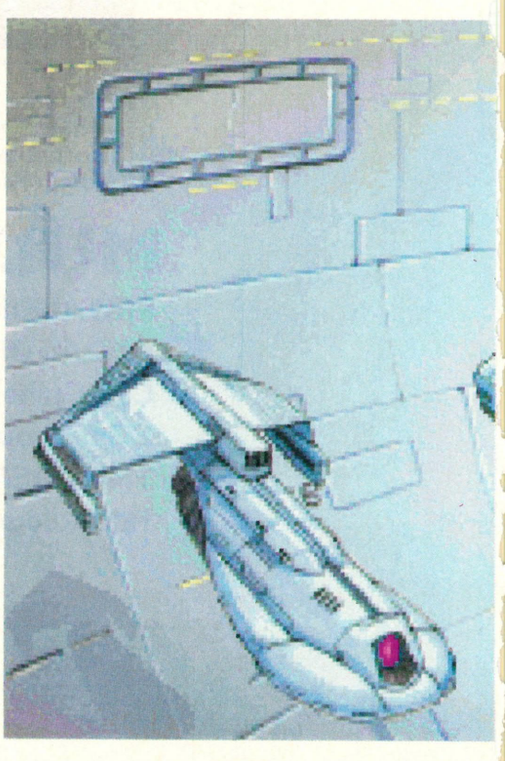


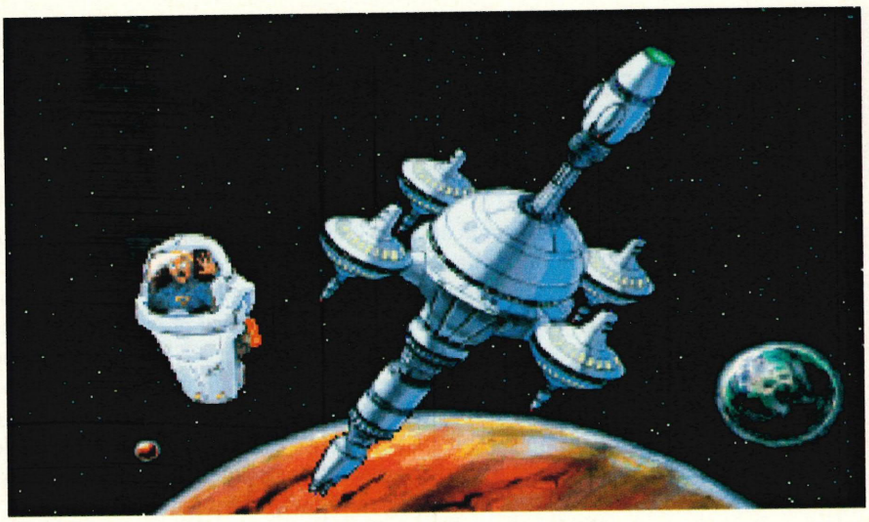
Just in case you've yet to come across this unlikely space hero, then let me run you through the story so far. Roger began his career way back in the depths of PC time as an intergalactic janitor. At that time nobody, least of all Roger, had any idea that he was a hero in the making, so it must have come as a shock to the evil Sludge Vohaul when it was Roger that foiled his plot to infest the universe with robotic insurance salesman. In fact, he was so annoyed that he forced his way in Space Quest 2, just so he could get his revenge by kidnapping Roger and dumping him on an alien planet.

Fortunately for our Rog, he gets a welcome change of scene in Space Quest 3: Pirates of Pestulon. The scene is set when the two guys from Andromeda get kidnapped by a ruthless computer game publisher. Now it so happens that these two guys are the authors of the Space Quest series, so, with his own future at stake, Roger sets out to rescue them and, in a self-referential frenzy, whips them back in time to planet Earth and a far more friendly publisher going by the name of Sierra On-line.

Time travel is also the order of the day in Space Quest 4, where Roger finds himself hurtling back in time to Space Quest 1 and then forward again to Space Quest 12. So finally we find him in space Quest 5, a humble space cadet at the Starcon Space Academy. Roger is about to take the SAT test so vital to the furtherance of his career, and characteristically, he's late.

Anybody who is vaguely familiar with Roger will know that what should happen at this point is that he fails his SAT test miserably and is ejected out into the ether to join the space garbage that he should be cleaning up. Anybody who is very familiar with Roger and his exploits will know that what should happen doesn't, and, once again, fate steps in and deals a crushing bloke to humanity and the universe in general by elevating Roger to the position of starship captain.







This is the price of failure — ejection in space to form part of the growing hazard of floating junk.

All this brings us rather neatly to the fact that Space Quest 5, in keeping with current trends, has a green theme. It's not just that Roger's mission in life is garbage disposal — as if anything to do with Roger would be that simple. No, in the way that only Roger can, he stumbles across a devious plot to dump bio-hazardous waste illegally on unsuspecting planets.

To help him on his latest quest he has a starship complete with a crew of Starcon's misfits, including the embittered communications officer, Flo, whose hilarious conversations with Roger are along the lines of: "My life is hateful and it's all your fault!", "Why's that?", "You're a man aren't you?", and the foul engineer whose philosophy towards starship maintenance is to hit equipment with a wrench, and if that fails, to hit it harder with a bigger wrench. Now Roger has an additional mode which allows him to give orders to his bizarre crew, but you can still be guaranteed a sarcastic response.

Trek addicts will note that Space Quest 5 has more than a hint of pastiche in terms of the classic television series. The detail in this respect is quite superb, even down to the way that Roger sits in the chair of command, hand on one leg, the eager lean forward and the twinkle in the eye. I don't think they've got the paunch quite right, though. You'll also find that all too familiar sound of the sliding doors cropping up too.

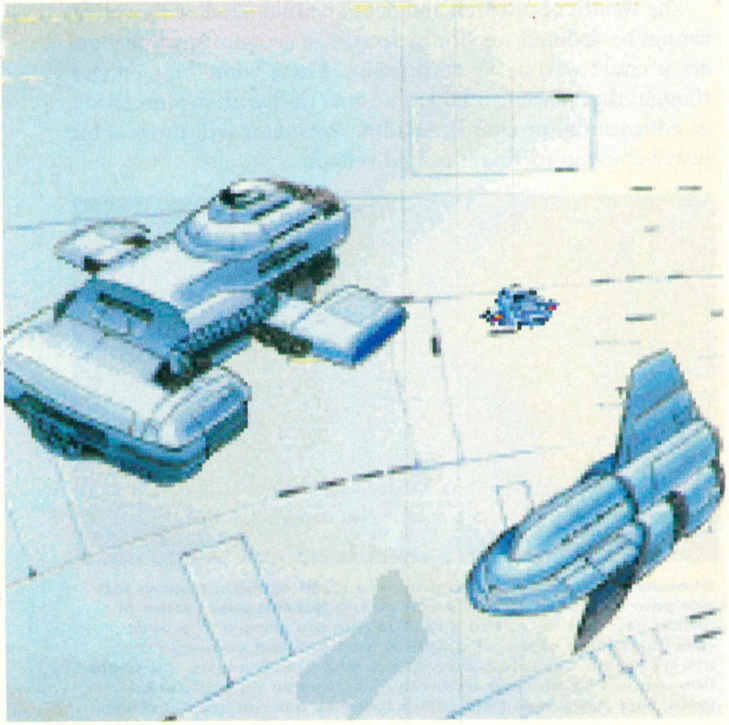
On the subject of elements borrowed from Star Trek, the transporter offers interesting possibilities. You see, being maintained by the aforementioned engineer, it doesn't usually work that well, which means that Roger is always in danger of being slightly ... er ... scrambled.

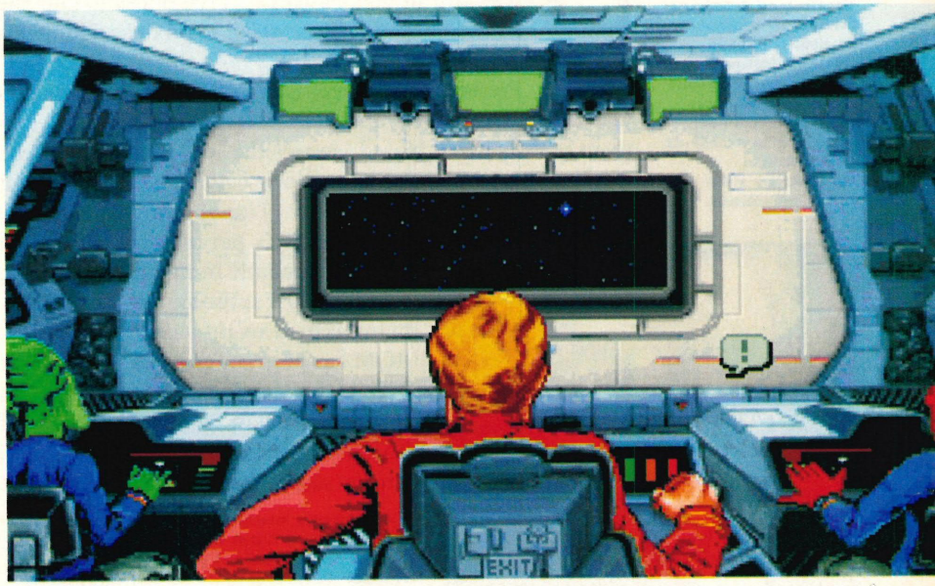
To cap it all, there's a love interest. If you're a regular Space Quest fan, you'll recall that in the last exciting episode, Roger met his future wife as a hologram, and lo and behold, she crops up in this episode in the flesh. She's none too impressed by Roger though, so getting them together is going to be no easy task.

This adventure has all the latest developments of Sierra's Creative Interface on board, including new features like a 3D effect so that the size of characters remains proportional to their surroundings. These and new elements like commanding a crew, look like making this Roger's funniest adventure to date.

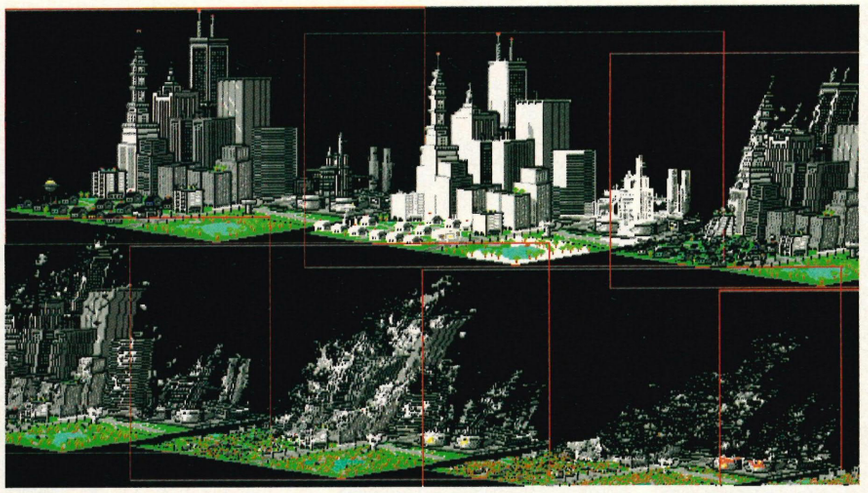
If you hanker after Roger's past glories though, look out for the re-release of Space Quest 1 with updated graphics and sound and all typed input replaced by the Sierra Creative Interface. If you own a multimedia PC, you also have another way to relive Roger Wilco's adventures as he makes his multimedia debut in Space Quest IV. It all goes to show, you may well be able to keep a good man down, but certainly not one as awful as Roger Wilco.

He's finally got his own ship, and appropriately enough, it's the one that looks like a vacuum cleaner.





Sat at the helm of his new ship, and with his own crew to command, will our hero take on the mightiest foes of humankind and win? Probably not ...



Title	**Shadow President**
Publisher	**DC True/Empire**
Contact	**(0268) 541126**
Release date	**Imminent**
Genre	**Educational/simulation**
Price	**£TBA**

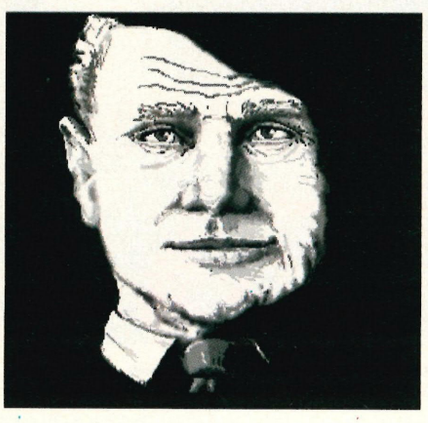
Shadow President

DC True aims to take its simulations that much closer to reality by basing scenarios on actual world models

Above: an aggressive 'first use' nuclear policy is not recommended; apart from causing death and destruction on a massive scale, it's also usually followed by your impeachment by your own people. This screen shows the scale of destruction caused by your nuclear attack.

Serious political simulations tread an uneasy balance between entertainment and education, and perhaps one day, the true predictive model. With Shadow President, Illinois-based DC True hopes to blur the distinctions between the three to produce a thought-provoking experience.

Shadow President is a geopolitical simulation in which you play the US President from June 1990 onwards. The development of the game is biased towards the action you take on the world stage, so it won't be too long before you find yourself embroiled in events in the Eastern Bloc and Middle East.



(Left) These black and white portraits are all taken from hand drawn illustrations and represent your team of presidential advisors (they're not supposed to be the people who were actually in office at the time).

The game's parameters have been developed mainly from two sources: the CIA World Factbook, which despite being issued in its own right on CD-ROM has been compressed down to just over 1Mb of hard disk space, and covers information on 168 countries and hotspots around the world; and DC True's 'subject expert' Brad Stock, whose doctoral research at Tufts University, Boston, provided the program's foundation.

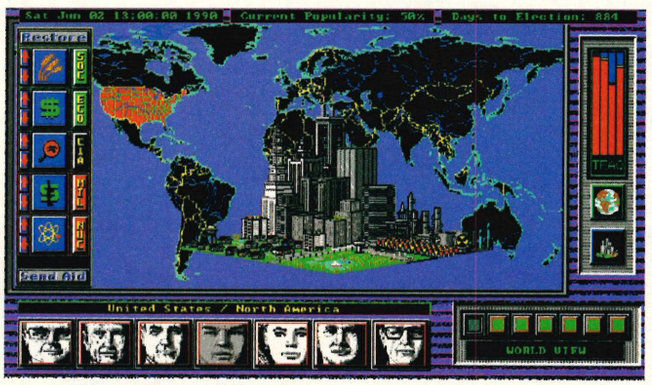
Gameplay centres around gathering intelligence from your 'advisors', the hand-drawn icons at the foot of the screen. While not based on any real-life person, these are based on genuine positions: the White House chief of staff, press officer and so on. From their information, and from news reports and the CIA Factbook (which you can access directly), you can decide how to act, with decisions falling into one of five categories: social , economic, covert, military, and nuclear.

Shadow President will inevitably invite comparison with Chris Crawford's Balance of Power, or Spectrum Holobyte's Crisis in the Kremlin, but DC True's president Robin Antonick reckons comparisons with SimCity and SimEarth are more relevant. "It's more a question of making your decisions, which are very open-ended, and then seeing how they work out. You aren't constrained by events so much as in Balance of Power."

Although strategies can be open-ended, at the beginning of the game you can choose from four different world economic and political situations. Virtual Earth has parameters as close as possible to the international situation of June 1990, and will therefore appeal to those who want to see how they would deal with the collapse of the Soviet Union and with Saddam Hussein; Super Iraq has Iraq already in control of Kuwait and Saudi Arabia; Resource World, sees South American and African countries rivalling the US as economic powers; while the fourth-sees the economy in decline – the USA is no longer Top Nation and you must turn things around.

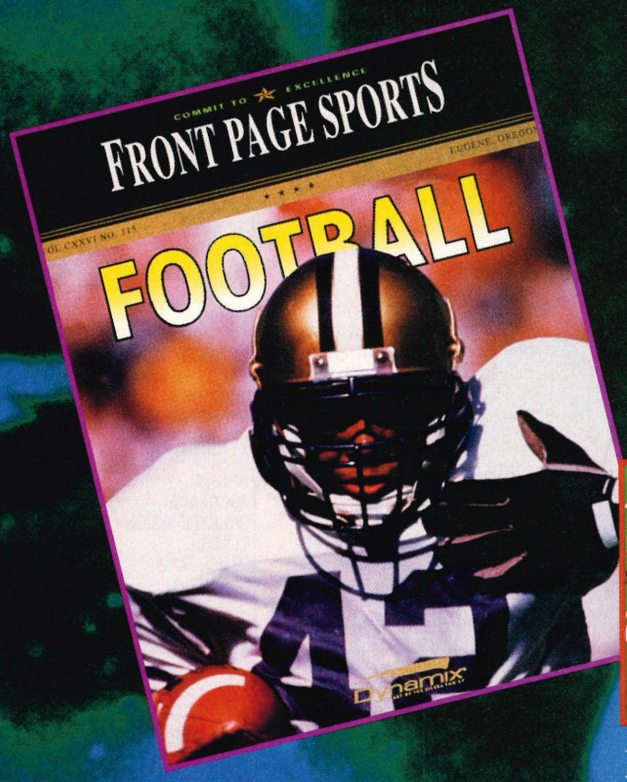
The game objectives are also fairly open, however. In the short term, you need to be re-elected in the 1992 elections (or it's Game Over); you must also avoid assassination or impeachment; in the longer term, surviving 100 years in office counts as something of an achievement.

The wealth of research and detail behind Shadow President cannot be doubted, and for historians or economist game players it could well prove fascinating. There could be a danger though, that played simply as a game (rather than simulation or educational program), Shadow President will prove a bit heavy-going in its final finished version.



Shadow President's world map and main screen. Bottom left are your ever-willing advisors; on the left the categories of action you can take. The city model in the centre is a neat representation of the strength of the selected country (here, the USA): the skyscrapers show economic strength, the radiation symbol its nuclear capacity, the figures its population level, and the green field at the front its overall quality of life.

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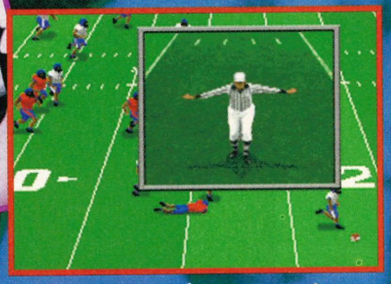




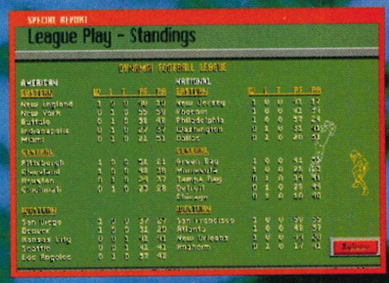
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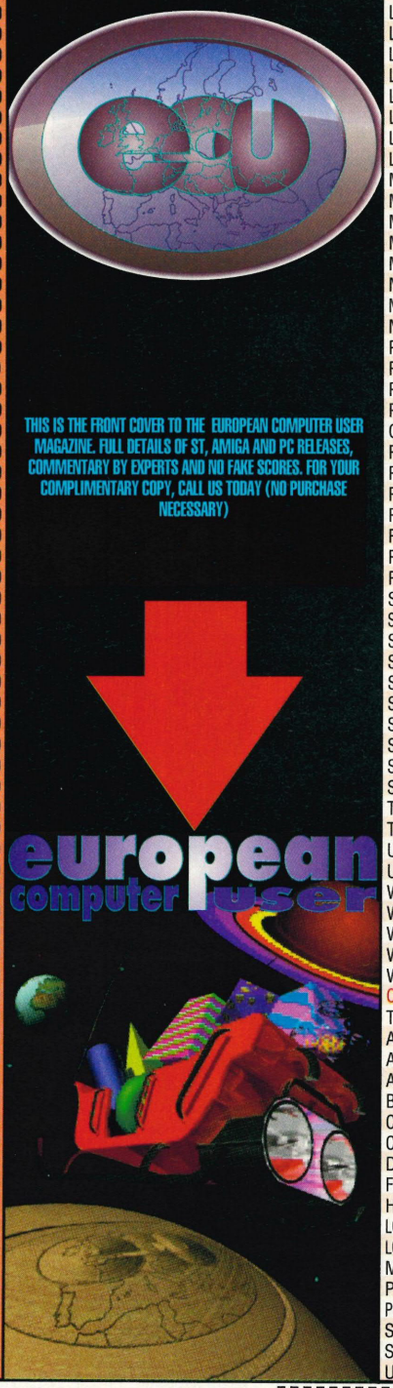
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PC REVIEW FEB 93

reviews

Our comprehensive reviews service starts here. Over the next 60 pages, you'll find the latest PC games fully evaluated, with clear comparisons made to similar games on the market. We also try to make it easy for you to see whether a game is suitable for your machine and your tastes, so read on to see how to get the most out of them

ARCADE GAMES

Risky Woods *Electronic Arts* 78

Wizkid *Ocean* 88

ADVENTURES

Gobliins 2 *Coktel Vision* 98

STRATEGY GAMES

Dune 2 *Virgin Games* 70

Campaign *Empire* 82

Scrabble *US Gold* 90

Caesar *Impressions* 92

Castles 2 *Electronic Arts* 104

SIMULATIONS

F-15 Strike Eagle III *MicroProse* 56

Comanche *US Gold* 62

Front Page Sports: Football 66
Dynamix

Car and Driver *Electronic Arts* 74

Task Force 1942 *MicroProse* 94

CD-ROM SOFTWARE

Sherlock Holmes Consulting Detective Vol 2 *Mindscape* 100

UTILITIES

3D Construction Kit v2.0 *Domark* 84

SHAREWARE 112

Specifications

PCs come in so many different flavours and configurations that finding out whether a PC-compatible game really is going to work with your set-up can be a minefield. Each review carries a detailed TechSpec column, explaining what features are supported by the game in an easy to read, at-a-glance panel.

The graphics, soundboards and control sections tell you which popular devices are supported by the game in question.

Under Disk requirements, you'll find out whether a game needs to be installed on to hard disk in order to play it, how much space it takes up if installed to hard disk, and we also note if the game comes on high density disks.

The performance section isn't quite so clear cut. Publishers often state a set of minimum hardware requirements on the box, but these can be very minimal indeed. Our optimum performance level is a subjective rating, and gives you not the publisher's base specification required, but rather the minimum we think the game needs in order to run comfortably. Game X may run on a 286, but at a snail's pace, or it may run OK on a 16MHz 286 but be unacceptably slow at 8MHz. This is where we let you know.

After the optimum speed rating, we note the minmum RAM required to run the game, and finally, how much of your base 640K RAM must be available for the game to load properly.

Alternatively

We believe games should be placed in context. You may like the sound of game Y but suspect it might be too technical, or difficult to control. We'll tell you about alternative games of a similar style, subject matter, or interface, which might be more to your taste (or warn you off those which are inferior to the game being reviewed, however superficially similar).

Two Minutes

This is the closest you'll get to seeing the game in action. We take a series of manoeuvres from the game and explain clearly the gameplay required to get through the screens. You may find some helpful game hints in this section!

Rating system

We give a single mark out of 10 to indicate what we think of the quality of the game. As a rough guideline, the ratings break down thus:

10

0-2	Dreadful
3-4	Deficient
5	Average
6-7	Good
8-9	Excellent
10	Staggeringly perfect

Ratings are not the sole preserve of the author of the review, but are discussed and thrashed out by everyone at PC Review who knows the game in question.

We also practise 'contemporaneous marking'. That means that games are rated relative to other current games.

The reason for this is that, while PC programming expertise is improving all the time, and Monkey Island VI will doubtless be miles better than Monkey Island II, that doesn't mean it will have to get 16 out of 10 when reviewed. If it looks excellent compared to everything else around at the time, it'll still be worthy of its eight or nine.

Shareware

The shareware reviews section is an independently written column on the best and most interesting of the latest shareware and public domain releases. Here you'll also find the Shareware Finder Service. If you have a particular software need for your PC, but don't know if such a program exists, try us. We may well be able to pin down a cost-effective shareware program to do the job for you.



Title	**F-15 Strike Eagle III**
Publisher	**MicroProse**
Contact	**(0666) 504326**
Price	**£44.99**

F15 Strike Eagle III

With the competition for supremacy of the digital airspace becoming stronger and stronger, MicroProse chips in with the release of the third instalment in its all-action Strike Eagle series

There are certain things in life that you can always depend on to be of the highest quality: BMW cars, the Cheers script and Haagen Dazs ice cream are three which spring to mind immediately, but any new military flight simulator from the MicroProse stable is also a certain candidate for that elite group.

However, even bearing this in mind, it's true to say that while MicroProse has consistently kept up the quality of its simulation programs, it has somehow also managed to lose the undisputed position it once held as 'king of the simulation', as the opposition has put its own various houses in order over the last year or two and begun to produce better and better rivals for the 'Prose's range of F-birds.

But the Baltimore boffins have never been the types to rest on their laurels, and now they're fighting back against the recent onslaughts from the likes of Electronic Arts, Lucasfilm, Domark, Dynamix and Spectrum HoloByte with the all new, K-registration version of one of their best-known flight and fight epics, F-15 Strike Eagle.

While hindsight now gives us the clear impression that the

first arrival in the Strike Eagle series only enjoyed the major impact which it undoubtedly did because of the low standard of its mid-80s opposition, the second in the series was a real breakthrough in that it was the first simulator to make good use of VGA graphics, and also because of its attempts to marry relatively simplistic gameplay with MicroProse's usual high presentation values.

But even that notable effort first saw the light of day more than three years ago, since when flight simulator buffs have been treated to such gems as Secret Weapons of the Luftwaffe, Red Baron, Chuck Yaeger's Air Combat, AV-8B Harrier Assault and, of course, Falcon 3.0. So, if you take the MicroProse name on the box as being a symbol of guaranteed quality, the only question left worth asking is whether or not this new version is good enough to take its place among the new elite of air combat programs which have appeared over the last year or two.

But before all of that, it's worth noting that this new Strike Eagle package isn't just the same old story with Super VGA, 486-inspired bells and whistles attached. Far from it. Where the second F-15 was to all intents and purposes a glorified arcade game, for this second sequel MicroProse has chosen to go back to its tried and tested policy of pursuing hyper-realism in both its technical specifications and military scenarios.

Not only that, but it's also worth noting that the bird in question, the McDonnell-Douglas F-15E, has also undergone some fundamental changes in the period between the two sims' appearances, with this latest simulation concentrating on the F-15E.

Affectionately known by its crews as the 'Mud Hen' (supposedly because of its ability to operate at extremely low altitudes), the F-15E is a ground attack specialist of such complexity that it actually needs an extra crew member (the Weapons Systems Officer or 'Wizzo') to carry out the duties which the pilot can't perform singlehandedly.

Although this latest aircraft sports a number of features which it can truly claim as unique, the USAF's policy of loading down the F-15 with as much technological gadgetry as it possibly can dates right back to the height of the cold war, when the aircraft was first developed to counter the threat from the Soviet Union's advanced fighter, the MiG-25.

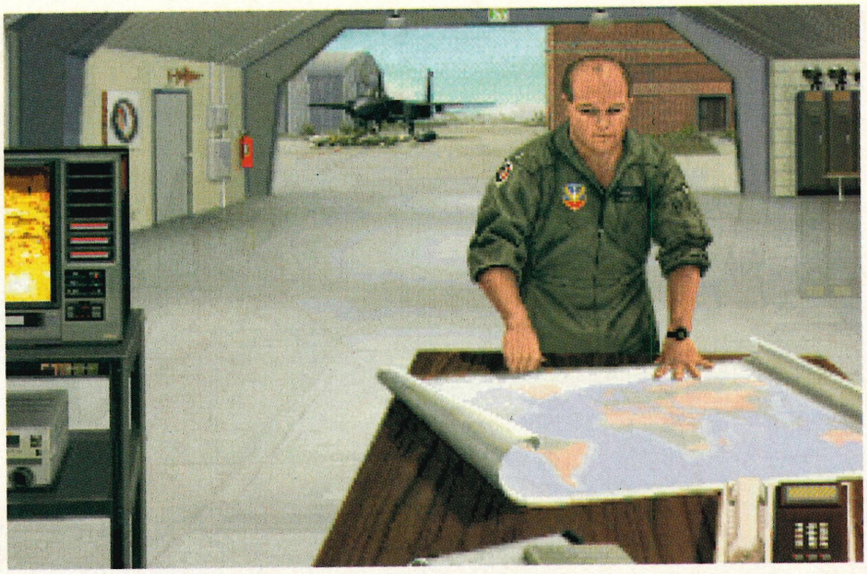
Because the F-15 was so expensive to build, the Pentagon had to pack as much as it possibly could into the few aircraft it could afford, so that each one would be a match for several of its Soviet counterparts.

This worship of technology has continued throughout the F-15's life – so much so, that with the exception of the F-117A's 'stealth' systems, most new developments in aerial warfare of the last 20 years have usually cut their teeth on the Strike Eagle before being introduced to other aircraft in the Western countries' armouries.

The 'highlight' of the F-15's career to date came in 1991, when it was the mainstay of the Allied Forces' aerial domination of Iraq, a campaign which is 'borrowed' for one of this simulation's three theatres of war (the other two being Korea and Central America). A 'Quick Start' option allows the impatient among us to take to the skies almost as soon as the installation's complete, so before you know it, you can be out there reliving those great moments that up until now you could only get from CNN.

It's difficult to know where to start when describing a modern flight simulation. Like word processors or spreadsheets, most current sims share a number of common functions, so maybe it's best to begin by describing F-15 III's major points.

Most noticeable of these is the all-new two-man crew aspect,



It may look like nothing more than a sparse and unforgiving aircraft hangar, but this is the place you'll be calling home for some time to come. All of F-15 III's main functions and features are accessed via this pictorial menu: for example, click on the lockers to open the duty roster, enter the briefing room for a run-down on your next mission, pick up the telephone to access the modem, or simply click on the waiting Eagle to take to the skies for a 'quickie' flight and fight session.

brought about by the F-15E's confusion of technology as mentioned earlier. The implementation of this real-life departure into the simulation doesn't actually make the proceedings that much easier, as the player still has to switch between two separate screens to carry out various in-flight operations, but your Wizzo does throw in a few helpful pointers and observations along the way and it does add an extra element of graphical variety.

What the addition of an imaginary extra crew member has enabled the simulation's designers to do is to make a great deal of information available at any one time, via a series of seven monitors (there are two types, Multi-Purpose Displays and Multi-Purpose Colour Displays, known as MPDs and MPCDs respectively). Although most of these can be toggled to show just about any information that's available, in either pictorial or diagrammatic form, most players will probably find that the program's three sets of default screen combinations (one for standard navigation, one for air-to-air combat and one for air-to-ground combat) will cover all eventualities.

Three of the displays are readily available to the pilot in the default cockpit view, while the other four can be accessed by simply pressing a key to leap into the Wizzo's chair immediately. This can seem a little confusing at first, but it's really quite remarkable how quickly it becomes second nature to swap seats like this – even in the thickest of the action.

Another instantly noticeable, and equally important,



Your military 'career' is logged by the simple pictorial device of giving each of the program's possible eight saved pilots an individual locker. Name and rank are displayed above the door, while the only useful item contained within is a medal storage box (the pilot number displayed on the door keeps track of each pilot's score). This dearth of information is one of F-15 III's few disappointments: apart from the occasional promotion in rank or medal award, there's no way of looking back over your career (number of kills, completed missions and so on). The addition of a log book would have been a good deal more useful than the medal box, but there you go ...

HUDs you win

Like all modern heads up displays, the F-15E's electronic windscreen changes automatically to react to different levels of combat status, but the following is a guide to its major features in the basic navigational mode.



difference is that all of the missions can be attempted in either of two modes, standard or authentic. These are fairly self-explanatory, with the computer taking on the brunt of the work and realism thrown to the wind in the former, and everything a good deal more frenetic in the latter. By mixing up the sim's various elements between these modes, the developers have effectively created four levels of difficulty, from the mockingly-named 'wimpy' to the far more macho and desirable 'beefy'.

In addition to these four levels, there is also a complete training mode incorporated (the designers have once again found a fairly simple solution to the problem of allowing the user to get familiar with the controls. Pressing Alt-t switches off the enemy and allows the budding pilot to get to grips with his or her new beast in the privacy of their own skies) along with a time acceleration mode and a simplified 'slewing' process which allows the user to travel anywhere within the chosen theatre.



The pilot's main view gives a brief overview of the bare minimum information required in standard flight and combat situations, while pressing '/' allows the player to look down and take in one more MPCD, some extra information on the engine's performance and, crucially, to access the fuel gauge.



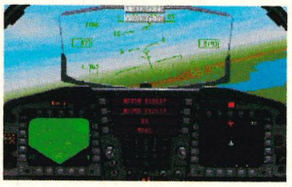
A detailed run-down of your mission's objectives is delivered in the briefing room, along with a run-down of the possible enemy presence.



And that's about it as far as major departures go. Otherwise what you have here is MicroProse simply bringing its usual quality up to 1993 standards (which is probably a good idea, as its last major contribution to single-aircraft computer flight was its F-117A package which first took to the skies almost two years ago now).

This, however, is no bad thing. The degree of familiarity which the experienced simulationist will undoubtedly experience will simply allow those with many flight hours under their belt to get straight into the action, while the beginner is

Before taking on a mission, you should attend the detailed flight briefing, which will tell you exactly what kind of opposition to expect.



With the briefing behind you, you're fuelled up and ready to go. So switch into autopilot mode and head for that enemy bridge.



There are a number of outside views for the player to admire during idle moments. However, during combat, the only one of these worth its place in the combat pilot's armoury is the view from behind a launched guided missile, which can be tracked all the way to its point of contact.



Your bird of prey has a wide range of weapons to choose from, with the success or failure of later missions depending on a sensible selection. However, novices are treated with a little compassion, as the fighter comes pre-loaded with an adequate selection of both air-to-air and air-to-ground missiles.

equally well catered for and can also jump straight into combat (albeit of a slightly less risky form).

Of the three scenarios, the Iraqi campaign gradually became my own personal favourite (although zooming in low and destroying oil tankers in and around the Panama canal did come a close second), mainly because the opposition lacked any air-power of its own so the occasional dogfights became more of a treat and less of a chore.



And here's the rest. The wizzo is supposedly on board to look after the weapons systems, but in reality this screen simply exists to allow the player to see four extra displays at the touch of one key (and also to see the back of the pilot's head, for what it's worth).

There is a lot to be said for drawing the player into a simulation by creating a strong background. Some attempt to do this by tacking an 'attract' sequence on to the program itself (although these invariably become repetitive), others by packaging a 'novella' along with the disks and technical data. F-15 III however has a distinct advantage in that it already has the historical data of two wars to draw on in its rebuilding of Desert Storm and an updated Korean conflict, while the Central American scenario also blossoms from having grown in their company.

All of the above make up a good part of the 208-page flight manual, which is everything that you'd expect from the master of the genre. A brief, but entertaining introduction to the aircraft's history and uses is followed by a necessarily complex guide to the simulation's features and controls. And although this latter section may seem to be very loosely assembled at times (especially when you've put a dogfight on pause to check out a minor point on weapon selection and you just can't seem to find the page that you're looking for), it has to be said that it's the complexity of the program which has brought this about, and you soon learn to live with it.

However, even though the technical sections of the manual are as professional and polished as you can hope to expect, it's the latter pages which will ensure that this little volume earns a long-standing place on the bedside table of most flight simulation buffs. There are background notes, maps and scenarios for all three campaigns, in-depth guides to basic flight and advanced combat techniques (which nicely complement PC Review's own Simulation School series) and an unfeasible amount of information on military aircraft and weapons (complete with diagrams).

While most of us like to use the manual as little as possible – at least when we've first installed a new simulator – a book like this is a definite attraction, and is exactly the sort of extra which will keep the player coming back for more (you've read the manual, seen the diagrams ... now try out the scissors turn for yourself!).

In fact, it's probably the sheer value offered by flight simulation packages which prompts people to make the effort to buy every single one that comes on the market. When faced with a choice between two similar boxes, one containing a scrap of paper and a disk, the other weighed down with manuals and key-cards, I know which one I'd rather get my hands on.

But once the package has been opened and the data's on your hard drive, does every new simulation offer something new to the user? I'm not exactly sure that F-15 Strike Eagle III does. OK, so it's exactly the sort of progression that we've now come to expect MicroProse to release every 18 months or so, and up until now, these new improved versions have always been greeted with undiluted (and thoroughly deserved) critical acclaim.

However, the difference now in early 1993 is that the 'Prose is no longer the clear leader of the pack that it once was. Somewhere along the way, Spectrum HoloByte has nipped in and stolen the ball with Falcon 3.0, and it seems as if the designers of F-15 III never even noticed. That's not to say that version three isn't a huge improvement over its immediate predecessor – because it undoubtedly is – it's just that even if this is the best MicroProse flight simulation available, that's no longer any guarantee that what you're getting is the state of the art.

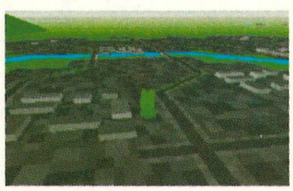
While F-15 III flies beautifully, is highly polished, deep, engrossing and very easy on the eye and ear, it unfortunately doesn't live in a vacuum – and if it were to face up against Spectrum HoloByte's contender in a head to head challenge then it would undoubtedly come second best. That's not to say that this one doesn't come out tops in certain areas, because



Two Minutes *of Carry on Korea*



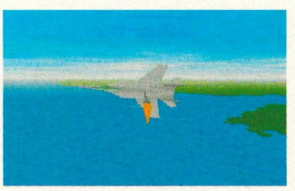
With the primary target now in your right-hand MPD, switch to air-to-ground mode to prepare for your first bombing run.



When the tiny diamond on your HUD is inside the aiming reticle, fire your first missile and set the auto-pilot for the secondary target.



Oh-oh, there's one of those pesky MiGs. Quickly switch to air-to-air mode and prepare to make the skies safe for clean living Westerners once again.



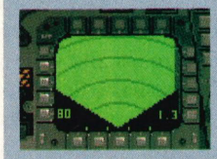
Got him! That behind the missile viewpoint makes it all worth while. Now ... on with the mission, and let's find the rest of them.



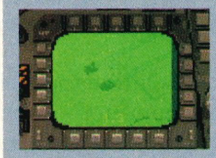
Moving quickly along, you now find yourself back in the briefing room, watching edited highlights of your successfully completed mission on the squadron's VCR.

A room with seven views

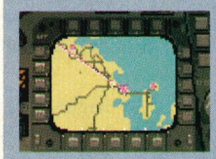
The F-15E's seven Multi-Purpose Displays can be customised to a considerable degree, with the pilot choosing from the following line-up ...



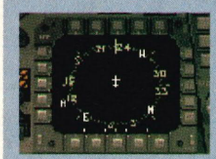
Real Beam Map (RBM)
A basic radar sweep of the area immediately to the front of the craft produces the RBM (with the aircraft position at bottom centre). This monochrome display shows all ground targets as single-pixel blips, with a separate icon for the primary and secondary targets.



High Resolution Map Display (HRM)
Another mono display, the HRM produces a detailed reconstruction of a selected target, with the available scale ranging from 40 down to .67 nautical miles



Tactical Situation Display (TSD)
A colour-coded map of the combat zone, depicting the user's aircraft, all enemy craft and ground stations and the mission's major targets.



Horizontal Situation Indicator (HSI)
A conventional 360 degree rotational compass.



Attitude Director Indicator (ADI)
An electronic artificial horizon, which allows the pilot to know which way up his craft is without looking out the window. The ADI also comes into its own when the instrument landing system is brought into play.



Armament (ARMT)
A graphic indication of the Eagle's current ordnance, incorporating separate displays for air-to-air and air-to-ground modes.



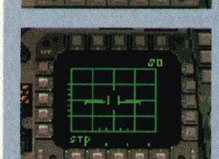
HUD Repeater
A reconstruction of the HUD's display, specifically for the wizzo's benefit.



Master Caution (MC)
A run-down of the aircraft's current damage status.



Tactical Electronic Warfare System (TEWS)
The most important display of all, the TEWS is a multi-directional and colour-coded radar scan which shows all relevant hardware in a selectable vicinity and gives an early warning of impending hostility.



Standard Mode Radar (STD)
A four by four x and y grid, with your aircraft positioned at the bottom, the STD comes into its own in aerial combat mode.

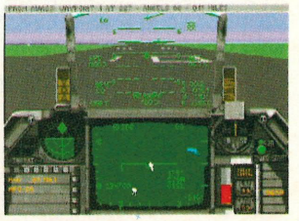


Lantirn Targeting Pod, Forward Looking Infra-red (FLIR)
Basically a video display of your target, the FLIR is an invaluable aid to bombing and ground attack missions.

Alternatively...



AV-8B Harrier Assault
Domark, £39.99
Rated 9, Issue 15
Following the disappointments of its two MiG simulations, Domark has married the technical skills of the Simis development team with its own graphics and gameplay expertise to come up with a top-notch package based around the British-developed vertical take-off and landing specialist. Set in a fictional Indonesian warzone, Harrier Assault offers a near perfect combination of technical accuracy and challenging combat.



Falcon 3.0
Spectrum HoloByte,
£49.99
Rated 9, Issue 4
Despite approaching its first birthday, Spectrum HoloByte's opus based on the F-16 is still the standard by which other flight simulations are judged. Incorporating spectacular graphics, astonishing sound, and a huge scenario (which includes an innovative 'squadron' feature), Falcon 3.0 represents the most complete military flight experience currently available to the PC owner.

it most certainly does (the two-player link-up feature is an obvious inclusion here), but overall it simply doesn't offer the same excitement and technical 'ooomph' as its major rival.

It's a great day for the digital flight enthusiast when a simulation of this quality can only come in third best, but that's exactly what's happened. The recent race for technical excellence among the major producers of flight simulations (which has recently produced a couple of nine-raters in Falcon 3.0 and Domark's Harrier) can only be good for the end user, but unfortunately it looks like it's not going to be quite so good for MicroProse.

■ Ciarán Brennan

Techspec

F-15 III will only run with a 386SX-based machine or higher, and will also make demands on your system memory. Since it requires 600K free, it would have been useful if the installation program offered to make a boot disk for you. Those of you with a Sound Blaster will get speech as well as music and sound effects.

Disk requirements						
	High density	✓				
	Hard disk only	✓				
	Space taken on hard disk	***11Mb***				
Graphic modes						
	CGA	✗	***EGA***	✗	***Tandy***	✗
	VGA	✓	***SVGA***	✓		
Soundboards						
	Ad Lib	✓	***Roland***	✓	***Sound Blaster***	✓
Control						
	Joystick	✓	***Keyboard***	✓	***Mouse***	✓
Performance						
	Optimum speed	***20Mhz***				
	Minimum memory	***640K***				
	Free RAM required	***600K***				

LIGHT AIRCRAFT SIMULATOR

At last a truly accurate flight simulation that actually flies like the real thing Light Aircraft Simulator has replica cockpits with instruments that faithfully represent the real thing, no digital readouts here! L.A.S offers well known training aircraft which are operated in a real UK environment even down to atmospheric models, and adjustable system reliability. LAS comes complete with large, comprehensive but practical down to earth manual & charts.

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* Instructive for non pilot okr the enthusiast and budding avaitor
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* Features fluid 3D graphics with true perspective

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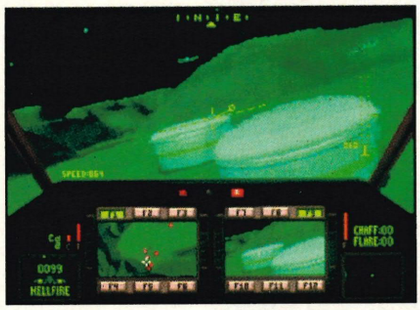
Title	**Comanche Maximum Overkill**
Publisher	**NovaLogic / US Gold**
Contact	**(021) 625 3366**
Price	**£45.99**

As yet another ground breaking simulator takes to the air we at PC Review have to ask, just how much more realism can you cram into a computer game these days?

COMANCHE
Maximum Overkill

The question of whether you can pack much more realism into a flight simulator is a valid one. Take a look at F-15 Strike Eagle III, for instance (reviewed in this issue on page 56). There is a keyboard command that allows you to raise and lower your plane's antenna by five degrees.

Do we really need to get this deeply involved in what is after all only a game? How long will it be before joystick manufacturers start building airplane dashboards to stick on the front of your keyboard? If it's not instrumentation detail, then it's the visuals. I'm not expecting anyone to discover how to apply animated video landscapes to flight sims in the immediate future, but even the complex three dimensional images that wowed us in games like Wing Commander 2 not even 12 months ago are already beginning to seem old hat.



Night-time missions are a frequent event in Comanche. As the sun goes in, the infra-red comes on, illuminating everything in varying shades of green.

What this all leads me to is the new helicopter simulator from little-known programmers NovaLogic (whose previous titles seem to consist mainly of the submarine combatter Wolfpack and its many accessories), and the fact that it uses what people are already describing as the best graphics ever seen in a computer game.

I'd have to disagree with them on that point. Yes, the graphics are certainly different to what you'd expect in a flight sim (not that this is actually a simulator, but more of that later) and yes, they are pretty good, but they don't quite work as well as you'd expect. To watch a game of Comanche: Maximum Overkill being played is at times a better experience than actually playing it. Standing away from the screen tends to hide the very pixelly nature of the graphics that is all too visible when you're up close to it. Most of the object data looks no better than it would on an Atari VCS console (remember them?) when you get anywhere close to approaching it.

Enemies come in all shapes and sizes (well, three shapes and sizes). Helicopters roam the skies while tanks and radar vehicles (pictured below) litter the ground. All tend to fire everything they have the moment you are spotted.



However, I am somewhat heartened by the encouraging fact that the original Ultima Underworld object data also looked extremely blocky at first, but the sequel (yes, an Underworld sequel is in the offing — see the Origin feature on page 38 for more on this) has greatly improved this and things look fairly realistic now. I do sincerely hope (and fervently believe if American developers continue to work in the way that they normally do, that is, pinching new technology as soon as it comes along) that a sequel to Comanche appears using a similar system for creating these much better visuals.

It's a shame to keep banging on and on forever about the graphics but they are the game's big selling point and the only things that actually make Comanche worth the amount of attention it's been receiving in the press. Beneath it all you've basically got a glorified shoot 'em up from a different viewpoint. That's the main difference between a simulation and a simulator. The former is a representation of what it *feels* like to be able to fly around in a military helicopter in the thick of action. The latter is an accurate account of what it *takes* to fly a military helicopter in the thick of action.

If this were a simulator you'd have a MicroProse style manual with a keycard as long as your arm and buttons covering everything from the engine starter to the radio frequency. With Comanche you simply worry about steering (even altitude controls are essentially dealt with for you), finding the enemy and pressing fire on your joystick. In other words, a simulation. Operation Wolf was a simulation if you think about it — and not too different a one to Comanche.

Techspec

Comanche is one of those games that appears to be so technically complex you'd need the most powerful machine available to run it. Due to unrefined programming techniques, this isn't too far from the truth. 386SXs or better are the order of the day, as well as VGA cards, bags of extra memory and countless bootable floppy disks.

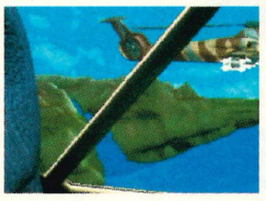
Disk requirements					
	High density	✓			
	Hard disk only	✓			
	Space taken on hard disk	***12Mb***			
Graphic modes					
	CGA	✗	***EGA***	✗	***Tandy*** ✗
	VGA	✓	***SVGA***	✗	
Soundboards					
	Ad Lib	✓	***Roland***	✓	***Sound Blaster*** ✓
Control					
	Joystick	✓	***Keyboard***	✓	***Mouse*** ✓
Performance					
	Optimum speed	***25MHz (386 only)***			
	Minimum memory	***4Mb***			
	Free RAM required	***500K***			

Two Minutes *of low-level penetration*

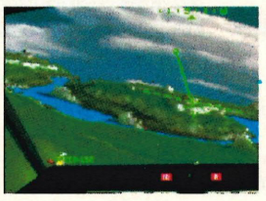
Before each mission you are told where you are going, what is happening there and what you have to do. Almost always this is simply shoot everything that moves until all that's left are smoking ruins.



Take off and we rise into the air, switching on the auto-hover mode to keep us as low as possible to the ground. Checking the on-board radar map we look for signs of the enemy. Our mission – to destroy it (quelle surprise).



A quick check on our wingman to see if he's ready to go. Don't leave your laser targetting system on him too long however, or a terse, "Get that laser outta my face", will soon be echoing over the radio com-link.



Blips have been spotted on the map and we speed off towards them, making full use of the natural terrain to mask our approach. Rounding one hilly outcropping, I just get a lock on an enemy chopper as he whizzes past. Fire ...



... and hit. "Target destroyed," breathes the sultry feminine computer voice. No time to rest on my laurels, though, as another enemy Hokum has reared into view. I've barely got time to order my wingman to fire.

So rather than damn the game for not being hyper-realistic, perhaps I should ask the question what is it like as a shoot 'em up? The answer is not bad at all, a bit limited, but not bad. You start off with the training exercises, introducing you to the different weapons and possible enemies one by one. The first sees you shooting unguarded oil barrels, the next involves hunting down a few tanks, the next introduces enemy helicopters and so on. You end up by commanding a wingman to take on some of the opposing forces and calling in artillery barrages on enemy encampments.



When all is said and done, the graphics are actually very nice. The terrain really does draw you into the game and apart from some basic object detail, explosions and the like are handled very well.

From there, it's straight on to the real missions and the main storyline. It is the year 1999 and you are the only thing that stands between the future of the human race and all-out nuclear war, etc, etc. The setting is quite interesting, a war between Pakistan and India (aside from the Falcon 3.0 mission disk, I don't think I've seen a mission set in India before) meaning you get to fly around all sorts of volcanic wastelands and narrow canyons. That's where Comanche scores its strongest points, when you get to do all the things you've always wanted to do with a helicopter game but have never been able to before. Fly along narrow canyons full of twisting corners and enemy tanks waiting behind every rocky outcrop. Make use of ground terrain to hide in like never before. Instead of the usual hill 'blocks' that are stuck on to flat pieces of land, there is an actual feeling of terrain here.

That's really the nicest aspect of all. Although it's not ultra-realistic or sufficiently exciting to keep your attention for longer than a few games at most, at least while you are playing it there is a pleasant feeling of what is best described as Hollywood-realism. The kind of thing you see in a typical American action film where hotshot pilots perform stunts that are completely impossible (like Tom Cruise's infamous Bronx salute to a MiG pilot in Top Gun).

It's exciting but ultimately short lived. Once you've got past the initial thrill of the graphics, you realise that there isn't all that much to the game after all. NovaLogic has attempted to vary the action with night-time missions using infra-red sights and changing the terrain type with each new mission, but with a maximum of only two different types of ground based vehicles and one type of enemy helicopter, there just isn't enough challenge to sustain any long-term interest.

Where I think NovaLogic has gone wrong is by taking it along the shoot 'em up path instead of adding to more of the simulator side. Had I been able to perform some of the manoeuvres possible in games like Gunship or LHX Attack Chopper (which, funnily enough, simulates the same futuristic helicopter) I might have had the urge to stick with it longer.

What is there plays more along the lines of Battlezone with an altitude control. I could quite imagine seeing Comanche inside a large stand-up cabinet in the middle of some neon-lit fun centre somewhere in the heart of a city. The fact is that no mission lasts longer than 20 minutes at most and once you've completed them all, there's nothing to go back to. Comanche is perfectly suited to the coin-op fraternity and I wouldn't be surprised if at some stage we see it there.

The other thing that strikes me about Comanche is the size of machine needed to run it. A 386 or better, 4Mb of RAM, 12Mb of hard disk space, a 256-colour VGA card and whatever optional extras you care to throw in to the mixture. Luckily, as is rapidly becoming the norm with every high-spec game these days, it does offer to make a bootable floppy disk for you, setting up your memory configurations in a way for the game to work suitably well. This is highly recommended, not just for Comanche, but for any game that gives you the option. It stops you from messing up your own Autoexec and Config files by mistake (a problem that happens all too frequently for novice DOS users).



Being set in Pakistan, Comanche has some interesting terrain types to fly around in. Volcanic wastes, dusty plains, lush waterways. It's certainly more entertaining than flying around the same old desert regions time and time again.

What is curious about this is that it's pretty well inevitable that in a few months time, as has happened to Ultima Underworld with the recent releases of Wolfenstein and Legends of Valour, somebody will find a way to run virtually the same game in half the space, on half the machine and using half the memory (and in the case of Wolfenstein, half the price, too). Once this happens, people will look back on Comanche more as the start of a new style of flight-based game, instead of as the superb all-action game that US Gold is touting it as now.

I can see what lies ahead for Comanche: Maximum Overkill. As with so many programs that boast new technology and fantastic new degrees of gameplay, it is the games that follow and take their inspiration from it which will really succeed in combining thrilling action and state of the art graphics. Once a sequel is announced, Comanche will suddenly be revealed to have had a host of irritating faults that are, of course, absent from the new game. These faults are (in my opinion) that there isn't all that much of a game to be found, and the graphics aren't quite as wonderful as everyone will have you believe.

I tried to like Comanche, I really wanted to, and for a short amount of time I did. But it didn't sustain my interest longer than a few missions and it wasn't long before I was longing to get back to Gunship 2000. However, I have high hopes for the future of NovaLogic and Voxel Space (the fancy name for the graphic interface used), because there's masses of potential here for a really ground-breaking flight sim.

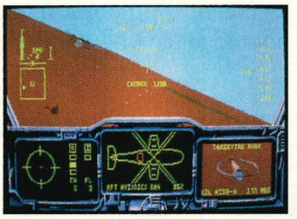
■ Paul Presley

PCreview 6

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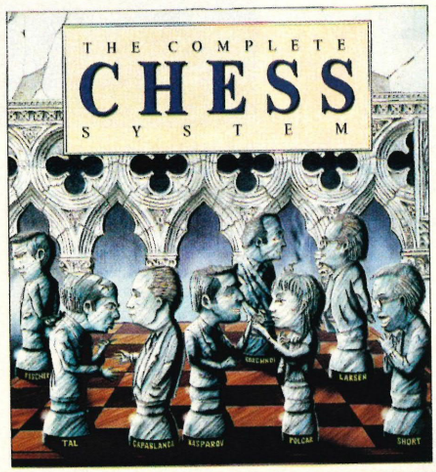


Gunship 2000
MicroProse, £39.99
A true simulator (see main text) as opposed to Comanche's all-out action basis. Gunship 2000 and its recently released scenario disk provide everything the armchair pilot could need for rotor warfare, from mission planning to leading an entire squadron of choppers into battle. If it's realism you want, look no further.



Thunderhawk
Core Design, £34.99
Rated 8, Issue 5
Thunderhawk lies between realistic simulation and arcade action. While it is neither as comprehensive as Gunship 2000 nor as easy to use as Comanche, it scores by being a nice balance of both. It is limited fun, though, and should really be just a supplementary purchase to one of these two.

exercise your mind



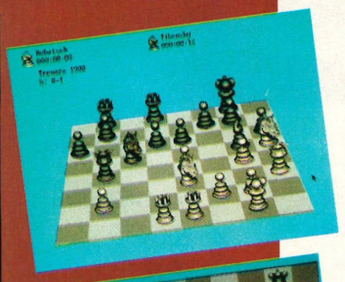
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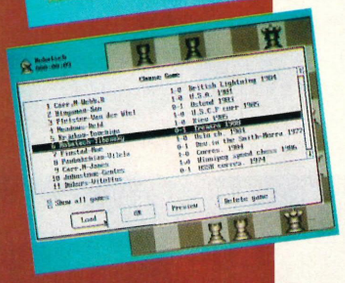
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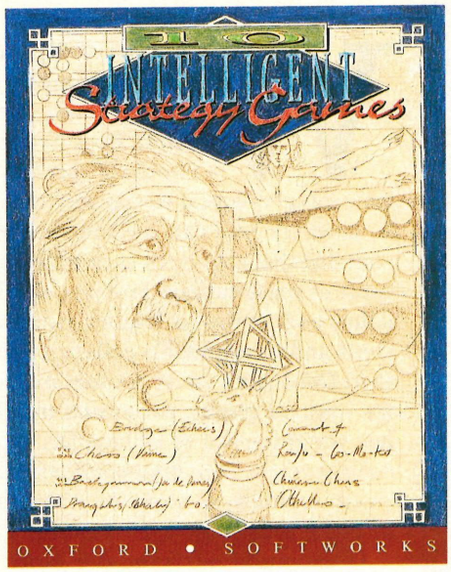
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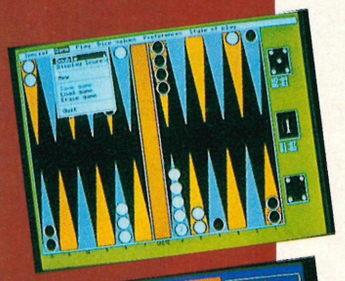
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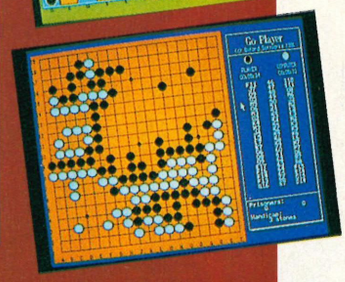
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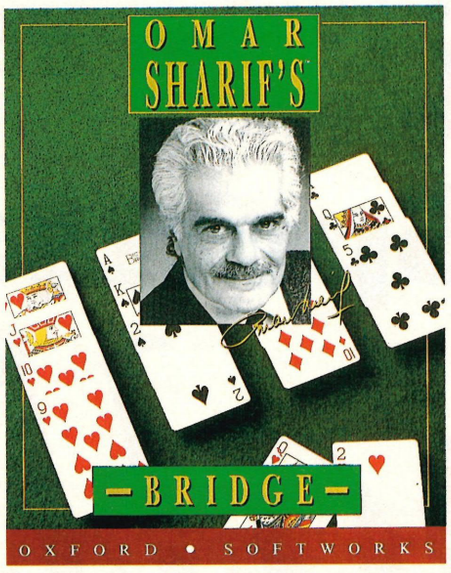
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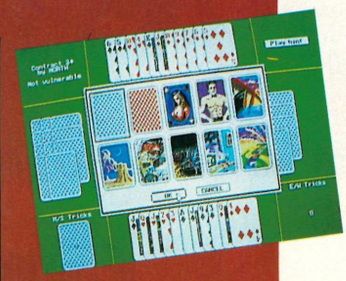
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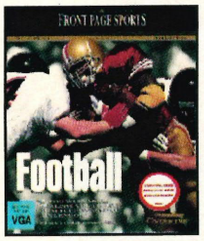
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Title	**Front Page Sports: Football**
Publisher	**Sierra/Dynamix**
Contact	**(0734) 303322**
Price	**£39.99**

Two minutes left on the clock, 45 yards to go, one touchdown needed to win. Can the San Diego Chargers pull off a last gasp victory against the might of the Los Angeles Raiders? I doubt it but let's see what happens anyway.



The teams line up, a long passing play has been selected and my men are ready to give it their all. The ball flies into the quarterback's hands. The defensive line charge at my own men and I shudder to think what would happen if one of them broke through.



Front Page Sports: *Football*

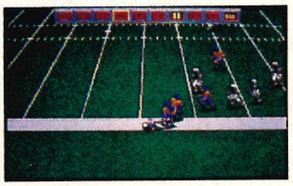
Red 42, red 42. Blue, blue, 28, 34, hut, hut, hut ...

Well, if all of that just seems incomprehensible rubbish, then Front Page Sports: Football probably isn't going to appeal to you very much. If, however, you can see the strategic planning that goes on in each 10 second spurt of mass carnage and you blindly follow each of the six leagues, two divisions and interminable college games, then Dynamix's latest venture outside the world of graphic adventures may be just the thing you're looking for, especially if you've been disappointed by the recent attempts to simulate America's second favourite sport (after eating).

To my mind, no computer game to this date has done justice to American Football in its finest hour. Sure, you get games that have every conceivable play action in the book, that cover every team in the NFL and accurately simulate the stats of all the top players. But what no



Selecting passing mode, I start to rotate through the eligible receivers until I find one that's fairly open. A quick tap of the fire button and I send a low bullet pass towards him. While the defenders try their best to block it, it sails over the heads of the linesmen and towards the target ...



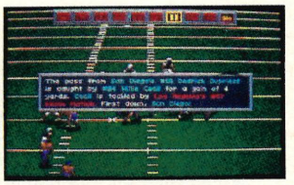
... who promptly drops it and ends the down. The referee cries "incomplete", the hostile crowd inform me of their delight at the fumble, and I prepare to try again. Perhaps I'll opt for a running play through the middle this time. They won't be expecting that one, surely?



Again we line up, this time on a second and 10. If this doesn't work I'm going to be in trouble. The quarterback calls out the play codes, scanning to see if his men are ready, I push fire and we're off. The running back carries the ball through the gap for a gain of eight yards. Yay!



I'm still in with a slight chance. Only two yards to go and two more attempts still to get them. A short pass over the heads of the front line should do it. We line up and prepare to go again. Suddenly the defence calls an audible. Have they guessed what I'm attempting?



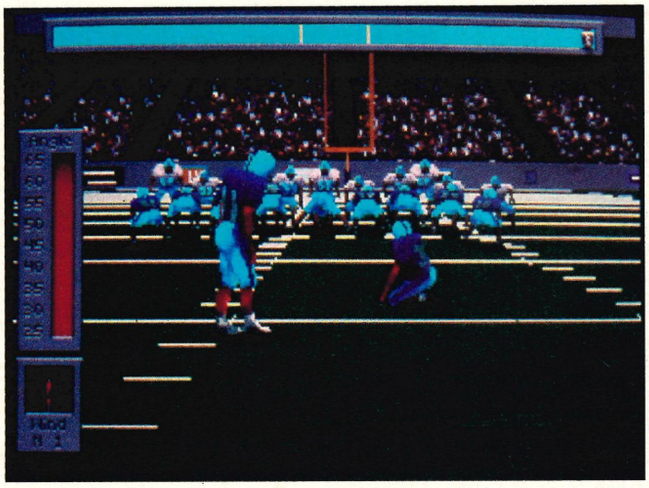
No, obviously they guessed wrong because the pass worked like a dream, and has gained me an extra four yards and a first down. I'm edging ever closer to that endzone but the clock is still ticking away the seconds. I'll have to use a few time outs before too long.

game has managed to do is to conjure up the same sense of razzmatazz you get from watching the real thing. Where are all the fancy gimmicks, the men dressed up as bears, the crowds with their faces painted to match their team's colours, the roar of the fans as their favourite Wide Receiver makes an 80-yard touchdown run? Where are the pre- and post-game antics, the tipping of orange juice over the manager's head, the TV presenters with their on-screen analytical pen marks, the touchline teammates that hoot and yell and hit each other over the heads with chairs as their on-field counterparts reach another first down? Where, in short, are the cheerleaders?

Playing time

They ain't here, that's for sure. Front Page has all of the gameplay features that I mentioned above, without any of the razzmatazz that I long for. Choose to play either single 'exhibition' games or take part in a full league complete with changing weather conditions, player trading and full-length 15-minute period games. You can't change the playing times in league games, so if you just want a quick half-hour bash with your mate, it's exhibitionists only, I'm afraid.

Before you get to any of that though, you have to install the damned thing and as always with one of these flashy American products, if the most sophisticated thing your PC is capable of running is Tetris, you're in for a bit of a battle. Actually it's not that bad, even running on machines that only have a minimum of 640K RAM. You do need a 386SX or better however, plus a VGA card and 8Mb of hard disk space, but that's not too bad these days and even those of you that bought Amstrad machines shouldn't have too much trouble with it. Now if, like me, you have a



When kicking the ball, the viewpoint changes to a dramatic worms-eye view of the game. This does rule out any defensive control though.

machine that you know has extra memory which you should be able to take advantage of to run all of Front Page's extra features, but you aren't sure whether it is extended or expanded memory, whether it's 2Mb or 4Mb and how to set it up in your start-up files, then thankfully Dynamix's installation program also asks whether you want to make a bootable floppy disk, one that will set up your Autoexecs and Configs in the correct manner. How wonderfully thoughtful and I hope it isn't long before this becomes standard procedure for all major PC games. This is so much easier than having to mess around with them yourself, usually ending up in a right old mess with a root directory full of differently named start-up files.

Putting the boot in

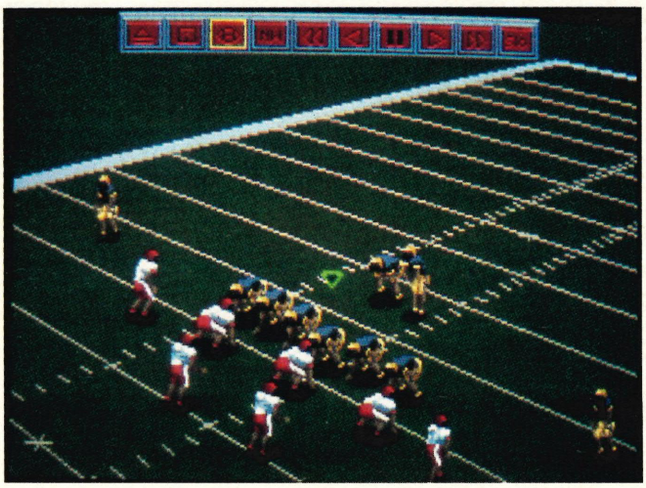
I strongly recommend doing this as even on the PC Review monster machine, when I ran it without the bootup disk the game played like it was in stutter mode, with each frame of animation loading in separately. If I hadn't taken the step of creating this disk then this review would not have read very favourably at all.

Luckily I can instead say that of all the American Football games on the market, this is by far the best, even with its lack of showbiz frills.

A game of style

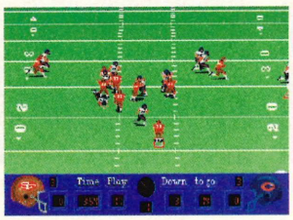
Of course, when you get down to it, most American Football sims (and indeed any sport sims) are going to be essentially the same. What counts is the control method and the feeling of atmosphere and excitement. As I've said, no game has managed to recreate the atmosphere of a real game and this one is no exception. There *are* sound effects, action replays, a choice of camera views to watch the game from and all the real-life statistics, stadia and team names, but that's more or less it. There's nothing occurring during an actual game that shrieks, "Hey, I'm a manufactured marketing tool of a sport, come worship me", instead concentrating on giving you a lot of control over the players and plays (that curious American term for game turns).

Thankfully this control is pretty good, making sensible use of the joystick and its dual-function fire buttons (woe betide anyone using only a mouse). Having

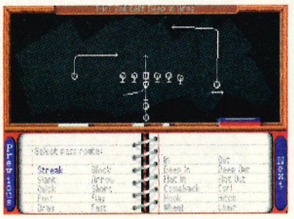


Various viewpoints are available during the game. Unfortunately diagonal shots cut out any detail such as crowds or grass.

Alternatively...



NFL Football
Konami, £34.99
Rated 6, Issue 10
The most recent attempt to simulate the world of the gridiron (I've never actually worked out what a gridiron is.). NFL is a pretty good action game, with plenty of plays to choose from and a good degree of tension. It does fall down somewhat in the presentation stakes and doesn't feel quite as polished as Front Page, but it's still worth a look if Dynamix's title doesn't do anything for you.



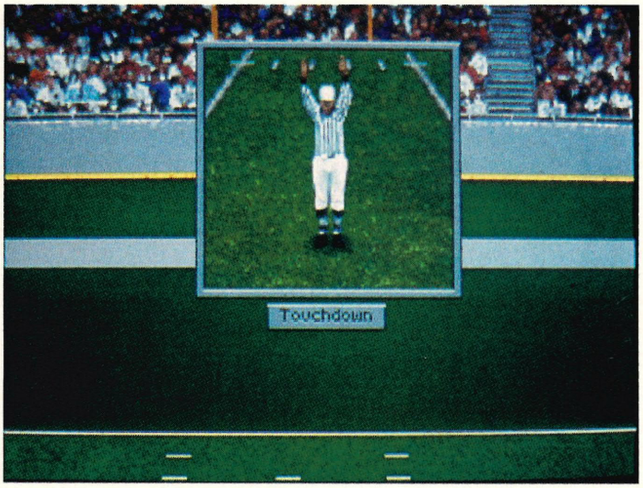
Mike Ditka's Ultimate Football
Accolade, £34.99
Rated 7, Issue 3
With multiple camera views and a wide selection of plays, Mike Ditka's is probably the closer rival of the two alternative choices when it comes to gameplay. Mike's may just have the edge on Front Page if you own a lower-spec machine than most, but if forced to choose between this and Front Page Sports, I'd be more likely go with Dynamix's title.



gone through the intro sequence and all the game set-up options, you find yourself in the play selector screen. From here you choose which of the 200-plus plays to use on the next down (turn). This is about the only time when Dynamix has messed up with the controls and it seems odd to me that for one who appears to have taken so much time to make the rest of the game as accessible as possible, it has managed to make things difficult in one seemingly small, but ultimately very annoying way. You can't use your mouse to choose from these menus, it's joystick or keyboard or nothing. When you are in the heat of the action and you want to get your players formed up and taking their next 10-yard attempt as quickly as possible, to have to muddle through these screens with a clumsy joystick selectable method is both irritating and slow. What makes it worse is that the game almost appears to tease you by putting a mouse cursor on the screen, almost as if to say, "Go on, try using the mouse", then when you do, "Hah, fooled you". It got me a couple times.

Actually playing these plays, for want of a better term, is a different matter entirely. The control method here works perfectly. Joystick controls that are intuitive and easy to learn, computer controlled players that are intelligent enough to carry out a play in a manner that closely resembles it and very, very nice animations.

In fact the only area that doesn't really work is when kicking a field goal or a PAT (Point After Touchdown – a conversion kick for those of you more familiar with rugby). At this point the viewpoint suddenly switches from the semi-overhead view to a behind the player perspective. For kicking the ball this is all well and good, but what bugs me about it is when you are trying to defend against the kick. On other games I have actually become quite adept at blocking kicks, simply because I don't opt for the standard 'kick defense' line-up, going for something a little different that allows me to get my men behind the enemy's lines quicker. Once the view has changed here, the defensive player has no control over his men. Most annoying.

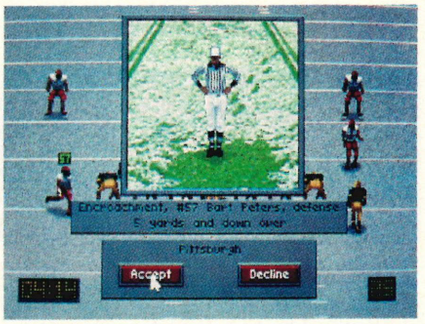


Digitised graphics are called to the fore whenever a referee makes a call. This is accompanied by digitised speech in case you're not familiar with all the signs.

Flag on the play

The other small but significantly irksome feature is the way penalties have been made ultra-realistic. Normally when playing a game like this I expect the computer controlled members of my team to be able to play within the rules. A penalty should only really be awarded when you make a manual foul. Unfortunately Dynamix has seen fit to make each player behave so realistically that quite often they make fouls themselves (it happened to me more than once). Now, being American Football, I'm prepared to accept that roughness will occur and players may foul each other while tackling and so on. What I don't expect them to do is to give away meaningless fouls such as being offside (crossing the line of scrimmage before the play has started) and giving away five yards. There's realism and then there's realism. Dynamix has gone a little too far.

Where the realism doesn't get out of bounds is in the between match stages. A playbook editor allows you to design, create and practice your very own plays, hundreds of which can be stored into playbooks to be loaded up and used at will. There have been other play editors but none that reach this level of comprehensiveness, with diagrammatic illustrations, solo practice modes and the chance to try them out against any type of defensive play in the computer's files.



Weather and terrain can affect everything from the pace of the game to how quickly a player gets tired. On offer is snow, mud, rain, normal grass and artificial turf. It even changes the digitised graphics shown throughout the game.

Comprehensiveness is quite simply Front Page Sports: Football's middle name (right there between Page and Sports). Of all the American Football games that are currently available it is the closest to giving you everything you want, apart from that all-important sense of spirit.

As far as the game goes there's little to fault it, what there is I've already mentioned. I know that eventually someone somewhere will bring out a better game, but until this momentous occasion arrives, Front Page Sports is the one simulation that I'd have to recommend.

■ Paul Presley

Techspec **Front Page Sports: Football very kindly offers to make you a boot disk to run your computer from every time you play. Providing you have at least a 386SX on your PC then this will sort it all out into a usable form for you. Very handy.**

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	8Mb

Graphic modes

CGA	x	EGA	x	Tandy	x
VGA	✓	SVGA	x		

Soundboards

Ad Lib	✓	Roland	✓	Sound Blaster	✓

Control

Joystick	✓	Keyboard	✓	Mouse	✓

Performance

Optimum speed	20MHz
Minimum memory	640K
Free RAM required	575K

HISTORYLINE

1914-1918



HISTORYLINE 1914-1918 is a strategy war game simulation set in the period of the first world war.

One or two players are able to take control of opposing forces. Choose to take the role of either the Allies or the German-Austro-Hungarian army. From your aerial view, witness the battle as you deploy and then the enemy counters.

Changing seasons, varying quality of terrain, strategically held locations, and well planned attacks by outmanoeuvring your opponent are all critical considerations to be met in order to achieve victory.

HISTORYLINE 1914-1918 contains a wealth of historical and technical information. This is not only illustrated beautifully on the screen during the course of the game, but is also available for your reference in the extensive and meticulously researched manual.

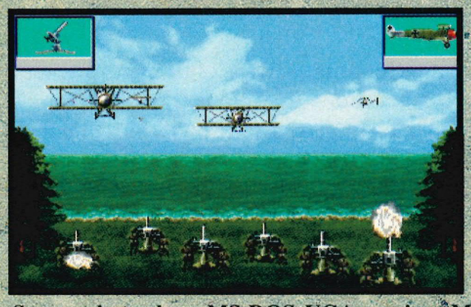
Making it easy to learn and to play, HISTORYLINE 1914-1918 is a must for everyone interested in an extremely high quality, massively challenging, addictive, and hugely accurate strategy war game simulation.

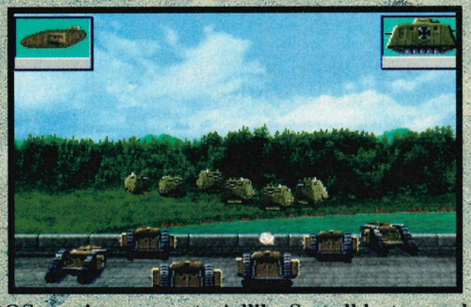
Hours of enjoyment - *Guaranteed.* You may even learn something!

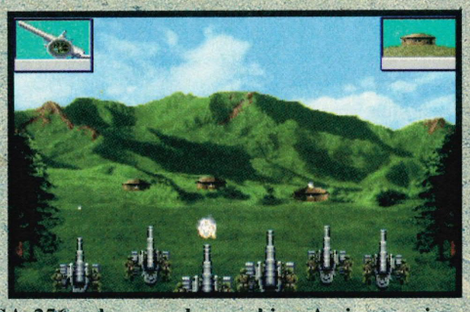










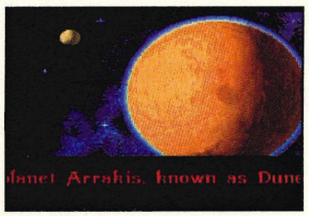


Screen shots show MS-DOS VGA version. MS-DOS version supports Adlib, Soundblaster, and VGA 256 colour mode graphics. Amiga version supports accelerator boards and 64 colour mode graphics.

Designed and developed by the same team who created Battle Isle.
For further information please telephone 0727-868005

Blue Byte

Blue Byte / Play Byte
Aktienstraße 62
4330 Mülheim-Ruhr
Germany



Title	**Dune 2 – Battle on Arrakis**
Publisher	**Virgin Games**
Contact	**(081) 960 2255**
Price	**£35.99**

Each area of land on Arrakis becomes a hotbed of conflict and development once chosen. Here's a quick taste of a typical day's spice mining.



You start off with a small area of land, several troops and a construction facility. The idea is to expand your realm until you can comfortably produce the required amount of spice while still defending your borders. The first thing to do is check on what you can build.

Dune 2 – *Battle on Arrakis*

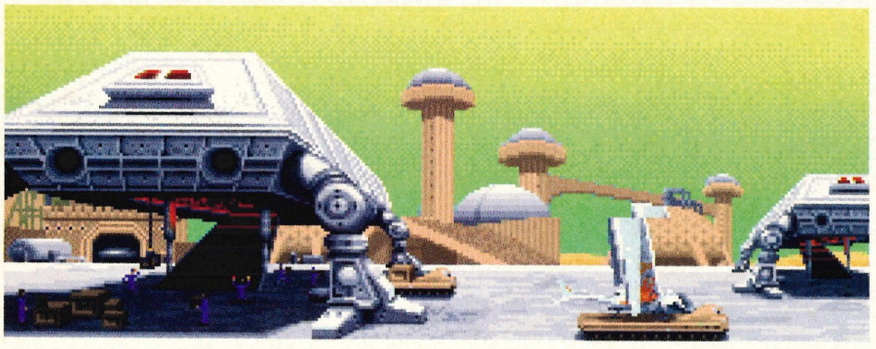
The French have had their go at translating Frank Herbert's classic sci-fi novel into the playable form. Now it's the turn of the Americans to recreate the world of Dune on the PC

When someone in the office renamed this game Sim Desert, the description rang somehow true. This sequel certainly owes a lot more to classic games like Sid Meier's Civilization and Cinemaware's Defender of the Crown than it does to Herbert's space opera (or, indeed, spice opera). However, in the belief that there are no original ideas left anymore, just original ways of transmitting unoriginal ideas, it is my reasoning that Dune 2 may look and play in a rather similar fashion to Meier's classic, but if it can improve upon it, where's the harm?

So, does it improve upon it? In many ways, yes, in others, no. Dune 2 incorporates most of the elements of the original game, while discarding the areas that dealt with plot and storyline and has beefed up the strategy aspect to the point where it takes over the game completely.

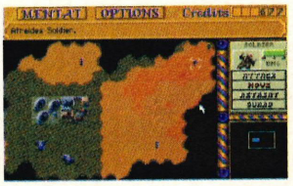
The two Houses of the Atreides and the Harkonnen are back again to wage their legendary war over the dry, dusty planet, this time being further menaced by a third House in the formidable shape of the icy Ordos. Instead of a continuous campaign as was the case with the first game, Dune 2 splits itself into a series of ever-escalating battles for individual pieces of territory. The three houses spend as much of their time battling each other as they do mining spice, the theory being that if you are the only ones left in a certain area, spice mining will be that much easier.

The families arrive on the dusty planet, ready to do battle with each other. The intro sequence shows them arriving in their huge spacecraft.





Stone slabs (to prevent damage to buildings) and a power source is all you can currently produce. Once you've started building and gained power, your inventory will increase to include spice refineries and storage bins. Let's start with the stone slabs, though.



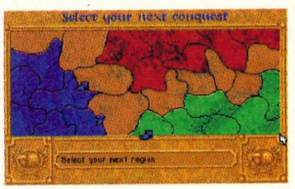
Having built a nice four-square area to put your power generator on, it's time to start expanding your horizons. Moving your troops out slowly in all directions you reveal more of the map, including a good area to mine for spice. Spice equals credits and credits equal victory.



Time to build a spice refinery. This will also give you a harvester to mine and collect the spice from the fields and bring it back to base. You'll also need to build a silo to store the spice. Remember to put concrete slabs underneath the buildings to prevent wear and tear.



You're not the only house on this planet and occasionally the others will try to remind you of their presence by launching an attack. Fortunately, these usually start off pretty small. They also worry about their own mining operations and tend to build strong defences.



Finally, you manage to mine the necessary amount of spice required by the emperor to gain control of the territory. After the little victory sequence, the next step is to decide which part of Arrakis you intend to go for – one of the unclaimed areas or somebody else's plot.

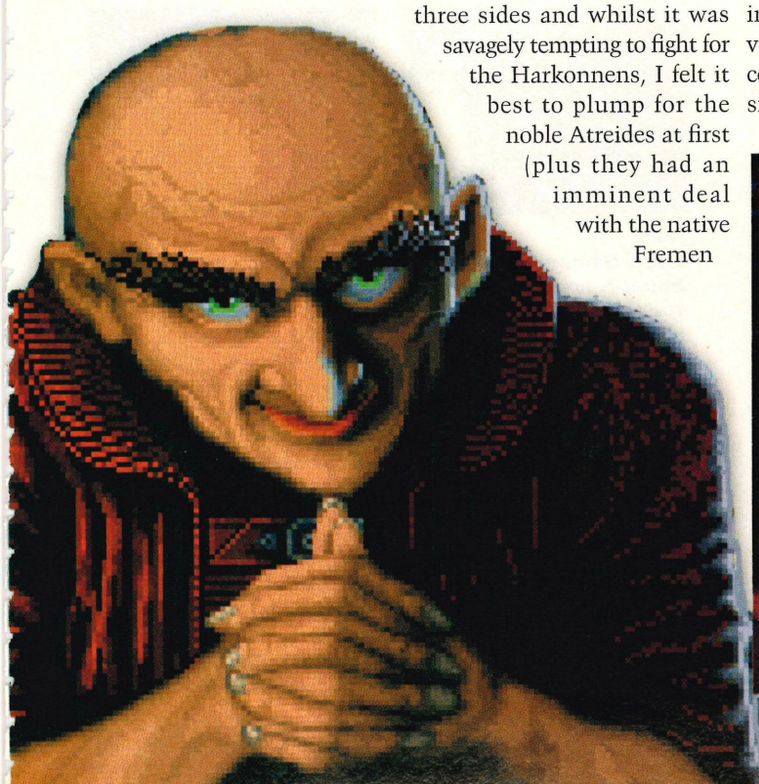
The main planet of Arrakis is displayed on the strategic map screen (although you don't actually get to see it until after your first battle), split into about two dozen separate areas, coloured according to ownership. Choose your battleground and prepare to mine. Thankfully, you don't appear to be the only one fighting it out in your family as whenever a battle is won you get to see several other areas change hands as well, indicating that you're not alone in this.

The heart of the game is the battle screen and this is where the most fun is to be had, as well as most of the comparisons to Civilization. You'll usually start with a handful of troops and a construction yard from where your empire will grow (big oak trees from little acorns). I must admit, the challenge of constantly monitoring my troops, gradually building different structures and defending against the bad guys was quite absorbing and remarkably easy to pick up. I managed to play through the first few missions with only a cursory glance at the manual, skimming through merely the controls section and pausing to read up on the mysterious House of Ordos.

You can actually play on any of the three sides and whilst it was savagely tempting to fight for the Harkonnens, I felt it best to plump for the noble Atreides at first (plus they had an imminent deal with the native Fremen in the offing and I figured I would need every chance I could lay my hands upon). The main difference between the houses seemed to be the different equipment it was possible to build and the attitude of your mentats (advisers).

Speaking of which, for advisers the mentats don't really give that much advice. Your first task (no matter what house you choose) is to mine 1,800 credits worth of spice. You are given power sources, spice refineries and silos to build and what pearls of strategic wisdom does your mentat offer by way of his advice button? "You'll need to build a refinery and a silo if you want to make your 1,800 credit target." Wise words indeed! At the most, the mentat screen appears to be nothing more than a way of reminding yourself what your mission objectives are and an excuse to print some nice pictures of the various hardware on offer to you.

Empire building is both fun and tense, not least of all because you never exactly know what is going to spring up out of the darkness ahead. Will it be sand worms, enemy soldiers, holes in the ground or just another spice field? You won't know until you get there. It is often tempting just to leave all your troops in a nice protective huddle in one corner and allow your harvesters to take all the risks while earning all your credits. Of course, this isn't really the best of strategies for an offensive mission, but there you go.





To help you decide which of the Houses to do battle with, each is explained in detail before each game.

Techspec The 525K of base RAM is only if you don't want any sounds at all. For sound effects and music you'll need a base of 564K, while digitised effects from a Sound Blaster or Ad Lib Gold require at least 2Mb of RAM. You can also install the game to run through Windows.

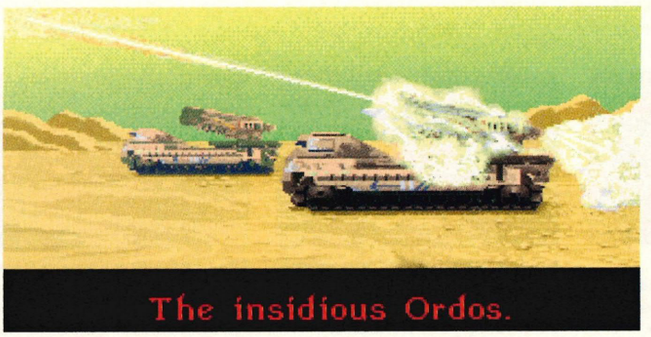
Disk requirements					
	High density	✓			
	Hard disk only	✓			
	Space taken on hard disk	*7.5Mb*			
Graphic modes					
	CGA ✗	*EGA* ✗	*Tandy* ✗		
	VGA ✓	*SVGA* ✗			
Soundboards					
	Ad Lib ✓	*Roland* ✓	*Sound Blaster* ✓		
Control					
	Joystick ✗	*Keyboard* ✓	*Mouse* ✓		
Performance					
	Optimum speed	*16MHz*			
	Minimum memory	*640K*			
	Free RAM required	*525K*			

What is slightly disappointing is the challenge presented by the enemy. After I had tasted battle a few times and savoured the rich taste of victory I almost felt invincible and it wasn't until the appearance of the sand worms in mission three (nasty little critters that have the alarming habit of burrowing beneath the sand to one of your vehicles and devouring them whole) that I started to worry about the condition of my troops. On one particular raid into the enemy's base, I took just one little battle trike, steered him around the defenders and set him about the main structures, which he took to like a rabbit to a carrot. He wasn't interfered with in any way as he merrily went about blasting everything that my enemy held dear and I completed the mission in no time.

The other thing about battles is that I would liked to have been more involved. Selecting attack followed by the target is all well and good but it did lack a sense of excitement – especially as I said when the enemy doesn't present that much of an awe-inspiring challenge. Getting closer to the action, both literally and emotionally, is what's needed. To zoom in on a troublesome area and direct the troops from the front line is what I ached to do.



A game of Dune 2 in full flow. Here we see how the player has built up a formidable home base, with defences, factories and soldiers.



Weapons are important to victory in the battle for Arrakis, ranging from standard infantry right up these futuristic Scud launchers.

Dune 2 isn't as close to the novels/film/comic book as the first game, but then it doesn't pretend to be. It takes the setting for the main part of the story, adds a new house and some element of gameplay, then leaves you to what is essentially another in the long line of strategy games that have recently hit the market, albeit a good one.

In a lot of ways Dune 2 actually seems to work better than Civilization, despite the fact that it borrows heavily from it. I was certainly more willing to play this game than MicroProse's, probably because of the familiar settings and the sci-fi tone to it. Nonetheless I wouldn't go so far as to say that it's the better game of the two. There are many areas in which the boy Sid leaves the boys Westwood behind, simply because of the topics that his classic game touches on and because it has such a reputation behind it.

What Westwood has set out to do is create a decent strategy game based around Dune and that is exactly what it has done. Dune 2 *is* decent, it *is* a strategy game and it *is* good quality entertainment. If you already own Civilization, then I wouldn't recommend you purchase it – you'd essentially be getting the same thing on a cut-down scale. If you don't already own the former and were slightly put off by all its seeming complexities and obscure nuances, perhaps Dune 2 is just the game you need to start you off.

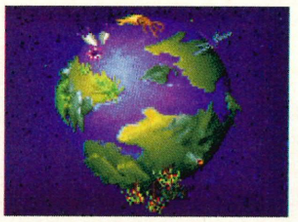
■ Paul Presley

PCreview **7**

Alternatively...



Dune
Virgin Games, £35.99
Rated 7, Issue 8.
The original Arrakis-based game was developed by French team Cryo and focused more on the actual story of Dune than the strategic angle. The resulting game was a cross between this one, and a typical graphic adventure with plenty of distractions in the way of animations, exploring and puzzle solving. As to which is the superior game, it depends on whether you want out and out strategy or something with a bit of variety.



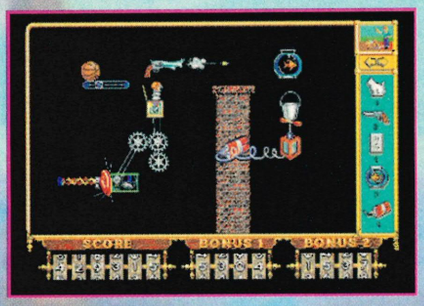
Civilization
MicroProse, £39.99
Rated 7, Issue 1.
Critically acclaimed (as are most Sid Meier games) on release last year, Civilization was an instant hit, described as one of the finest strategy games since Railroad Tycoon (Meier again). The similarities between Dune and Civilization include the progressively building map and the gradual development of a populace. Meier's is the better game due to its depth and originality, though there's not much to separate the two. It's not really worth owning both.

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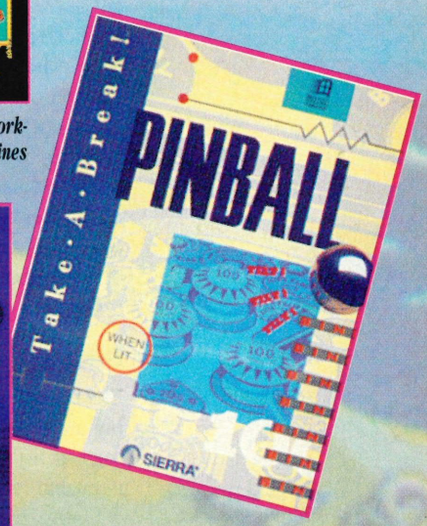


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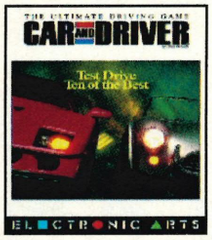
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Title	**Car & Driver**
Publisher	**Electronic Arts**
Contact	**(0753) 549442**
Price	**£34.99**

And we're off! It's time to put both car and driver through their paces. If you like bumper cars you're in for a treat.



The first thing you should do is leaf through the options in order to select a car that takes your fancy. Don't be put off by the gushing prose. The articles also provide some useful information about each car's performance.

CAR &

After Formula One Grand Prix last month, it's time to take to the road in Electronic Arts' Car and Driver - perhaps better known as Smash and Run?

If there's one thing I like about cars, it's crashing them. Especially when they are super fast, incredibly expensive and somebody else's.

Don't get me wrong. I'm not really advocating life-threateningly dangerous (not to mention criminal) activities. I am not, by nature, a reckless or wreckful person. The nearest I usually get to living life in the fast lane is a thrill-packed ride on the Number 46 bus to my local Sainsbury's.

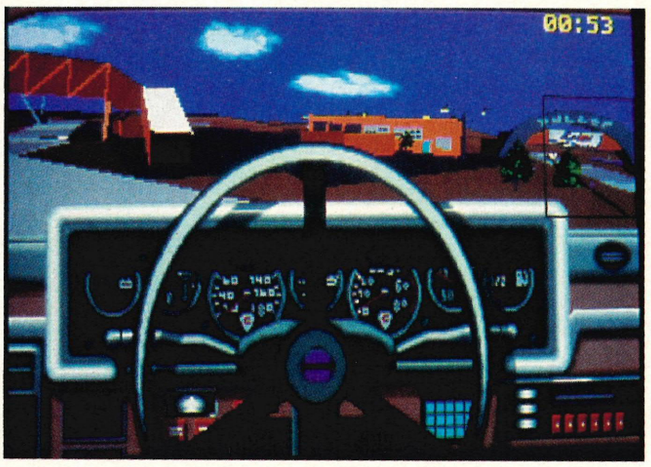
But I can dream. And in my dreams, I am a world-class racing driver who thinks nothing of zooming along highways and racetracks at terrifyingly high speeds, dodging cars and lorries – and maybe every once in a while writing off a Porsche 959 or a Lamborghini Countach.

Pathetic, isn't it?

Stripped to thrill

Electronic Arts' Car and Driver is probably as close as I'll ever actually get to living out my high-octane fantasies. Which is probably just as well.

Using 256 colour graphics, it displays 3D-effect vehicles moving through quite detailed landscapes. This puts it on a par with the top-line flight simulators rather than some of the low-end car simulation games you might have seen.



If you prefer a driver's eye view of things, then you can quite literally get right behind the wheel.

However, there is an inevitable penalty to be paid for graphics of this sort of quality. Not to beat about the bush at all, if you want to play a high-end game like this, you will require some pretty high-end hardware.

In theory, you can play it on any PC with a hard drive, 640K of memory and a VGA or MCGA graphics card. In practice, if you attempt to play it on anything much slower than a 20MHz 386, you'll probably get more thrills sticking to the Number 46 bus.

You'll need a joystick as well. Although rumour has it that Car and Driver can be played using either a mouse or keyboard, in actual fact neither of these alternatives is up to the job unfortunately. Keyboard control is much too slow and awkward when trying to guide your car around the intricate twists and turns of the roads. And a mouse is simply nowhere near accurate enough to keep the car on the road for any more than a few seconds at a time.

If you are kitted up with the appropriate hardware, however, you are ready to start off on the race of your life.

The first thing you have to do is to select a car. There are eight models available and the performance of each of them is modelled on the real thing.

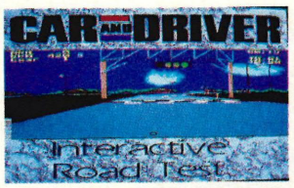
The cars are all classics in their own way, noted not only for their incredible speed but also for their stylish design. These are machines of the calibre of the Ferrari F40, the Lotus Esprit Turbo and the Corvette ZR1.

There are 10 tracks to choose from too, including race courses such as the Monterey Raceway and highways such as the California Route 1. There's even the Mahomet Drag Strip for anyone in a tearing hurry (you can drive this in 12 seconds or less, believe it or not).

Or for players with exceptionally low thrill thresholds, there's the parking lot of a shopping mall in San Dimas. Here you can while away a happy afternoon diligently practising your parking and trying to avoid the cars of other shoppers, or not, as the case may be.



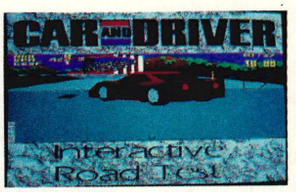
There are articles describing each of the available tracks, too. You might decide to potter about in the car park of a shopping mall. Personally, the madness and mayhem of the EA Speedway is much more to my own tastes.



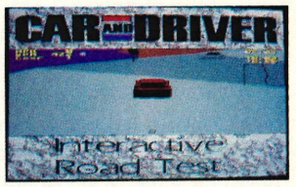
Here I am at the starting line. The default view shows what I would see from the driver's seat. Now, to get up a bit of speed, all I have to do is push down on my joystick and, with a mighty roar of the engine, we're off ...



If you want the chance to admire your driving from a distance, a pull-down menu lets you see your car from a variety of different camera angles. You can even record a race and view it later from different perspectives.



Here I am in my Ferrari carelessly charging around the face track, ready to take on all comers and (since I have decided to play in 'indestructible' mode) ready to crash into them too if the fancy so takes me!



I have now switched tracks to California's Route 1. Alas, in order to get this nice aerial view of the car, I am being pursued by a cameraman in a helicopter. Ah well, Nigel Mansell probably puts up with irritations like this all the time.

DRIVER



Points of view

When you start the game your default point of view is, naturally, from the driver's seat. However, just for the heck of it, there are several options that allow you to alter this. You can watch the car from an angle above and behind it, mimicking the view from a pursuing helicopter. This is not particularly practical when attempting to steer your vehicle, but it does give you the chance to gloat over its elegant streamlined bodywork.

THE CARS	THE TRACKS
Porsche 959	Monterey Raceway
Toyota MR2	Dobbs Raceway
Ferrari F40	San Dimas Mall
Lotus Esprit Turbo	EA Speedway
'57 Ferrari 250 TR	Oval Super Speedway
Shelby Cobra	Mahomet Drag Strip
Lamborghini Countach	New York HWY 97
Eagle Talon	Arkansas Route 7
Corvette ZR1	California Route 1
Mercedes C11 1MSA	Autocross Course

Other external views of your car will enable you to watch the action from the point of view of a series of cameras positioned along the length of the course, from a car following you or from a vantage position directly overhead. If you want to look at the entire track, you can select the view from a blimp floating high in the upper atmosphere.

Even assuming you are content to stick with the driver's eye view, you can still make several useful adjustments. For

example, you can alter the field of view incrementally between 40° and 100° as you wish. This produces a similar effect to zooming a camera lens from wide-angle to telescopic view. It lets you see either a narrow area of the road ahead or else a broad view that includes the surrounding landscape. A narrow field produces more of a sense of speed but a wide view is prettier. Take your choice.

You can also move the vertical viewing position which is a bit like adjusting the height of the carseat. A high position means that you can see better, but a low position gives you that road-hugging feel so beloved of speed freaks.

Beat the clock

But what is the point of it all, you may wonder? Really, there is no 'object' to this game apart from just cruising around at speeds that would soon get the boys in blue desperately trying (and failing) to catch up with you in real life.

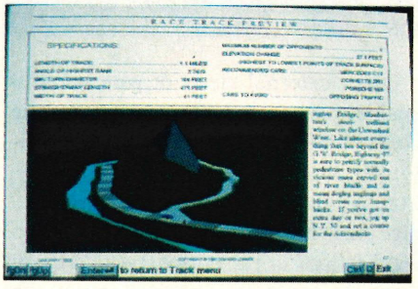
If you are totally satisfied with this kind of simulation, all well and good. However, if you want to race the cars against the clock, you can do that as well. An on-screen clock ticks away the seconds, enabling you to set speed records and attempt to break existing ones.

The manual lists sample achieved times for all the different car models on each of the available tracks. Apparently these are 'good' times which can nevertheless be bettered by an experienced player.

Of course, you can also race against another car, if you prefer. Two players can compete if their PCs are connected over a network or via a modem or null-modem cable. It is also possible to compete against yourself without having to fit any special hardware.

Each time you play, the game closely monitors the action and it keeps a recording of the best time achieved on each track. So when you next drive along that track, you can play against the recording. In effect, this gives you another opponent in the form of a racing car that goes through exactly the same manoeuvres that were so successfully employed to achieve the current record.

And that means that, if you are to break the record, you are going to have to drive even more skilfully than ever before. Quite a challenge all told.



As well as detailing the cars, the magazine also contains complete run downs on all the featured tracks, which is very handy for getting a general impression of what you're up against before taking up the challenge for real.

Sex and drugs

It is one of the curiosities of Car and Driver that it comes with an on-screen car magazine containing articles that describe the range of cars you can drive and the race tracks you can drive them around.

These are based on articles in a successful American magazine called – you guessed it – Car and Driver. If the examples provided in the game are anything to go by, the writing in that publication makes this review seem like a very model of linguistic restraint. The features appear to be written by all manner of weird and wonderful individuals who harbour deep and decidedly strange yearnings for things like 'distributorless ignitions' and 'air-to-liquid intercoolers'.

I had long ago assumed, in my utter naiveté, that writers who interpreted everything in terms of sex 'n' drugs 'n' rock 'n' roll had succumbed to their unhealthy lifestyles way back in the early 70s. Apparently not. If it weren't a potentially actionable thing to say, I would almost (but not quite) be tempted to suggest that at least some of those writers went on to become fanatic car journalists.

Cars to these people are "babies". The Shelby Cobra is, apparently, "the John Wayne of muscle cars". The Ferrari F40 is "the zenith of speed with a body like Venus". And the Lotus Esprit Turbo SE is religiously described as a "pure and potent narcotic" which "sports some pretty addictive acceleration".

The magazine is quite possibly an acquired taste, therefore. The game, though, is terrific. Its state-of-the-art graphics certainly put it close to the top of the league of PC simulations.

True aficionados of classic cars may be understandably horrified by this concept, but I have to tell you that I've had great fun harmlessly destroying some of the most expensive cars ever made while playing Car and Driver.

And if, for some reason, you *don't* fancy smashing up the exciting car you happen to be driving, the game even affords you the option of making it completely indestructible.

Which means you can go around smashing up other people's cars without so much as denting a fender on your own. If only real cars could do that ...

■ Huw Collingbourne

Alternatively...

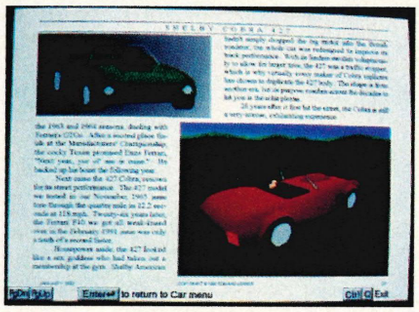


Test Drive III
Accolade, £30.64
Also dealing with premier sports cars being pushed to their limits, Accolade's tribute to The Cannonball Run sees you putting the pedal to the metal in Porsches, Ferraris and Lamborghinis as you go from one side of the US of A to the other. As a game, it looks a bit dated now (especially compared to C&D), but it still plays remarkably well.



Formula One Grand Prix
MicroProse, £44.99
Rated 8, Issue 15.
If you want performance cars with more of a competitive spirit, why there's MicroProse's F1 game? Geoff Crammond's racer plays every bit as good as C&D, faithfully recreating the real F1 season. The only downer in the whole thing is that it just doesn't look as detailed as C&D. That aside, it's one hell of a game.

PCreview 8



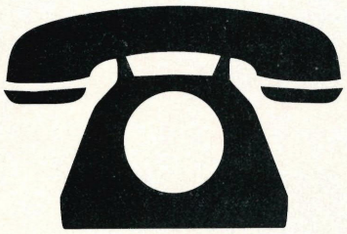
Strangely, the images of the vehicles in the magazine section are ray traced rather than digitised.

Techspec

Car and Driver adds roaring engine sounds and radio receptions if you have a sound board. You'll need a 386 PC or better to play the game to good effect. A joystick is strongly recommended.

Disk requirements						
	High density				✓	
	Hard disk only				✓	
	Space taken on hard disk				***7.7Mb***	
Graphic modes						
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Control						
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"My palms were sweating as Italy surged forward"



SOCCER SUPREMO

With Soccer Supremo the soccer management game comes of age with a match display that not only gives considerable information about the performance of players and team, not only allows major tactical changes the state of the game demands, but is also entertaining and even exciting. The childish number juggling game has been replaced by an intelligent select - the - team and watch - the - match simulation

Oh ..yes..Italy equalised but England won on penalties.....

THE WORLD CUP - THE ULTIMATE CHALLENGE

The ultimate challenge in soccer management is to take a ragbag of good club players and mould them into an efficient, organised squad that will take the rest of the world apart in the World Cup Finals. Why not join Michel Platini, Johan Cruyff and Franz Beckenbauer in the USA in 94?

Soccer Supremo puts you in charge of a European national squad preparing for the European Nations Cup qualifiers. You have an initial four year contract that may be extended to six or eight years, or reduced to two, as the results dictate. You'll be expected to qualify for the Finals, then put up a show against the best European teams. but this is just preparation for the big one:The World Cup!

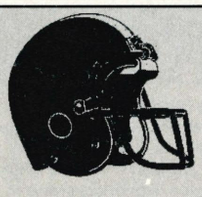
Customisation. The game will allow you to take the European nation of your choice and you will be allocated an initial squad of 16 players. You can introduce a further 34 players, making 50 in all, whose names and skills (but not levels) You can define yourself. These players are introduced gradually as you discover the weaknesses in your squad and also to create the balance of skills that match your style of play. The original 16 players can be defined in the same way using the EDIT program (free with the game) if you wish as well as the teams that will make up the opposition.

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IND PLAYER ACTIVITY STATS.
PLAYER FATIGUE /FITNESS STATS. STATE-OF-THE-GAME INFORMATION
PLAYER-WITH-THE-BALL INFORMATION

IN MATCH TACTICAL MOVES

SUBSTITUTIONS
POSITIONAL CHANGES
OVERALL WORKRATE
IND. PLAYER WORKRATE



HEAD COACH V3

"From my point of view , the game has kept me sitting up at nights through holidays and weekends for up to 12 hours at a stretch, with miniscule breaks for food and other necessities.....It is a game I have no hesistation in recommending to anyone with even the slightest interest in American Football"(ATARI USER)

Headcoach V3 has been described as "the best game ever put onto a computer". It is the complete American Football game, a multi season epic with the very best strategic elements of the real thing. You will call the plays, devise the gameplans and develop the team.

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Players will age and teams will fade (a player will last about 6 seasons), but you will stay and rebuild....

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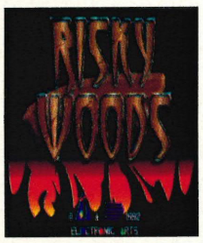
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Head Coach works with ALL PC/monitors
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Title	**Risky Woods**
Publisher	**Dinamic/Electronic Arts**
Contact	**(0753) 549442**
Price	**£29.99**



Risky *Woods*

If you go down to the woods today, you'd better go armed with axes, fireballs, chains and boomerangs ...

There are very few platform games available for the PC, and even fewer of outstanding quality. The Bitmap Brothers have proved that you can produce great arcade games for PC-compatibles, so why only a handful of programmers have taken up the challenge is a mystery. Whatever the standard of its finished product, Dinamic should at least be praised for having a go.

Risky Woods — possibly the blandest title for an action game I've ever come across — has an eminently disposable plot. A hapless bunch of old monks have been turned to stone by an evil creature named Draxos. Draxos and his equally unearthly minions have turned the once beautiful forests into the Risky Woods.

Enter Rohan, stage right, armed with a bag of pointed implements and a desire to free their petrified holinesses. If he succeeds, wisdom is restored for good; if not ... and so on.

If you're familiar with Dinamic from its 8-bit days, you'll know that it likes to pile on the frustration. Time and again you'll be surprised by traps which can only be described as grossly unfair, seemingly unavoidable obstacles which push you into bottomless pits, and end-of-level guardians who test your game-playing skills to the limit. It's almost designed to prove the game players' cliché – if you're in a good mood, the action is challenging; if you're not, you'll be tempted to take a sledgehammer to your equipment.

The control method doesn't help. If you don't switch off the background graphics the response time is just about acceptable at 16 MHz, but at 12 MHz — coupled with sluggish scrolling and animation — it'll have you screaming. Compared to the manoeuvrability of other platform game characters such as

The best kind of enemy is a dead one, and not just because it keeps him out of your hair: the coins he drops can be spent in ye olde shoppe at the end of every stage.

PC*review* **4**

Two Minutes *of risking life or limb*

Armed with his bag of knives and his trusty jumping feet, Rohan the brave sets out to defeat the denizens of the woods. Only a crude map and his wits can help him find his way through to the other side.



Our hero only takes two steps before being assaulted by Draxos's evil legions. A single dagger-toss dispatches most foes, but the sheer number of enemies can make life very difficult indeed.



Having already collected two halves of an eye key earlier on, Rohan sneers at this eye door blocking his way, but there are enough nasty surprises in the woods to wipe the smile off his face.



Rohan finds a wise old monk encased in stone. When he releases the holy one and his companions and kicks Draxos back to hell, the mission is over. But there are a few rogue monks lurking in disguise.



Exhausted by combat and desperate for a drink at the end of the first stage, our hero stumbles into ye olde shoppe. However, since it only sells weaponry and energy, he leaves for the next level in a bad mood.

Titus the Fox (see Alternatively ...), Rohan is clumsy. At higher speeds, and with the background graphics switched off, the action is easier to handle but the game looks decidedly ordinary, too.

OK. Let's say you get reasonably accustomed to the slowness and awkwardness of the control method (which, surprisingly, is what happens) — what kind of game lurks behind?

A moderately good one. Your basic aim is to progress through four right-to-left scrolling zones, each with two stages of combat and an encounter with a giant guardian. This isn't enough by any stretch of the imagination, but after the first stage things get a lot tougher and the end-of-level baddies can prove very annoying indeed. The run-of-the-mill enemies are, well, run-of-the-mill, and can usually be killed with a single shot. Add to these a collection of fixed fire-spitting emplacements of various descriptions, some of which can be truly irksome in the extreme, and you have a decent range of opponents.

Killing the bad guys rewards you with coins, which you can then spend in the shop (or ye olde shoppe, as the programmers insist on calling it) at the end of the level. However, if you stop to collect all of the coins you'll most likely run out of time; and if you run out of time, you lose one of your lives. You can also forfeit lives by contact with energy-sapping enemies, falling down holes, or collecting the wrong kind of object. The time limit isn't an original feature of course, but it works very well here.

Coins aren't the only items you can collect — you'll also find bags and chests at regular intervals. Their contents aren't always what you want, though: as well as the practical benefits of extra time and energy, a thunderbolt, a fireball and a continue feature, you can collect up to 50,000 points from a variety of objects. Points don't make prizes, but they're useful for moving up the highscore table.

Chests contain additional items which have ambivalent properties, and which make Risky Woods an appropriate title. Apples, for example, can reward you with 10,000 points or send you to sleep, wasting precious time; arrows give another 10,000 points, or throw you back to an earlier point in the level; skulls can either cost you six units of energy or stand the world on its head. You don't know what these icons are going to do until you try them, so it's a good idea to keep notes of the ones you should avoid.

The puzzles throughout the game aren't particularly demanding — if your way is barred by an eye door, it's fairly obvious that you need an eye-shaped key to open it. However, there is, at least, a little variety within each stage since you can usually take slightly different routes to the goal. These routes aren't just superficially different: choosing a lower platform rather than an upper one can reveal a hidden chest or spring a fire-spitting surprise on you. Finding the right path can mean all the difference between completing or failing a level.

Good habits

But what about the monks mentioned at the very beginning? Well, you have a specific number to free at the start of every stage — exactly how many is revealed at the foot of the screen. Once you find a petrified holy man, all you do is blast away at his stone shell until he leaps free in a blaze of fire. This is a genuinely spectacular effect, and is in keeping with the high standard of graphics overall. The animation and scrolling might not endear you to the action, but the unusual design of many of the sprites and backgrounds makes you want to see more.



If you aren't crushed by giant boulders, sapped by foul fiends or wiped out by an end-of-level guardian, your most likely form of death is ... running out of time.

The sound is less appealing, though. The musical accompaniment is repetitive and simplistic, and not really suited to the aggressive nature of the action; and unless you've invested in a Sound Blaster card (ordinary or PRO) you'll only get PC sound effects screeching and bumping through your internal speaker.

Every zone has a shop where you can spend your hard-earned coins. The range of goodies on offer isn't large (take your pick from axe, ball-and-chain, fireball, boomerang or energy) but these weapons are your only guarantee of success against the end-of-level guardians. If you have extra gold to spend, you can also double or treble the power of your weapon.

Unfortunately, features such as this aren't enough to save Risky Woods from mediocrity. There are too many annoying drawbacks to contend with. As I've said, the control method can be very slow to respond; there are too many occasions when unavoidable collisions with an unseen enemy cost you time or a life; the time doesn't stop running down when you release a monk from captivity, even though you're firmly rooted to the spot; the collision detection is often ungenerous; and high scores are never saved to disk. Despite a few, brief highlights, it's impossible to recommend Risky Woods to all but the most undiscriminating platform game fans.

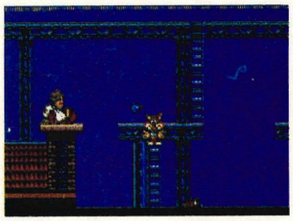
■ Gordon Houghton

Techspec

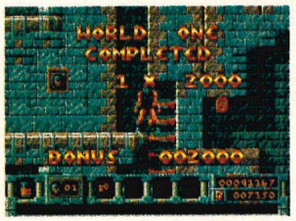
If you don't care about smooth scrolling or pretty background graphics you'll be able to experience a half-decent game at 12MHz, but if you want to get the most from the action you'll need at least 16MHz. The VGA is as pretty as it looks in the pictures you can see, but the animation lacks fluidity. As far as sound goes, Ad Lib and Roland are available for the music (but not the effects), and the Sound Blaster PRO card is supported. Don't worry if you don't have a joystick: the keys are just as good (and just as poor).

Disk requirements						
	High density				x	
	Hard disk only				✓	
	Space taken on hard disk				1.3Mb	
Graphic modes						
	CGA	x	EGA	x	Tandy	x
	VGA	✓	SVGA	x		
Soundboards						
	Ad Lib	✓	Roland	✓	Sound Blaster	✓
Control						
	Joystick	✓	Keyboard	✓	Mouse	x
Performance						
	Optimum speed				16Mhz	
	Minimum memory				512K	
	Free RAM required				512K	

Alternatively...



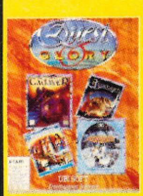
Titus the Fox
Titus, £25.99
Rated 6, Issue 7.
A reasonable stab at the platform and puzzle game genre, Titus has two important factors which Risky Woods lacks: smoothness and a great control method. If anything, it's slightly too fast — but once you're accustomed to its idiosyncrasies, the cute main character, secret levels, puzzles, traps, special objects and 50 different kinds of opponent will soon win you over.



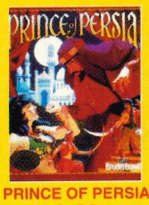
Gods
Renegade, £34.99
Rated 8, Issue 4.
Although it carries a fairly hefty price tag for an action game, the quality of Gods' gameplay justifies it. As in Risky Woods, there's a good deal of zapping to be done — but the endless variety of traps, puzzles, power-ups and end-of-level baddies is far superior. Add to this superlative sound and a high graphical standard, and you've got the best platform game yet.

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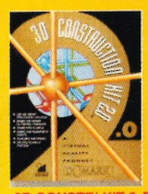
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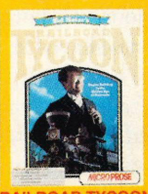

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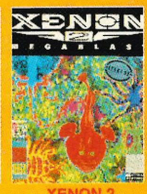

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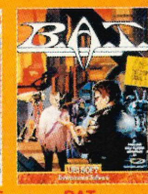

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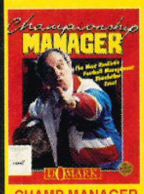

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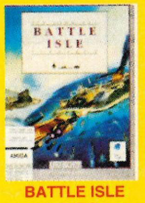

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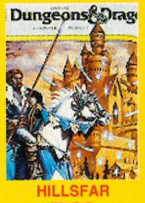

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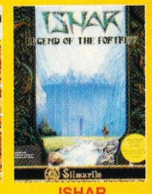

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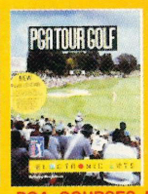

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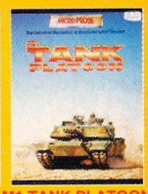

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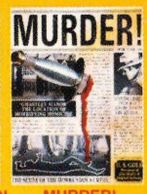

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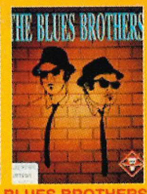

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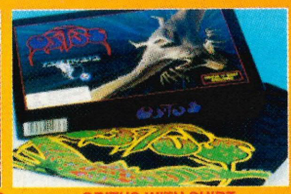

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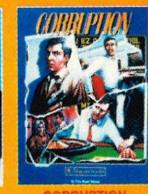

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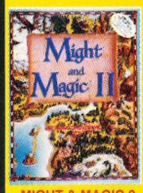

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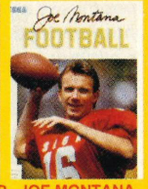

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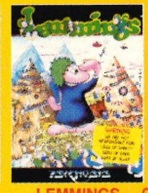

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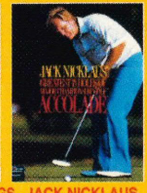

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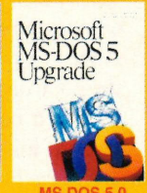

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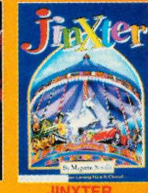

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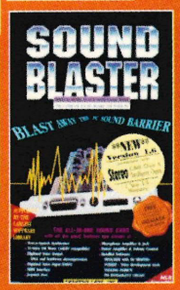
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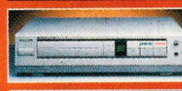
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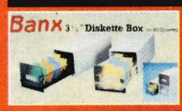


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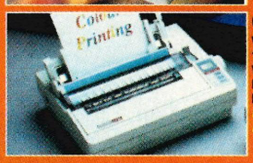
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Campaign

I finally lost patience with Campaign when asked to key in a password which didn't exist. The software wanted to know the weight of the German Tiger II tank before it would let me play the game. I scanned the Equipment Factfinder thoroughly, but could I find any reference to a Tiger II? There was the Panzer III Ausf E, the SdKfz234/2 (Puma), even the Jagdpanzer IV/70(V), but no Tiger II. It was then that I decided that I'd had enough. My war was over.

Some time later, digging among the free posters, postcards and wartime newspaper which come with the game, I came across an addendum to the Factfinder. You guessed it, details of the Tiger II. In my experience, bits left out of game manuals are always a bad sign ...

Campaign is described as a tactical strategy game, based on actions fought out during the Second World War. The game is incredibly detailed and presumably very accurate when it comes to military hardware used by both Allied and Axis forces throughout that conflict; it has a well thought out player interface; adequate graphics; and interesting packaging gimmicks — but is sadly short on playability.



The basic idea is for the player to control Axis or Allied armies in actions involving land, air and sea forces, which get more complex as you move further into the game. These forces are all mechanised, you don't see any flesh and blood soldiers, which brings me to another criticism.

I've always had a problem with war games with such a clinical view of conflict. Real people fought in the Jagdpanzer IV/70 (V), and I'm certain they didn't care what the serial number of their vehicle was, especially in the middle of battle. And if you're going for accuracy, as this product does, some reference — even if it's only lip-service — should be made to the human cost of war. Here endeth the lesson ...

Campaign has quite a steep learning curve, despite the fact it features 'simple', 'average' and 'complex' battles, and the manual is sometimes difficult to follow. However, the 'simple' campaigns offer a reasonably easy introduction to the mechanics of the game.

Alternatively ...



Team Yankee 2: Pacific Islands
Empire, £34.99
Rated 7, Issue 7.
Updated version of the original, very popular, Team Yankee 3D tank battle game. The player controls four tank platoons similtaneously over a series of 30 scenarios which can be played individually or as a campaign.



Battle Isle
Ubi Soft, £34.99
Rated 7, Issue 3.
A great introduction to war gaming with more than 30 scenarios to entertain beginners and hardened war gamers alike. Battle Isle is easier to learn than most of its kind, and complex enough to keep you interested for some time to come.

Two Minutes *of games without frontiers*

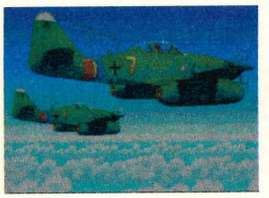
Take up your kit bag and prepare your self for the mother of all battles, as the Russians vie with the Germans for military superiority.



This Russian tank fires up its engines, little suspecting that the enemy is waiting intently just around the corner.



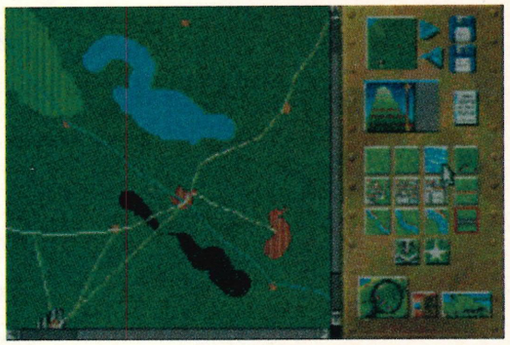
And here, the rather heavily-armoured Germans wait for their aircraft to arrive, so that they can be ready in support.



Two Me-262s fly in towards the battlefield. If they arrive in time for the fray, the Allies are bound to be in for a rough ride.



Fire! The Germans attack from the side, where the armour-plating of the tank is less thick. That's one less enemy to worry about.



You get two booklets with the game, one with instructions and a brief history of the Second World War, while the other is a trainspotter's delight, a detailed list of all vehicles and equipment featured in the game, illustrated with black and white representations of the on-screen graphics. The purpose seems to be to provide a huge list of possible passwords to be keyed in when you want to play the game. The initial map allows you to learn the basics of the game, moving forces around and fighting battles.

It also allows you to access the map editing screen which is perhaps one of the more interesting features of the game. It will enable you to set up your own battlefields once you've exhausted those the game has to offer — which will take quite some time, believe me.

You can either allow the computer to control the forces, (which often include an air force, convoys and factories) or take control of some or all of the groups yourself. If you allow the computer to take charge, the player becomes a passenger until it comes to an actual battle situation when you can choose to allow the computer to decide the outcome or go into 3D battle mode. This is probably the most interactive part of the game, as you find yourself in the driving seat of various tanks and other armoured vehicles.

The 3D is well done and reasonably detailed given the speed of the game and the amount of action going on. You can adjust the 3D detail to suit the speed of your machine via an options screen. I guess this is what most people will enjoy most, unless you're into planning tactics and logistics, which means you'll probably end up watching the map screen and computer messages for hours. Not my idea of entertainment, it has to be said. However, I'm not sure you have that much control over the outcome of the battle in 3D mode, how ever many 'enemy' vehicles you knock out.

For one thing, no sensible tank commander would zoom up to an active enemy vehicle and blast away simply because the resulting explosion would probably destroy both vehicles. This is an anomaly in a game which puts such stress on accuracy in other areas. If your vehicle does get knocked out there's no penalty for stupidity, apart from the loss of the vehicle, you simply move to the next available active vehicle and start again.

The battle ends when either side decides to retreat or is wiped out. If your side is doing badly you can initiate withdrawal from the battle screen. Another screen informs you of your losses and those you have inflicted on the enemy. If the battle has ended your current campaign or achieved the objective of the 'map' you are playing, the game halts to show you a 'league table' of your achievements. Otherwise it's back to the main map screen to watch your forces manoeuvre into position for another skirmish, sometimes this seems to go on interminably.

Quite who Campaign is aimed at, I'm not really sure. Experienced war gamers would probably find it too limited despite all the attention to detail, and those seeking an action game with a Second World War theme would look elsewhere. The programmer's quest for ultimate accuracy seems to have been pursued to a conclusion without any reference to simple enjoyment and playability, which is what computer games — even ones with a wartime theme — are surely all about.

The 'arcade' battle section *is* entertaining, but because of the unreal elements mentioned earlier, doesn't really fit snugly alongside the strategy aspect of the game. After you've 'completed' each map another ghost from the arcade creeps in to Campaign. A screen appears giving you a rating for your performance and, if you've done especially well, awarding you a medal. Quite frankly, I think I deserve one for persevering.

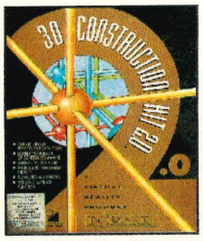
■ Tim Metcalfe

PC*review* **4**

Tech*spec*

The game comes on two 3.5" disks. You'll need a machine with at least 640K RAM and MS-DOS 2.0 or higher and a hard disk with at least 1.7Mb of free space. The digitised intro sequence is only available on MCGA and VGA machines with least 1Mb of EMS memory (LM-EMS V3.0 or later). In Sound Blaster mode the game features digitised speech.

Disk requirements						
	High density	✓				
	Hard disk only	✓				
	Space taken on hard disk	*1.7Mb*				
Graphic modes						
	CGA	✗	*EGA*	✗	*Tandy*	✗
	VGA	✓	*SVGA*	✗		
Soundboards						
	Ad Lib	✓	*Roland*	✓	*Sound Blaster*	✓
Control						
	Joystick	✗	*Keyboard*	✗	*Mouse*	✓
Performance						
	Optimum speed	*6MHz*				
	Minimum memory	*640K*				
	Free RAM required	*580K*				



Title	**3D Construction Kit**
Publisher	**Domark**
Contact	**(081) 780 2222**
Price	**£49.99**



"Everything you need to create your own virtual environments" proclaims the box blurb. But while Incentive's Freescape editor may be the ultimate budget 3D tool, it certainly doesn't win any prizes for user-friendliness

Construction

I have always been a great fan of Incentive's 3D system Freescape. The early games produced with it, such as Driller, Darkside, and Castle Master, broke new ground in the field of 3D adventures and I found 3D Construction Kit equally appealing. Freescape may have been getting a bit long in the tooth by the time that it was released, but it was still an impressive utility, whether you planned to use it to create your own Freescape games, or as a cheap alternative to professional 3D programs like AutoCAD.

Lovely as it was, there were, however, two fundamental problems with 3D Construction Kit in its first incarnation. The first was the restricted range of primitives (original shapes) from which your 3D objects could be constructed, not to mention the restricted range of things you could do with them visually. The second, and in many ways, a far more serious problem, was that the program as a whole was about as user-friendly as an English dictionary in Cyrillic script.

The latest incarnation of Freescape, as used in Kit 2.0, has gone a great way towards addressing the first criticism. There is now a larger selection of primitives available, including spheres and the flexicube. The latter begins life as a standard cube, but, as its name suggests, it can be stretched and squashed into any other shape, providing that it has the same number of edges and points. Splicing flexicubes together with the other primitive shapes provides the potential 3D modeller with an unlimited repertoire of basic constructions.

One of the most useful inclusions in the new package is a library of predrawn objects, and these can be used to great effect as can be seen here.



We start loading in the area, in this case a length of street surrounded by skyscrapers.

Kit 2.0

Once you have established your objects, they are coloured in the same way as they were in the first kit, but there is a range of additional effects that can also be applied. Objects can now be drawn as wireframes, which is useful for creating window frames, and so forth. They can also be invisible or translucent to various degrees.

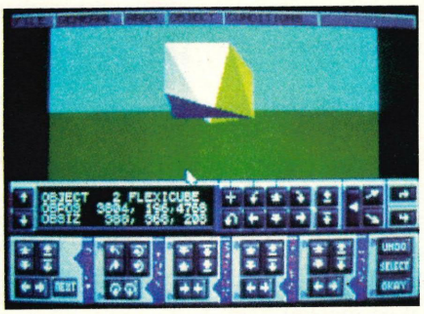
The opaqueness of an object can not only be preset, but you can even use the Freescape Command Language to change it on the fly, so that objects fade in and out. All this will come as a pleasant surprise to users of the original kit who became frustrated at only being able to create locations that looked like they were made out of Weetabix boxes.

So far, so good, but what about that all important user friendliness factor? Well, the instructional video is still there. Users of the first kit will remember that the original video was little more than a badly made promotion for software you'd already bought. This video is ... er ... little more than a badly made promotion for software you've already bought. Actually, that's not being very fair; it's not nearly as bad as the first one.

What about the manual then? Notwithstanding the cardinal sin of not having an index, it's certainly an improvement on the first one. It has an extended tutorial for one thing, but once again, this concentrates on the basics and only scratches the surface of the advanced stuff, like using the Freescape Control Language. This is annoying because much of the tutorial section waffles on in a very patronising way, and the author spends too much time desperately trying to be funny and failing miserably. It's exasperating wading through half a dozen naff jokes to reach one essential piece of information. I don't know about anybody else, but I don't read manuals for fun, I read them to find out how to use a piece of software. If I want entertainment, I'll buy the latest Terry Pratchett novel, thank you very much.

I was most disappointed to find that the user interface has changed little from the previous incarnation of this product. It is still very unwieldy in places. The menu system is fine, especially with the most important commands having short-cut icons at the bottom of the screen. Problems occur mainly with the dialogue boxes and with the way the individual objects are manipulated.

Let's say that you create a complex object, a vehicle, for instance, and then duplicate it. Subsequently, you decide that you don't want the second vehicle after all. The only way to remove it is to delete all the component parts of the copy. This wouldn't be too arduous a task were it not impossible to select more than one object simultaneously. To delete a group of objects you must call up the menu, select an object and delete it, once for every single component part. Of course it could be argued that careful planning and properly managed file saving should prevent this situation from arising. Nevertheless, it would have been nice to have the facility available.



The most dramatic improvement in the range of basic objects offered is the Flexicube. As you can see, while this begins life as a standard cube, each point can be individually pulled about to create all sorts of weird and wonderful contortions.

My other major gripe is that object manipulation is still achieved via a panel with arrow icons allowing you to stretch, shrink, and deform each object in various ways. It would have been so much more pleasant if Incentive had used the opportunity of this second release to come up with a slightly more intuitive way of doing this. One possibility is to allow the direct manipulation of points and vertices on screen.

Now, I can hear all you 3D graphics experts out there objecting and posing the question, "how can you possibly use a 2D view to manipulate objects in three dimensions?" I concede that you can't, but the problem is easily surmounted by providing three different 2D views which show points and vertices in the X-Y, X-Z, and Y-Z planes. To avoid confusion, depth could then be indicated by shading, or by showing slices through the third, unseen plane. You would then use

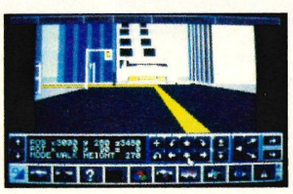


If you're far from being the most artistic person in the world, don't panic, because 3D Construction Kit 2 comes with a large selection of scenes and objects, like this train shown here, which you can use as a basis for your own creations.

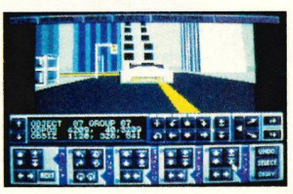
Two Minutes *to construct Toytown*



Extra detail can be added in the form of a telephone kiosk and some traffic lights.



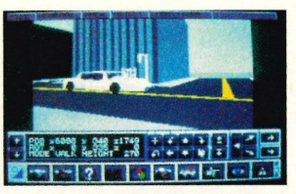
We add movement to the scene now, by placing a car on the road. It begins in mid-air ...



... but moving groups is easily done, allowing us to shift the car into the correct position.



Now a few lines of simple code is all that is required to set the car in motion.



And presto! We have ourselves our first animated scene, and a starting point for many more.

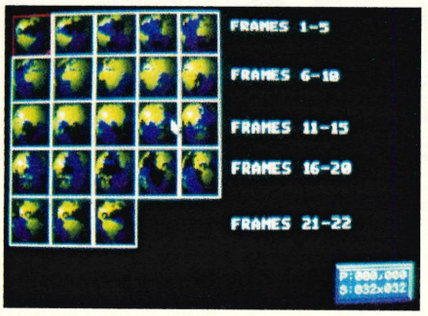
a combination of these 2D views and the standard 3D view to manipulate and move each object.

Before you start thinking that 3D Construction Kit 2.0 is a bit of a non-starter, Incentive has got quite a few things right. The improvements that have been made to the editor are worthwhile, if small. These are things like being able to name objects and locations, having a status panel permanently on-screen, and the ability to save preferences.

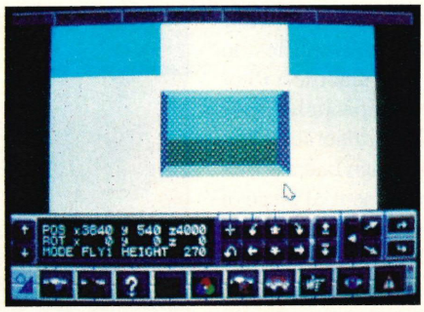
Apart from the extra object flexibility already mentioned, 3D Construction Kit 2's major improvement is in the Freescape Command Language. The syntax and general construction of the language remains unchanged, but there are many more powerful commands available. For example, you now have a variety of string and array handling commands, and more significantly, simple drawing commands. These allow circles, lines, boxes and so on to be drawn directly onto the screen. Together with overprinted text, this feature will allow you to create overlays, such as head up displays, especially as instruments can also be moved on to the general display area, as well as the user-defined borders.

Another exciting development on the visual front is the inclusion of animbrushes. By drawing a sequence of sprite frames in say, DPaint or DPaint Animation, and then saving them as a single file, you can subsequently load this into 3D Construction Kit 2 and designate individual sprites as frames in an animation. The animated sprite can then be incorporated into your 3D world via FCL. This opens up an enormous number of possibilities. You could even go as far as creating bitmapped people to populate your polygon world.

The whole process of programming is made easier with a debugger to help pinpoint logical errors in your code, and the ability to save and load text, so replicating functions by hand isn't necessary. One startling omission however, is an option for printing object and area data, and program code. Having this option would have made debugging easier still.



Also new in this update, are spheres and drawing commands to produce lines boxes and circles. If that isn't enough for you, how about adding an animbrush, for animated bitmaps.



Another interesting thing you can do with objects is make them translucent, which is really useful, amongst other things, for creating window effects, as demonstrated here.

Users of the kit who are intent on getting their hands dirty will welcome the inclusion of sound editors, although Sound Blaster fans might be somewhat annoyed that they have no choice but to make do with the driver supplied for Ad Lib compatible cards. Other than this, there are specific editors for Roland and the PC beeper. These basically enable you to set up a range of effects by altering the waveform of each sound in turn. They serve their purpose well enough, and if they aren't powerful enough for you, there are plenty of other sound editors around that certainly will be.

I have to confess that 3D Construction Kit 2.0 isn't quite as much of a radical departure from the original as I would have liked to have seen, but what improvements there are have been well thought out and genuinely do make this a powerful product.

Again you have a choice as to how deep you want to delve. Casual users may just want to use this as a cheap CAD package, and they are catered for by the video facility which enables you to create walkthroughs or fly-throughs of your constructions. Users interested in creating their own games, or in interactive CAD, will find an extremely powerful 3D programming language at their disposal, and while products created with this package can't be expected to be models of speed and efficiency, I anticipate that we shall at least see some very impressive creations on the shareware circuit, if nothing else.

Laurence Scotford

Techspec

For a technically advanced product, 3D Construction Kit 2 is surprisingly tolerant of a large selection of machines (It will work with any processor, although a 286 or better is recommended). Note that, although extended or expanded RAM isn't strictly required, the program will make use of it if it is there.

Disk requirements

High density	✓
Hard disk only	✗
Space taken on hard disk	1.6Mb

Graphic modes

CGA	✗	EGA	✓	Tandy	✗
VGA	✓	SVGA	✗		

Soundboards

Ad Lib	✓	Roland	✓	Sound Blaster	✗

Control

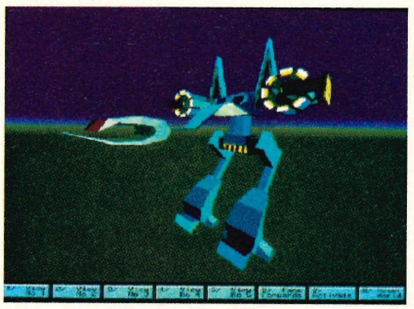
Joystick	✗	Keyboard	✓	Mouse	✓

Performance

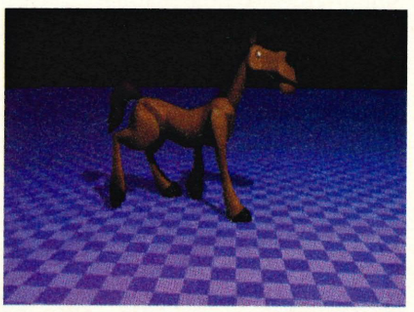
Optimum speed	20MHz
Minimum memory	640K
Free RAM required	560K

PCreview 6

Alternatively...



Superscape
Dimension International,
£POA
Incentive are also responsible for Superscape, a professional Virtual Reality Kit. As you can see, this is capable of producing spectacular results. It's infinitely more powerful than 3D Construction Kit, but it is also infinitely more expensive. Expect to see this system forming the basis of a lot of television and film graphics in the near future.



Playmation
US Gold,
£199.99
This is included, because it also allows you to create 3D animation sequences. The difference here is that Playmation is based upon a ray tracing system, and is geared towards non-interactive productions. Interestingly, the video included with this package is a lot more inspiring than the rather sad effort supplied with the 3D Kit.

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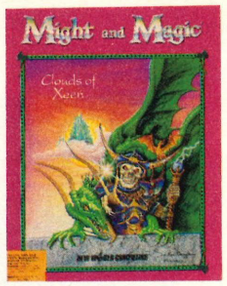
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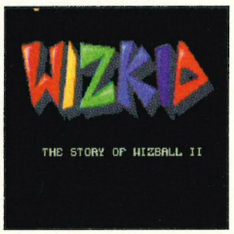
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Title	**Wizkid**
Publisher	**Ocean**
Contact	**(061) 832 6633**
Price	**£29.99**

Wizkid

Sensible Software's programming record is unique, incorporating everything from sports sims to shoot 'em ups. Now the team has written a sequel to one of the best games of the 80s ...

Remember Wizball? If you never owned a Commodore 64 you probably won't. It was released in 1987 and defied any attempt at classification: a sort of shoot 'em up cum art package which was simultaneously cute, compelling and frustrating. It was totally original, and it catapulted Sensible Software — and its unique sense of humour — into the top league of programmers.

Wizball's main characters were the grinning Wizball which could restore colour to grey landscapes, a feline outrider named Nifta, a wizard who mixed magic potions, and a host of enemies led by the evil Zark. Zark was eventually banished and colour was restored to the world, and everyone lived happily ever after. Nifta had eight kittens, and Wizard and Wizball got married and produced a child — christened, not surprisingly, Wizkid.

Unfortunately, Zark returned one night and captured Wizard, Wizball and Nifta, and in the confusion the kittens were scattered far and wide. Hence this sequel: as Wizkid, it's your mission to free your elders and find as many of the kittens as possible.

It's a standard search and rescue scenario, but the game itself is far from ordinary. It's divided up into nine zones, each containing multiple screens. The objective on each screen usually involves clearing several waves of aliens — by head-butting tiles (or bags of nuts, or fruit, or whatever else the zone's theme dictates) on to them. Once a screen has been cleared you progress to the next.

There are exceptions to this rule: in zone six, for example, you're treated to a resurrection of Wizball's shoot 'em up bonus section (plus a nasty twist), in which you can amass lives and goodies. Each zone also has its own style of graphics and the levels become substantially more difficult to complete. Zone seven, for example, has a strong circus theme, and you'll need all your juggling and balancing skills and a couple of collectables (see below) to complete it.

PC*review* 8

It all sounds very simple, dull, even, but it's not. The fun starts as soon as you start to bump off a sequence of enemies with a single brick. This releases a prize bubble which gives you one of three types of bonus: a clown's juggling nose (dislodged tiles can be bounced on Wizkid's head or directed towards an enemy), a set of thunder choppers (tiles can be plucked from the screen and carried to an enemy, and you can also catch falling tiles), or one of four colour bubbles.

Colour bubbles are essential collectables. When you pop one it sends a coloured stave to the top of the screen and fills in an empty note of the same colour — take a look at the screen shots if this sounds confusing. Once all the notes have been filled a tune is played and the notes rain down as coins. Picking them up gives you enough cash to buy a range of objects — which differ from zone to zone — and if you collect all the coins you're awarded a bonus. Either way, you're allowed to visit the shop.

The shop is actually a menu offering a list of items for sale. You're not told which ones you'll need, but you soon discover that you can't afford most of them anyway — unless you re-enter the zone



Hitting several enemies at once produces a prize bubble. This rewards you with colours, a clown's nose or this handsome set of teeth. All of them are useful.

and try and earn more cash. This is one of the game's great features: it's quite easy to clear screens in the early rounds, but getting the most money from those screens takes hours of practice; and just when you think you're getting good, the later levels severely tax your arcade skills.

Objects you can buy include a newspaper, a carrot on a stick, extra life points, tokens, flying scarves, blue glasses, hidden screens, and bonbons, all meaningless until you use them. Some even have a spectacular effect on your environment: wearing the blue glasses, for example, turns the entire world blue. Wizkid is packed with neat touches such as this which keep you coming back for more.

One other feature of the shop is that it allows you to give Wizkid a body, which opens up a whole new dimension to the game. For a start, you can use the objects you've bought. In addition you can wander around the screens interacting with the landscape, such as the well-handle and the bell in zone one. A final incentive to play in 'body mode' is that if you stay entirely in 'head mode' you only get to see four of the nine levels. This is fine as a quick, superficial route through the action, but it also means that you can only collect three of the eight kittens, which just might not be enough.

Let's return to the screen-clearance part of the game for a moment. If you fail to eliminate all the aliens on a tile screen, Wizkid might offer you a game of Crossword 2091. This involves arranging half a dozen words on a grid so that each intersects with at least one of the others; to help you out, the words can be moved around and rotated through 90 degrees. There is a time limit, but if you're successful you're rewarded with a huge cash prize — not to be sniffed at.

One of Wizkid's best features is its choice of difficulty settings. The action is quite simple in easy mode, but the other two difficulty levels provide plenty of challenge. If you play at a normal or difficult level, you soon appreciate the value of extra life points (stars). Touching aliens reduces your stars; lose five and you forfeit a life. You can buy extra lives, though they get dearer as you progress, or you can collect them by amassing 100,000 points.



Wizkid has its very own tutorial, with B D Snail acting as your guide. A few easy lessons take you from basic brick-bashing to more advanced techniques.

The whole game is ably supported by an impressive front end. There's a neat highscore table which also details how many rounds you completed and where you rescued the kittens, and there's an options screen allowing you to tailor the action to suit your personal needs. If you're a complete novice, you can also enter the boot camp, where B D Snail takes you through the first steps.

There's really very little wrong with Wizkid. Having sound effects only as a Sound Blaster option is a drawback, despite the excellent musical accompaniment; and if you haven't got a joystick you'll find the shoot 'em up section somewhat tough.

More significantly, the long-term playability might prove disappointing if you're not immediately grabbed by the humour, colour and cuteness of the basic game. For everyone else however, the action will provide hours of enjoyment. The straightforward gameplay disguises plenty of hidden depth, making Wizkid one of the most original and enjoyable arcade games to appear on the PC.

■ Gordon Houghton

Techspec

Wizkid's hardware demands are modest: a 10MHz 286 or better, and though you don't need a joystick, the keyboard controls take some getting used to. The box claims you can use a mouse, but I couldn't get one to work. The Read.me file also contains vital information not in the manual.

Disk requirements

High density	✗
Hard disk only	✗
Space taken on hard disk	3.4Mb

Graphic modes

CGA	✗	EGA	✗	Tandy	✗
VGA	✓	SVGA	✗		

Soundboards

Ad Lib	✓	Roland	✓	Sound Blaster	✓

Control

Joystick	✓	Keyboard	✓	Mouse	✓

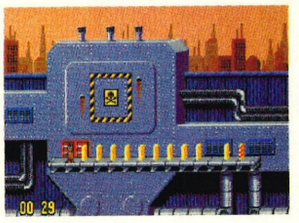
Performance

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

Alternatively...



Magic Pockets
Renegade, £30.99
Rated 7, Issue 11.
Having made the PC version more difficult than its Amiga and ST counterparts, Renegade have produced a decent arcade game. It's not as cute, cuddly or colourful as Wizkid, but its four-world platform-based action, bonus features and surprise levels keep you interested. It's primarily aimed at younger (ie, yoof) players, but there's plenty there to keep older (ie, over-21) players interested.



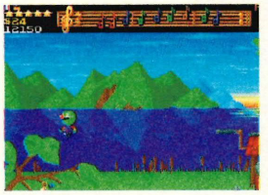
Push-Over
Ocean, £29.99
If you're looking for another cute, multiple-screen puzzle and strategy game this could be the answer. Not all licences succeed (this one's a tie-in with Quavers), but Push-Over is reasonably compelling, particularly on later levels. The basic aim is to help G I Ant stack dominoes in the correct order, so that when they fall they knock over a trigger block which opens the door to the next level. Simple, but fun.

Two Minutes *of head banging*

Wizkid's parents and his best feline friends have been snatched away under cover of darkness. Unaccustomed as he is to superhero status, the young 'un races to the rescue ...



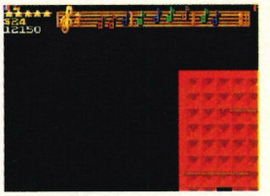
The first level. Wizkid uses his head to dislodge bricks and squash those butterflies. If he squashes more than one with a single brick he's rewarded with bonus bubbles, and collecting coloured notes creates a profitable tune.



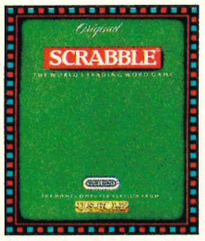
After buying a newspaper Wizkid chooses to sprout a body, and after a little celebratory leap he decides to make use of his new-found freedom. He could try jumping on to that well — or perhaps he should ring the bell first?



The bell is rung and a magic door appears — but behind it lurks an angry dog. Wizkid is advised to use his newspaper to transform the horrible hound into a pathetic pooch. He does so, and walks through the door unhindered.



This is what lies behind the door. It looks innocent, but tasks here include creating a 10-ton weight, turning on a tap to make a donkey, and riding the donkey to an oxygen dispenser on a cliff-face. Then things get seriously weird ...



Title	**Scrabble**
Publisher	**US Gold**
Contact	**(021) 625 3366**
Price	**£30.99**

Playing the computer in practice mode is a lot less pressurised than the timed competitive game. This game was played at Level H, with the computer using a dictionary of 26,900 words, including "100 useful unusual words".

Scrabble

Eoliths, atheize and engaols are just three of the words employed by US Gold's Scrabble's extensive dictionary, which makes it a formidable — and frustrating — opponent

Until now, the PC has not been particularly well served by Scrabble games. Shareware implementations fall foul of copyright regulations, the old Leisure Genius version never got further than a blocky CGA, and Virgin's Ultimate Scrabble, which looked hugely promising in development, never made it into the shops. The J M Spears licence has now come US Gold's way for this latest official attempt.

This version of Scrabble looks surprisingly utilitarian, given the amount of glossy presentation that could have been included. It presents simple menu bars, a straight top-down 2D view of the board, plain letter tiles, and help and dialogue in unnecessarily minute lettering form the basis of the screens.

This straightforwardness is carried through to the game itself, which plays strictly according to the original official rules of Scrabble. Thus, the popular convention of being able to exchange a tile from your hand for a corresponding blank on the board is not available; you cannot look words up in the program's dictionary (in its full form, with all 134,000 words in the Official Scrabble Word guide from Chambers Dictionary); endgame rules are strictly observed; and there is no take-back option once you have placed your word on the board.

What this game does do is play an extremely strong game of Scrabble. The computer can play at 12 different skill levels (labelled A-L), which vary in the size of dictionary it will use, the length of words it will consider and thus its average score, to the higher levels in which it will make strategic moves that make provision for its next turn. At levels K and L, the computer is using the full Scrabble Word guide and has no inhibitions about getting all its letters out in a single turn three or four times during each game, and building up huge scores with multiple words each turn.

At these levels, it is also disheartening to discover that the computer appears to have a far wider vocabulary than you. Nothing particularly erudite: it just seems to have a remarkable command of implausible two-letter words. 'Ch', anyone? Easy — it's an obsolete south-western form of the personal pronoun I. How about 'ee', then? A Scots word for 'eye', of course. Or 'ug', 'qat', and 'oe'? To excite loathing, an Arabic shrub, and Scottish (again) for grandchild, respectively. It's fine for anyone who's prepared to sit down with the Official Scrabble Word Guide, intoning "ug, ch, ee, oe", etc, until they've learnt it off by heart, but they're hardly items of *everyday conversation*, are they?

You can cut out the more obscure words by playing at levels A to F, but then the computer is programmed to make shorter words all the time, and the game becomes closed up and defensive very quickly.

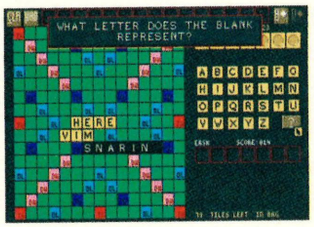
You can play in any combination of human or computer opponents up to four players, and select a skill level for the computer-generated ones. Once in the game, you can use your rack to juggle the letters, or rearrange them using the mouse (a rather cumbersome



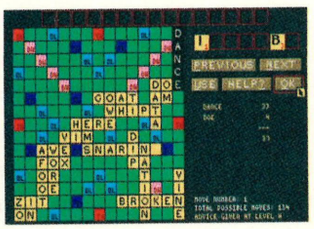
Use the top rack to shuffle letters in that elusive search for the perfect seven letter word. The two smaller letters are from the board — you can pick these up as 'samples' to help with your juggling.

Two Minutes *of ems, oe, ti and whipt*

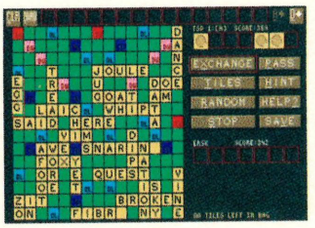
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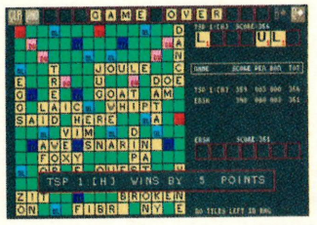
After placing a word containing a blank tile on the 'board', you will be prompted for the letter it represents by the program. 'Snaring' nets me 63 well-deserved points — now beat that if you can, TSP.



Stuck? You can always ask the computer to suggest a word. Faced with a rack of letters which look like they should produce a high score, it's tempting to rely on computer hints when your mind goes blank.



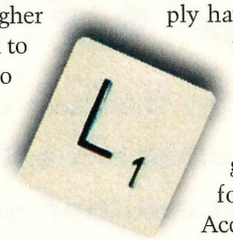
When you have a word you're happy with lined up at the top of the screen, click on the direction bar on the right and drag the row of letters to the starting place on the board. Now it's full steam ahead for witty wordsmiths.



After confirming I lost to TSP, the program offers a print-out of the game. I was hoping this would show individual running scores as well as the total; sadly you just get the overall scores and a rudimentary board map.

process), or do this on the row at the top of the screen. You might as well use this area, since it's from here that you must drag your finished word down on to the board and into position.

If you're stuck, you can always ask the computer for a hint, although you're not then obliged to use it. On higher levels, the computer's hints seem to favour long words over short, so that just occasionally its suggestion can be beaten — by a shorter word where the high-scoring letters hit the double or triple, for instance.



You can also choose to play in practice or competition mode, and there are important differences between the two. Competition mode follows the restrictions of real-life Scrabble tournaments: you are allowed 25 minutes playing time and you lose points if you exceed this — 10 points for every minute over the 25. There's no pause facility either, so you can't stop to make coffee during a competition game without your score plummeting. If your word is challenged by the computer in practice mode, you can simply have another go; in competition mode, you lose your turn. However, avoid the strictures of competition mode, and none of your game totals will be eligible for the high score table. According to the programming team, Arc Development, licensor J M Spears was insistent that the rules of the game should be followed to the letter (no pun intended).

For all its direct emulation of the board game, Scrabble contains some nice extra touches. When your opponent makes its move, that word stays highlighted on-screen until you begin selecting your letters — useful for those who don't pay enough attention to the play. Also, you can set a time delay for the computer to 'think' before it chooses its move. Since I've never liked hanging around waiting for opponents while I'm dying to get 'quagga' out on the triple word score, I immediately set this to zero, only to realise that this also reduced *my* thinking time, and that the game actually flowed better if there was pause of 15 seconds or so between my turns.

Presentation, then, is effective, though workmanlike. Sound is disappointing: some music through the sound card to start, but twiddles and beeps through the internal speaker thereafter although I appreciate it could be difficult to turn Scrabble into an aural spectacular.

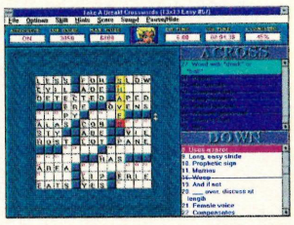
As a straight implementation of the Spears licence, Scrabble is competent, if not as smooth, glossy or packed with extra features as it might have been. Its strongest feature is undoubtedly the very high standard of its game and the adjustability between levels to cater for most players. Scrabble without frills.

■ Christina Erskine

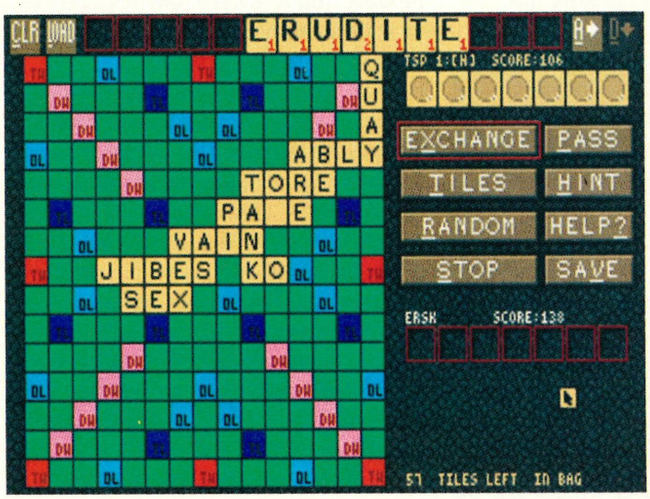
Alternatively ...



Wordtris
Spectrum Holobyte/MicroProse, £34.99
Tetris with letters, as the name implies. Letter tiles fall down the screen and must be placed to form words of three letters or more either across or down. Of all the Tetris spin-offs, this makes a surprisingly successful game in its own right, with much forward and strategic thinking required to give yourself the best chances.



Take a Break Crosswords
Sierra, £24.99
This compilation of crosswords of somewhat varying degrees of difficulty runs under Windows only, and scores highly in terms of presentation and attention to detail. But the crossword clues are hardly cryptic, and the only thing that makes some of them difficult is the number of clues requiring intimate knowledge of the USA. For short breaks, only, perhaps.



All dressed up and nowhere to go. If anyone can see where to put 'erudite', please don't write in. I gave up eventually and made something pitifully low-scoring instead.

Tech spec **The bigger the dictionary you want to use, the more free RAM you need: over 590K for the full 134,000 words, down to around 540K for 26,900 words, and even less for the smallest, 2,400 word dictionary. There's no particular need for a soundboard, unless you're turned on by intro sequences, and mouse is by far the easiest control medium.**

Disk requirement

High density	✗
Hard disk only	✗
Space taken on hard disk	1Mb

Graphic modes

CGA	✗	EGA	✓	Tandy	✗
VGA	✓	SVGA	✗		

Soundboards

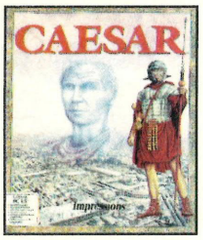
Ad Lib	✓	Roland	✗	Sound Blaster	✓

Control

Joystick	✓	Keyboard	✓	Mouse	✓

Performance

Optimum speed	12MHz
Minimum memory	640K
Free RAM required	see above



Title	**Caesar**
Publisher	**Impressions**
Contact	**(071) 351 2133**
Price	**£34.99**

All emperors have to start somewhere, and Caesar places you firmly at the foot of the ladder. Your title is decurian, one rank above the common herd — but which province will Rome give you?

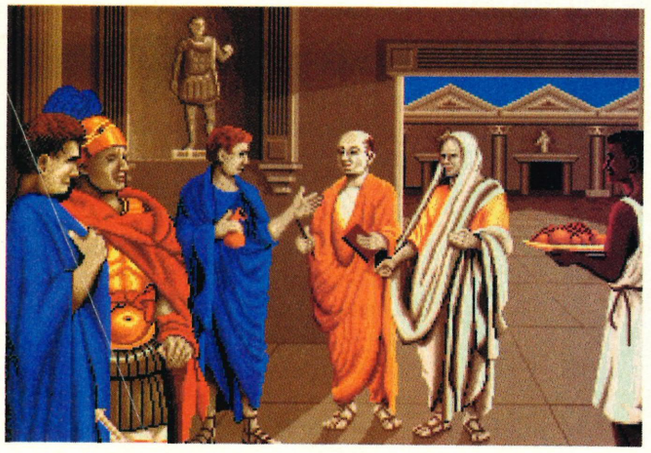


Caesar

Despite its historical setting, Caesar owes a huge debt to Maxis' Sim City. Does it offer a fresh approach to the god sim genre, or is it just another novelty act?

Given the choice of city and civilisation simulators around at the moment, you might wonder why Impressions is releasing a new one. The competition is pretty stiff: apart from the two discussed in the Alternatively box, Civilization and Utopia, there are a host of others, including A-Train, Sim City, Sim Earth, Global Effect, Moonbase and, related to these, Populous and all its children. Caesar isn't radically different from any of these, but it does have a few original factors which make it interesting in the long run.

The forum acts as a statistics screen giving advice on, and analysis of, politics, military and treasury matters, finances, administration and slaves.



It's the first century BC and you've been assigned to one of Rome's many provinces. You have to govern it as efficiently as possible, a broad command which includes designing and building a capital city (Sim City-style), opening up trade with neighbouring settlements, (Civilization-style) and fending off invaders (Utopia-style). This is a simplistic summary, but it helps to explain the feeling that you've seen much of the gameplay somewhere before.

It all starts innocently enough. After determining your own level of initial funding, you're given a province and have to wait a moment for the computer to generate a random terrain.

Next, it's time to start building The pattern follows town planning models established by Sim City. Where you had to ensure an adequate supply of electricity in Maxis' game, here you have to ensure that there is a regular supply of water. Buildings such as prefectures, fora and barracks, like Maxis' fire and police departments, have a sphere of influence and are best arranged on a grid system. Houses increase in size with better facilities, and decrease if their security or quality of life is threatened. The civilian population enjoys sports, religion and entertainment; if the population is happy it will increase, and you can get away with slightly higher taxes. This leads to greater revenue, which means more money to increase the size and strength of your domain.

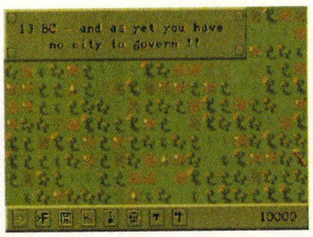
This is the theory. In practice, it doesn't always work because the strategy is finely tuned. Lay a road in the wrong place, build too many houses without enough employment for their occupants, forget to build a temple, a school, a bath-house, or a hospital, and things can go wrong. People leave, riots break out, ramshackle houses never develop into villas and mansions.

The statistical support for the main screen views of the action is moderately good. First, a number of mini-maps reveal information which can help you to develop your city. For example, by studying the land value map you can discover why some areas grow more rapidly than others; and by highlighting trouble spots you can identify where you need to build a barracks or a prefecture. The maps themselves — along with all the presentation graphics — could have been more revealing and more imaginatively designed, but they are functional enough.

Two Minutes *before the fall of the Roman empire*



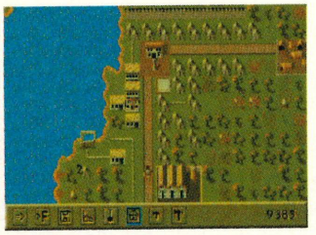
You don't have to wait long for the answer. The game randomly allocates one of approximately 50 provinces spread across the whole Roman Empire — and it looks as if you've been given the job of governing Crete.



Wherever you're posted, the basic principles are the same. You're given a patch of fertile land, and you need to scour the surrounding terrain for a handy source of water, such as a river or a lake.



Having found a lake, it's time to start spending money and build your own private empire. The first civic construction programme should include a forum — a centre for commerce, administration and social activity.



After that you can lay down the infrastructure of roads and water pipes, build a few houses and reservoirs, establish a market place where your citizens can trade, and give them places of work and worship.

It's no good building a second Eden if you're not prepared to defend it. There are 16 different barbarian tribes lurching around the empire, and they don't hang about: you'll usually suffer an attack within the first few years of your governorship, often with disastrous results for your settlement. There are two ways of guarding yourself against attacks: you can build walls and towers both within your city and on its boundaries, or you can create cohorts. A cohort is the basic unit of the Roman army, made up of several centuries which, as the name implies, consist of 100 men.

The battles themselves are a case of determining the most effective strategy: Take your pick from the classic tortoise formation, retreat, assault, flank and charge. Tactics vary according to the quality and quantity of your opponents, and victories improve morale and your



Text messages (which can be deactivated) warn you of vital events throughout the game.

own honour no end. This is involved enough in itself, but one of the game's more interesting features is the ability to make use of another Impressions game, Cohorts II. This can be loaded in from the main menu, allowing you to recreate the encounter in much greater detail.

All this activity guzzles money, whether it's building, maintaining or kitting out your army. Depending on which difficulty level you selected at the beginning, life can be very hard or very easy for the first few years. However, as time passes the financial demands increase: the emperor consistently increases the price of his tribute, a bigger city just means that there are more things that can go wrong, and you can't help itching for a pay rise yourself. This last demand shouldn't be underestimated. Pay yourself too little and you won't enhance your personal status, too much and you'll be seen as selfish and greedy.

If you think you can't be bothered with money, think again. Run out of denarii and you won't be able to pay the emperor's tribute, and if that happens you'll soon find yourself stripped of all power. Kiss goodbye to the career, and the game.

Balancing the finances against the need to expand, maintain and defend your province are the key to success in the game. It will be a long time before you manage to handle your first governorship successfully, and even when you do you're simply assigned to another one.

Caesar isn't a huge game, despite the superficial appeal of over 50 provinces, but it is subtle. You may think at the start it's an idle rip-off of the other world builders around, but once you've created your first successful city you're hooked, and the urge to do it again and again in each new province is very strong. There is a save game feature, so you can spread the challenge over a couple of months.

On the downside, the manual is underwritten (which leads to much futile experimentation); the difficulty level, even at its easiest, may be a little tough for beginners; the music is bland and the Ad Lib sound effects are virtually nonexistent, a serious blow to the atmosphere. At £34.99, it's also more expensive than the basic Sim City and Utopia without being substantially better than either.

■ Gordon Houghton



Techspec

The box advises a 286 processor at least, but don't worry if that's all you have: it's perfectly acceptable. It's not too demanding on free RAM, either: all you need is a measly 520K. Perhaps the only technical drawback is the lack of Roland sound support: decent sound effects would have enhanced the atmosphere.

Disk requirements

High density	✗
Hard disk only	✗
Space taken on hard disk	1Mb

Graphic modes

CGA	✗	EGA	✗	Tandy	✗
VGA	✓	SVGA	✗		

Soundboards

Ad Lib	✓	Roland	✗	Sound Blaster	✓

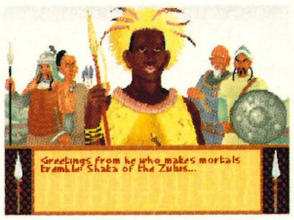
Control

Joystick	✗	Keyboard	✓	Mouse	✓

Performance

Optimum speed	12MHz
Minimum memory	640K
Free RAM required	520K

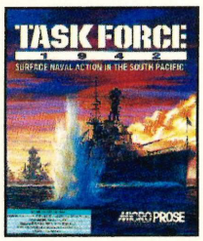
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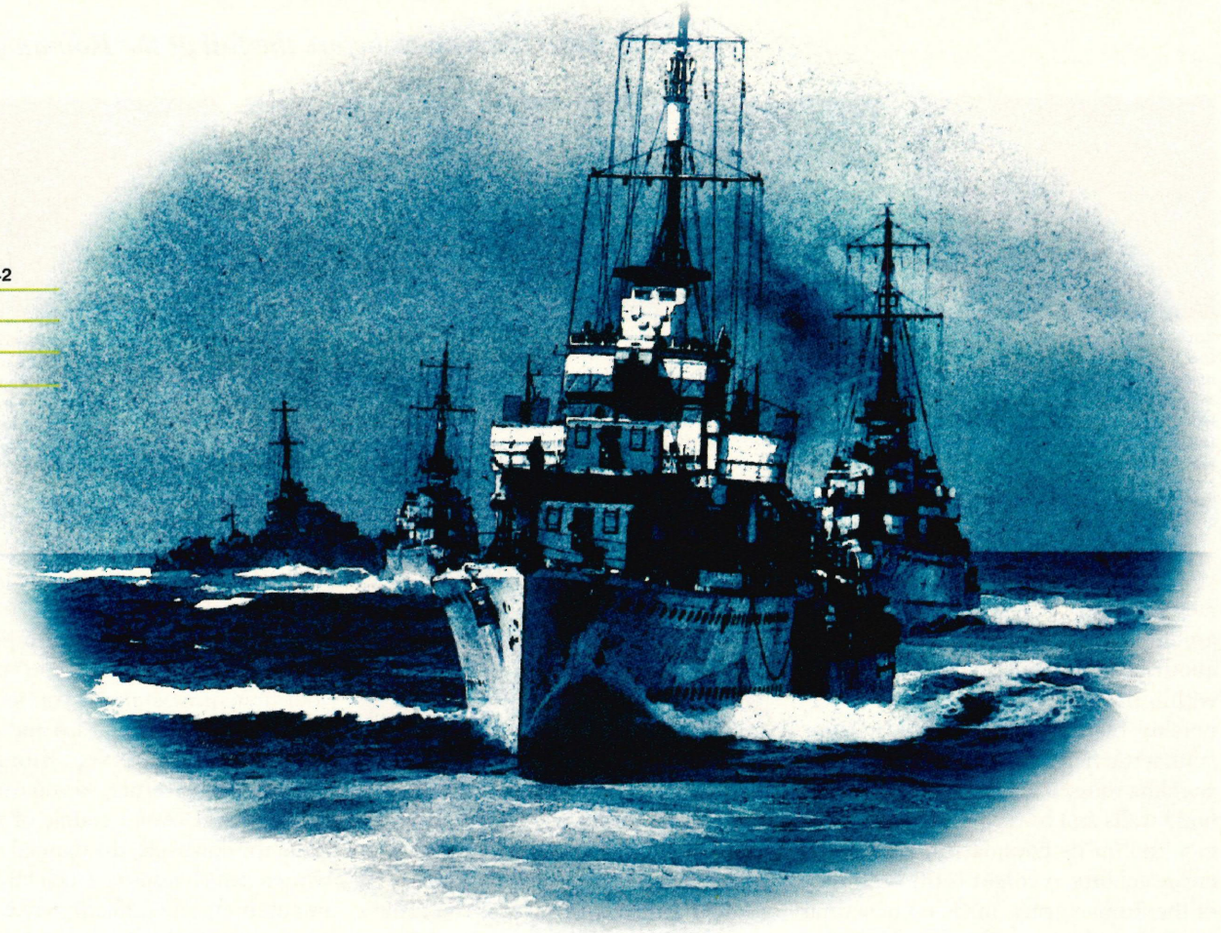
Civilization
MicroProse, £39.99
Rated 7, Issue 1.
This has a much broader scope than Caesar, taking you along the whole sweep of human development from a small band of barely civilised people to whole cultures based on technology. Surprise elements and contacts with other human settlements enliven the action, and the whole package is bound together by an excellent control system. Don't miss it.



Utopia
Gremlin Graphics, £29.99
Rated 7, Issue 12.
All these games, including Caesar, feature a need to defend your civilised settlements from invaders. Utopia is unusual as the invaders attack from outer space and you have little time to coordinate defences. and plan your strategy. This is quite a flaw, but a variety of landscapes, the urge to create more successful colonies, and the isometric 3D view will keep you interested.



Title	**Task Force 1942**
Publisher	**Microprose**
Contact	**(0666) 504326**
Price	**£44.99**



Task Force *1942*

A World War II naval simulation from the makers of Silent Service II looks incredible, but doesn't quite sink the opposition

If, like me, you are a dedicated fan of Silent Service II, then you've probably been looking forward to this follow-up simulation, which views the conflict between America and Japan from the surface of the Pacific ocean rather than beneath it.

In this instance, the action has been confined to the period from August 1942 to the early part of 1943, during which time the naval conflict was centred around the strategically important island of Guadalcanal.

Both sides realised that holding the island was a vital part of their respective campaigns because failure to hold the Solomon Islands would have had a drastic effect on their ability to defend or attack other local targets. So a massive land operation was undertaken by both countries. A crucial part of that operation was the naval support, and many of World War II's bloodiest sea battles took place during this time. It is these battles that Task Force 1942 emulates.

Not so silent service

Players of Silent Service II will be looking for the detailed control of an individual vessel that was afforded them by that game, and they won't be disappointed. Electing to control a particular vessel places you on its bridge, with occasionally spectacular 3D views of the surrounding seascape. From the bridge you can directly control the ship's heading and speed, check on damage and look at the charts, but, as with Silent Service,

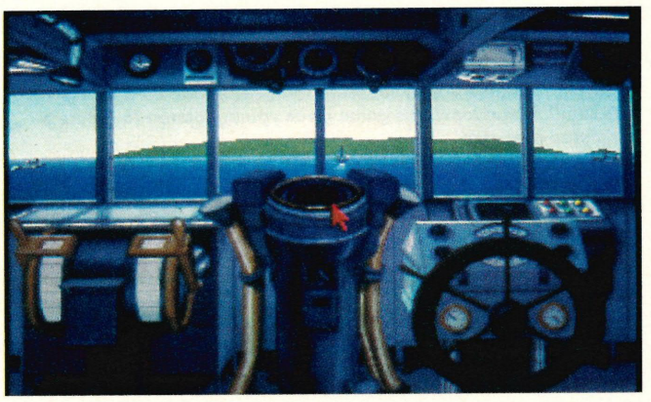
Destruction at Dawn is one of the easier sample encounters provided with the game. Your task group is on a routine patrol and surprises an enemy troop convoy.



To begin with you are cruising sedately and it seems like you may not see any action today.

there are other areas that you can also choose to command if you wish to.

Check out the binoculars and you'll see that a very similar technology is in use. The ships and islands are all constructed from neatly shaded polygons with smoke and fire effects being provided by overlaid bitmap images. It all looks very sexy indeed, although it is interesting to note that this view still doesn't cope very well with ships at odd angles, and they are always shown as being side on or end on and never at any angle in between.



What really shows off the 3D technology is the view from the bridge. Not only do you have all the necessary instrumentation in veiw, but you can clearly see what's going on outside as well.

Battle Scene

A far better view of the battle scene can be had by using the observer view. Providing that you don't object to unrealistic facilities, that is, because, yes, this is another of those external views so beloved of modern simulation designers. It is supposed to allow you to "survey the situation as if you were in a reconnaissance plane circling your ship", but MicroProse evidently has news of some incredible new development in aircraft that allows them to come to a complete standstill instantly and hover, or fly forwards and backwards at will. All right, jibes aside, this is undoubtedly the most spectacular way to view the battle scene, and is especially welcome if you have elected to merely observe the proceedings rather than actually take part in them.

If you have chosen to get your hands dirty, you are going to want to do far more than steer and change speed. What about sinking a few enemy ships, for instance? Well, you'll get plenty of opportunities to do that if you are prepared to man either the gun director or the torpedo director.

Again, Silent Service II aficionados are at an advantage, because both of these functions are very similar to firing torpedoes and guns in that game. The binocular style view is used, with the same side-on, end-on anomaly, but there are a few more instruments to cope with. The aim, if you'll pardon the pun, is to select a target in the view port, and then hold on to it long enough for the analogue targeting computers to calculate a reasonable solution. Once they've done so, you can merrily let fly with shells or torpedoes, for as long as you can manage to keep your heading and speed relative to the target fairly constant. Rather sensibly, considering this, you can still control the ship's heading and speed from both of these stations.

Avoiding sea shells

Life on the ocean waves isn't all sunshine and roses of course, and you can be damn sure that as soon as you start shooting at the opposition, they are going to start shooting back at you, if not sooner. It seems that naval combat in World War II wasn't anything like the game of hide and seek that it is in the modern day and age. Nowadays, the sequence of events goes something like this: sneak around trying to be inconspicuous; find a target; fire a couple of missiles at it; run like hell. Sound pretty sensible doesn't it?

Back in the bad old days of the last world war however, battle technique just wasn't that refined. In those days your average sequence events was more along the lines of: crash around making lots of noise and being about as inconspicuous as a penguin in the Sahara; find some targets; get up close to them; fire shells and torpedoes at each other and see who sinks first. No wonder sailors in this conflict had to be well primed with all that baloney about duty to your country and honourable death.

Once projectiles do start raining down on you, you may as well resign yourself to the fact that some, probably most, of your vessels are going to sustain some damage, and your future strategy will depend on what is damaged and how badly. Losing a single gun turret probably isn't going to affect your chances of survival, but a direct hit to the engine room can't be brushed off that lightly.

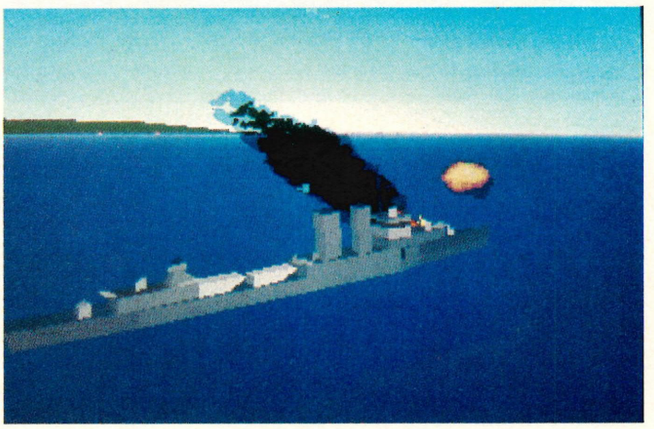
Many of the most important decisions you will have to make in Task Force will be whether to press on, despite the damage you have taken, or call it a day and make a run for it. Deciding the right way can mean the difference between making it back to port without a destroyer or two, and losing an entire task group.

Relying on the damage reports in the charts can be misleading since they use broad categories of damage from light to heavy, a more detailed report for each ship can be found from the bridge by selecting damage control. This may well indicate that, although the damage is only light, you have lost your all important fire control, which makes it difficult, if not downright impossible to target the enemy ships accurately.

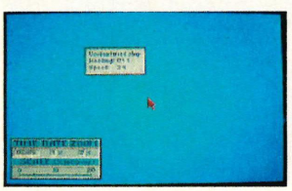
The most spectacular views in the game are those generated in the observer view. It may be unrealistic, but it's the best way to watch the battle unfold.

Charting your progress

So far, so good, but Task Force is about much more than controlling individual ships. All, but the most casual players are going to want to get stuck in to the tactical and strategic aspect of the game.



Two Minutes *in the heat of the battle*



You spot ships on the horizon. It looks like a large group, let's hope they're not battleships.



You've surprised a troop convoy, and the escorts are already fleeing.



You've plenty of time to line up for a torpedo run on the abandoned troop ships.



Closer in, you can finish off the remaining ships by bombarding them with shells.



Now just watch the troop transports sink and reflect on a day's work well done.

Most of this part of the game is done via the charts. These demonstrate the positions, bearings and speed of all the craft currently known about or sighted, by plotting them along with wakes. Torpedoes can also be tracked in this way, as can shells, the landing points of which are indicated.

The charts are where I find my first serious criticism of this game. There are five levels of magnification, which is all well and good, but even at the maximum magnification, selecting task groups, divisions and individual ships can be an unnecessarily messy affair, and I would have preferred to have the option of selecting them from an on-screen list, or better still with key presses.

At the beginning of a game, each task group, division and ship is under the direct control of the relevant commander, and you are in the role of an observer, but you can choose to command any vessel, division, or the entire task group.

Tech*spec* ***This is one of an increasing number of games that just won't run under anything less than DOS 5.0, and expects to find an expanded memory driver (which is annoying for those of us who prefer that extra RAM configured as extended), but at least this game gives you the option to create a dedicated boot disk.***

Disk requirements

High density	✓	
Hard disk only	✓	
Space taken on hard disk	10Mb	

Graphic modes

CGA	✗	EGA	✗	Tandy	✗
VGA	✓	SVGA	✗		

Soundboards

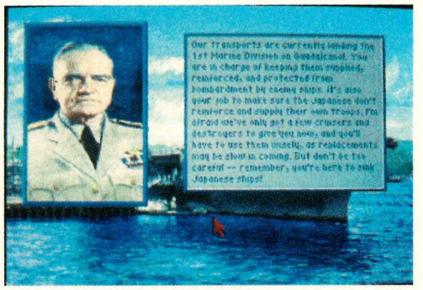
Ad Lib	✓	Roland	✓	Sound Blaster	✓

Control

Joystick	✓	Keyboard	✓	Mouse	✓

Performance

Optimum speed	20MHz
Minimum memory	2Mb
Free RAM required	580K



The presentation of the whole game is superb, as usual, and little touches like being able to reposition menus may not amount to much, but they are very welcome.



The Guadalcanal campaign is run from a large map of the Solomon Islands, but you can choose to command at a local level whenever you wish.

PCreview 7

setting up simulated encounters. In the former your aim is to coordinate the entire naval effort in the Solomon Islands, so your fundamental concern is in gaining a good strategic advantage, rather than worrying unduly about the outcome of individual encounters.

At the outermost level of command you have to establish task groups, arrange air patrols, and set up missions. Then you can either sit back and enjoy the show, or take immediate control of task groups when they encounter an enemy force. What you are most likely to want to do is ignore small encounters and only take command in cases when the outcome of the battle is crucial, or the odds are stacked against you.

Task Force 1942 is a very good attempt to take the Silent Service II technology and apply it to a much broader theme. It works well inasmuch as there are three levels at which the game can be played, and each is quite enjoyable, but as a whole it doesn't really hang together as well as it might have done, and it's a shame that a little more thought given to the strategic side of the simulation would have made all the difference.

However this is only the first game in a planned series, each of which is to concentrate on a different aspect of the war in the Pacific, so maybe we will see some improvement in the next one.

■ Laurence Scotford

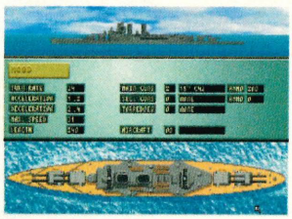
This is where I have another problem with the game. Independent action may have occasionally been forced on commanders of divisions or ships, but as far as possible they would have tried to maintain a coordinated action with the rest of the task group.

But in this game there is no direct communication whatsoever between individual commanders, so, unless you choose to take on the whole task group, you will continually have to guess what the rest of the vessels are up to.

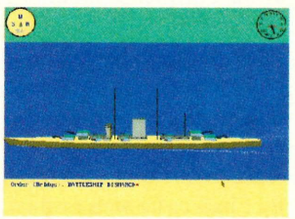
This is quite obviously stupid because one division might well be manoeuvring for a torpedo run at a group of enemy ships when you come charging across their line of fire and putting a very large spanner in the works, indeed.

Fervent strategy fans will probably find it much more interesting to play the full Guadalcanal campaign rather than tackling individual historical engagements or

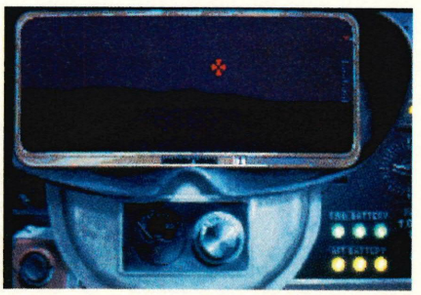
Alternatively ...



Great Naval Battles
SSI/US Gold, £39.99
Rated 8, Issue 15
This is a superficially similar product to Task Force, only this one has a European bent since it recreates the naval battles between the ships of the Royal Navy and the German Kriegsmarine. To be honest, there isn't much in it from a visual standpoint, but Task Force has more of a tactical element. At battle level, both games function in a very similar way, and which is better is largely a matter of personal preference.



Dreadnoughts
Turcan Research, £34.99
Rated 6, Issue 9
This is the second naval game (the first being Armada) to use Dr Peter Turcan's respected battle system. Don't expect the smooth graphics and presentation you'd find in products from the big publishers, and players with little patience may find the command system a bit trying. But if it's strategic depth you are after, this beats both Task Force and Great Naval Battles hands down.



Because ships are so vulnerable from aircraft attack during the day, many missions are undertaken at night. Get close to enemy ships and you'll be treated to a grand firework display.

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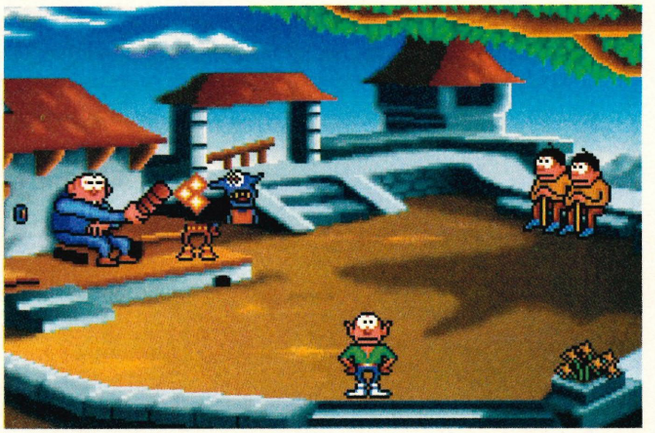
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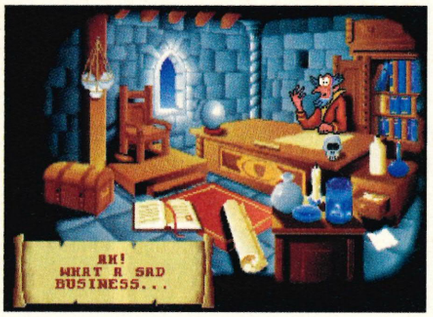


The first screen of the game sees Fingus and Winkle trying to obtain a tasty sausage from the local townsman. Unfortunately for Winkle, he's not too willing to part with it. Also useful are the wilting flowers in the stone pot and the empty bottle belonging to the old gentlemen. But how to get them?

Gobliins 2

PCreview 7

Hands up everybody that remembers Gobliins. Not many of you, not too surprisingly. Coktel Vision's previous outing into the land of cartoon capers wasn't exactly the biggest hit outside of its native country (although Sierra is about to distribute it across the States. I wonder how well it will do with such a towering name behind it?), getting lost in the furor that was Delphine. Now that CV has become a tad more prominent, with Inca and Ween promoting their technological prowess to anyone curious enough to look, the sequel to the oddly-spelt original is upon us.



Poor old King. His only child kidnapped by a band of ne'er do wells and his only hope of salvation a pair of bungling idiots. Hoo-boy.

Gobliins 2 removes the third member of the party and adds several more locations, sending you on a journey through a bizarre fantasy land filled with one weird character after another. A game of this type relies on its ability to create humorous situations, be they visual (as is the case with the majority of this game) or written gags. Gobliins 2 certainly scores on the visual front. Aside from the Readysoft titles, the graphics are among the most comical to grace the screens of a computer game and if your sense of humour favours slapstick, you won't be disappointed. And for those of you expecting bad translations (as if often the case with games from abroad) Gobliins reads extremely well.



Once the two plucky hero types have arrived in town, the first person they should seek is the old wizard, who is full of advice.

Where you might find fault is in the actual content of the game. Not the plot, since as far as computer games go (especially ones with a deliberate bend towards the ridiculous), it's perfectly adequate. Where this particular comic dies on stage is in the ability to produce puzzles with even barely fathomable solutions. Take this example (and I doubt whether revealing this solution will spoil the game): to get past a giant you need food and drink. An egg is the desired product and to get it you have to have one goblin (or "gobliin", I suppose) pick a chicken up by its neck while the other hits it on the head with a sausage. It's only through complete trial and error that most of the puzzles will be solved.

Games such as Monkey Island, or Indiana Jones and the Last Crusade, have proved you can still have uproarious adventure games with at least vaguely logical solutions. If a little longer had been spent devising the conundrums rather than going for the obvious joke, Gobliins 2 would have worked much better. As it is you've got a game which will appeal as long as the first hard puzzle. At that point it's really going to depend on how much your funny bones have been tickled so far.

It's good fun, don't get me wrong. I've seen plenty of supposedly funny games that have just been plain dull. At least in that sense Gobliins 2 does score – you are very likely to laugh. It's no Monkey Island, but then that's like saying Paul Merton is no Groucho Marx. It (and indeed he) never will be, but it is funny in its own right. If the price were a little cheaper I'd be saying go buy it, you've nothing to lose and everything to gain. However, it is a little excessive, even by today's standards. Still you never know, it may just be the thing to lighten your mood after all the doom and gloom of late.

■ Paul Presley

Techspec ***Gobliins 2 is one of those rare programs these days that seem to require very little in the way of high-tech extras on your machine. It had no problem running on any of the machines I tested it on.***

Disk requirements						
	High density	✓				
	Hard disk only	✓				
	Space taken on hard disk	**3Mb**				
Graphic modes						
	CGA	✗	**EGA**	✗	**Tandy**	✗
	VGA	✓	**SVGA**	✗		
Soundboards						
	Ad Lib	✓	**Roland**	✗	**Sound Blaster**	✓
Control						
	Joystick	✗	**Keyboard**	✓	**Mouse**	✓
Performance						
	Optimum speed	**16MHz**				
	Minimum memory	**640K**				
	Free RAM required	**540K**				

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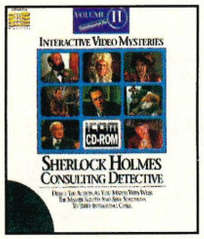
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Title	**Sherlock Homes Consulting Detective Volume II**
Publisher	**Icom Simulations/ Mindscape**
Contact	**(0444) 246333**
Price	**£49.99**

Sherlock

Consulting Detective Volume II

Icom's Sherlock Holmes was one of the CD-ROM success stories of last year. Now Holmes is back in three more cases with extended video clips and enahnced graphics

This is one of those games that is guaranteed to have a very disturbing effect on software reviewers. It causes them, without fail, to indulge in an unrestrained orgy of exclamation marks. If you'll excuse me a moment, I feel an attack coming on and I'm just going to have to get it out of my system. Here goes ... Adventure! Action!! Sound!!! Music!!!! 256 colours!!!!! Over 90 minutes of live action video!!!!!!

In other words, all those ingredients that made Volume I of Sherlock Holmes Consulting Detective a success story are back once again, only more so — the more in question being the colours, since Volume I boasted a rather dismal 16.

This sequel can be regarded as an almost perfect illustration of the enhanced thrill-power of multimedia computing. Provided on a CD-ROM disk, Volume II of Sherlock Holmes Consulting Detective takes up a massive 400Mb, most of which is devoted to the video clips. The clips themselves take the form of full-motion acted scenes with both synchronised voices and background music. There is no way this game would fit on to a standard hard drive in its current form. OK, so there's no doubting that it's a good demo of multimedia. But



This digitised video clip introduces you to the suite of games.

The speech apart, Consulting Detective II has been developed to retain the atmosphere of the books and follow Holmes's procedures and methods, giving you the opportunity to repeat the great detective's success.



From the outset, the game reeks deliciously of fake Victoriana. The opening screen takes the form of a book (presumably leather bound) open on a desk (surely mahogany). And yes, that little magnifying glass really is the mouse pointer.

Holmes

is it any good as a game? That's a question that isn't quite so easy to answer.

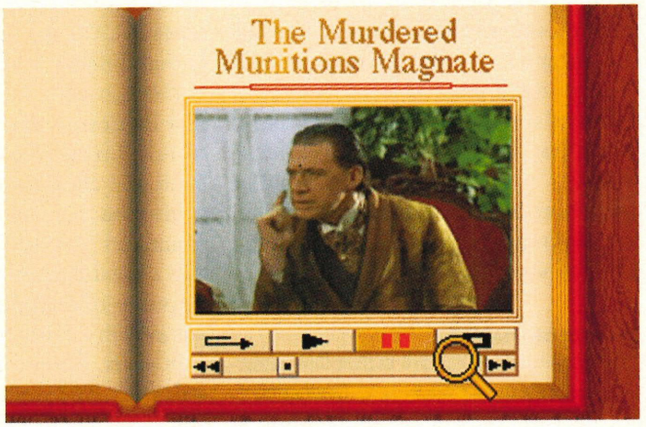
Cockney characters

If you saw the predecessor to CDII, you'll already know how this thing works since the basic environment of the two games is virtually identical. When you load it from the CD, you see an opening menu from which you can select any of three adventures. In Consulting Detective the three cases are The Two Lions, The Pilfered Paintings and The Murdered Munitions Magnate.

The first of these adventures, The Two Lions, starts out with a distressing report in The Times about a couple of murdered circus lions. The Times is frequently your primary source of reliable information in cases like these. Copies of the newspaper are provided both in printed form and on screen.

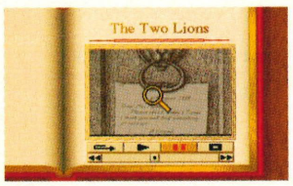
Careful scrutiny of the newspaper will reveal that a third 'lion' has also been killed, this time a man by the name of Stephen Lion. Could the two incidents possible be connected, I wonder? The time has surely come to begin the investigation in earnest.

That's not all. Apart from the Times, you are afforded ready access to two major reference sources, Holmes's personal notebook, and an alphabetised directory of people and places. These are shown by using icons and can be opened up with a simple click of the mouse. This enables you to highlight any name in these two books and attempt to discover more useful information about that person by clicking on one of three further icons, Holmes's files, the Baker Street Irregulars or a hansom cab.



The scene is set for the case of the murdered munitions magnate.

Two Minutes *on a singular pursuit*



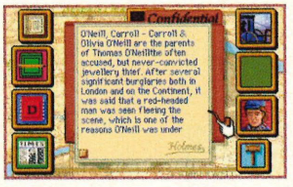
Each game starts off with an audio-visual introduction setting out the bare facts of the case. The adventure of Two Lions starts with a note pinned to Holmes's door, directing his attention to today's Times, a copy of which comes in the game pack.



This is Holmes's notebook. It lists some of his regular informers. Using the mouse pointer (now in the form of a pipe!), you can highlight a name and then cross reference it by clicking on one of the top three icons to the right of the screen.



Having clicked on the Hansom cab icon, Holmes and Watson are transported to Porky Shinwell's dive bar. Now we get to listen watch a video clip in which Shinwell delivers his evidence in a Cockney accent that sounds more Times Square than Albert Square.



Having heard the name O'Neill mentioned, I decide to look up references to all the O'Neills listed in the directory (there are quite a few). Now I have clicked on the second icon down on the right, which shows me this page from Holmes's files.



Having decided that Carroll O'Neill sounds like a lead worth following, it's off again in the Hansom cab. Up pops another of those wonderfully video clips. Here a gloriously plummy-voiced Holmes overacts his way through a drawing-room interrogation.

The hansom cab icon is the one to click when you want to go and interview someone. Not everyone listed in the directory has any relevance to the current case, so it helps to have drawn up a shortlist of suspects before using it.

This is really where the fun begins. Video clips illustrate each interview. If you've ever had a good laugh at some of those American-made 1930s films in which colourful Cockney characters are forever pulling their forelocks and saying "Cor luv-a-duck, guvnor, you're a real gent," you are in for a treat here.

Both the dialogue and the accents clearly betray the game's American origin. Watson and Holmes are deliciously over-fruity: almost ever sentence is generously seasoned with lots of 'it's positively' this and 'terribly' that, 'old chap'.

The actor playing Holmes struggles manfully with English vowel sounds and ends up sounding like an odd blend of Donald Sinden and Dustin Hoffman. Some of the other actors succeed considerably less well. It would be cruel to dwell on the accents of Porky Shinwell, the chirpy Cockney barman or H R Murray, the bumbling head chemist of the Scotland Yard Criminology Lab (I think that's supposed to be a Scottish accent — you don't think this could be due a horrible misunderstanding about the geographical position of Scotland Yard, do you?) ...

Sherlock hams

The remaining icons are rather less entertaining. Holmes's files, it is undoubtedly true, can give you useful background information about a subject, though this is presented in the form of boring old pages of text. As for The Baker Street Irregulars, the street urchins whom Holmes occasionally employs to search out facts in the London underworld, all I can say is that whatever he's paying them it's far too much. Time after time they come back with no new evidence at all. And even when they do occasionally manage to find something out, it usually adds nothing to what I've already discovered for myself.

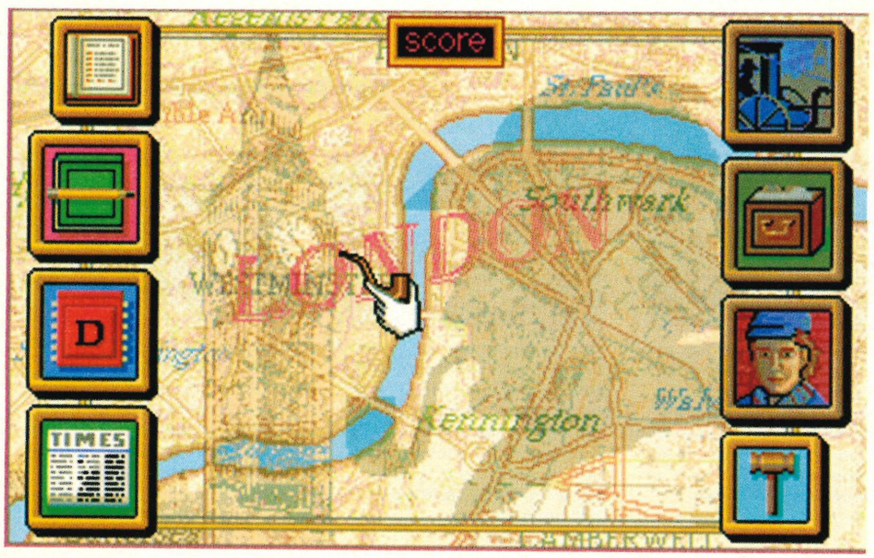
When you finally think you've managed to identify the culprit, you can click on an icon representing a judge's gavel. At this point, the scene changes to the courtroom. A bewigged judge demands that you identify the villain by clicking on a name in either your notebook or directory. If you are wrong, you are sent away to carry on with your investigation. If you are right, you are then challenged to select the motive from a list.

I don't mean to boast but I can tell you that I managed to identify both the killer and the motive in the case of the Two Lions in less than a couple of hours of game play. True, it took me a while longer to track down the accomplices. Even so, the simple fact is that the mysteries in CDII are, on the whole, not really that difficult to solve.

You can get a long way to a solution just by noting down any names mentioned during one of the video scenes band and clicking on the various icons to give you more information about those characters. Add to this a bit of intuition and a good deal of guesswork, and it is possible to stumble across the right answers in a fairly haphazard way.

In short, I don't think the three mysteries in CDII would prove a very serious challenge to the brilliant deductive mind of Mr Holmes himself. But to less experienced sleuths, all that ham acting more than compensates for the relative simplicity of the plots.

■ Huw Collingbourne



The game environment. The four icons at the left are: system (save/load etc), notebook, directory and The Times. The icons at the right are: hansom cab, Holmes's files; Baker Street Irregulars; gavel (name the culprit).

Alternatively ...



Sherlock Holmes Consulting Detective: Volume 1
Mindscape, £49.99
Rated 8, Issue 14

The first Consulting Detective game is, on the whole, pretty much like the second one. It uses the same environment with icons, notebooks and videos. The video graphics aren't quite as impressive as in Volume 2 but the British accents are, I'm pleased to say, every bit as ridiculous, and there is much fun to bve had from just listening to the Dick van Dyke school of Cockney chatter in operation. As with the second volume, you'll need a Sound Blaster-compatible card and a CD ROM drive to play this. There are three adventures to choose from — The Mummy's Curse, The Mystified Murderess and The Tin Soldier. None of these is too taxing, but If you've got a multimedia PC, this ranks as a must-have game.



The Lost Files Of Sherlock Holmes: The Case of the Serrated Scalpel
Electronic Arts, £39.99
Rated 8, Issue 13

Several young women are murdered in the East End of London and all the evidence appears to point to none other than Jack The Ripper. But Holmes notices that the murders appear to have been done using a weapon with a serrated edge rather than the surgeon's scalpel favoured by The Ripper. He therefore sets out to find out the bizarre truth behind the grisly goings on. The Lost Files makes good use of cartoon-style graphics in which animated figures wander about, examining the evidence. On the whole this is a fairly conventional point-and-click graphics adventure that suffers from a fairly fixed storyline. It's fun all the same and doesn't demand much in the way of hardware. A sound card is purely optional.



Techspec Available only on CD-ROM, Sherlock Holmes also requires a minimum 12MHz 286 PC to run, and frankly, you're better off with a 386SX. You'll also need a mouse for control of the game.

Disk requirements

High density	n/a
Hard disk only	n/a
Space taken on hard disk	n/a

Graphic modes

CGA	✗	EGA	✗	Tandy	✗
VGA	✓	SVGA	✗		

Soundboards

Ad Lib	✗	Roland	✗	Sound Blaster	✓

Control

Joystick	✗	Keyboard	✗	Mouse	✓

Performance

Optimum speed	20MHz
Minimum memory	640K
Free RAM required	520K

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Computermate	97	R.C. Simulations	61
Computer Exchange	103	Red Dragon Shareware	103
CP Software	65	Shareware Connections	123
Datagem	18	Sierra	41, 53
Datrontech Ltd	49	Silica Systems	19, 29, 131
Eagle PC Software	135	Software City	99
European Computer User	54	Software Supreme	141
Evesham Micros	130	Subscribers Ad	144,145
Games Express	87	Testware UK	114
Games HQ	77	Thalion	I.B.C
GKS Design	123	Trevan Design	103
Infogrammes	25	Unica	108,109
Intermediates	80 & 81	US Gold	O.B.C
Matrix Leisure Services	103	Virgin Games	23,36
Microprose	39,9	Visionary Software	123
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Mindscape	6, 15		
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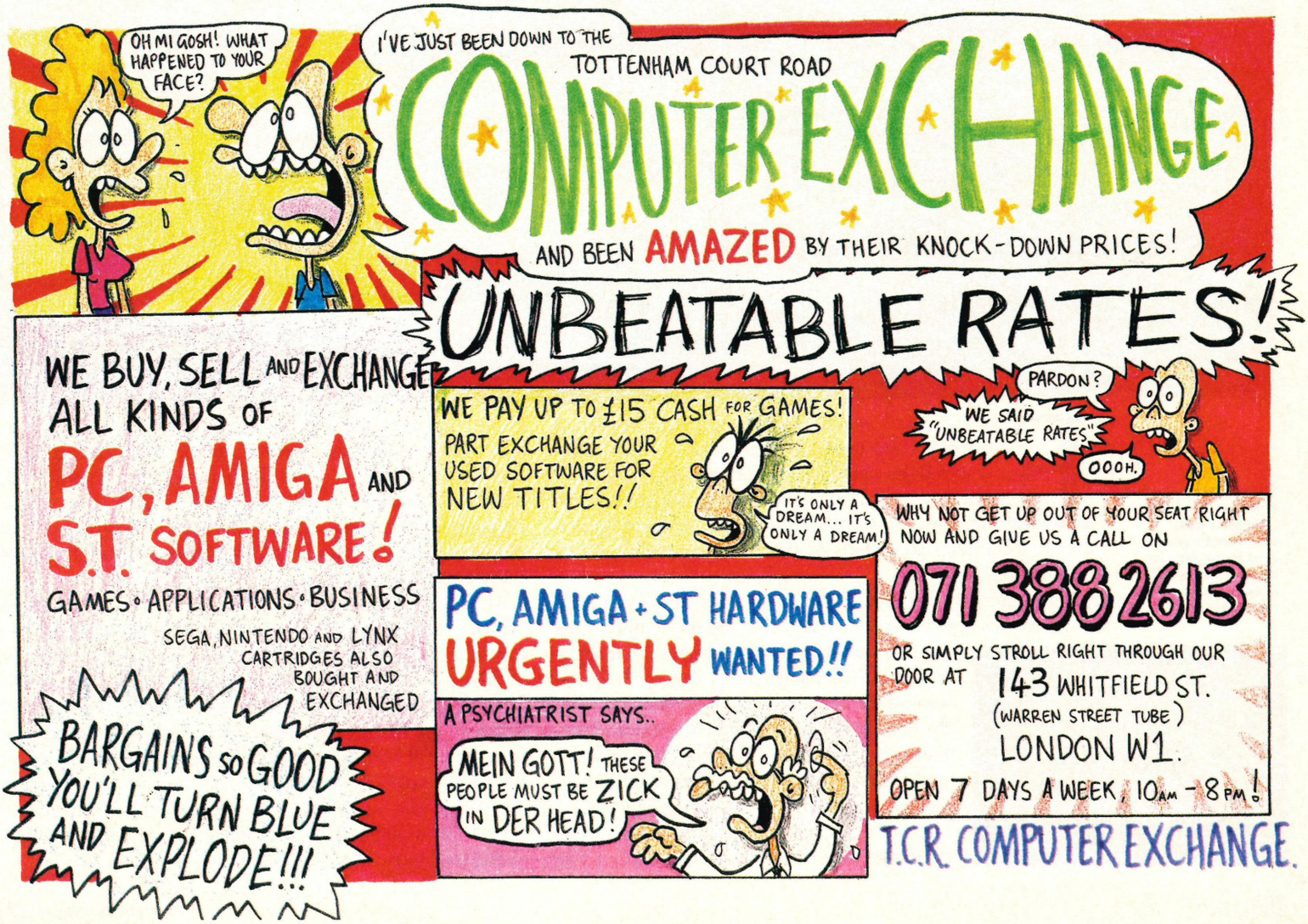
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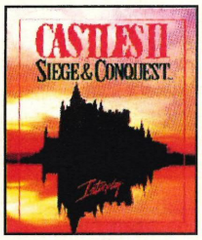
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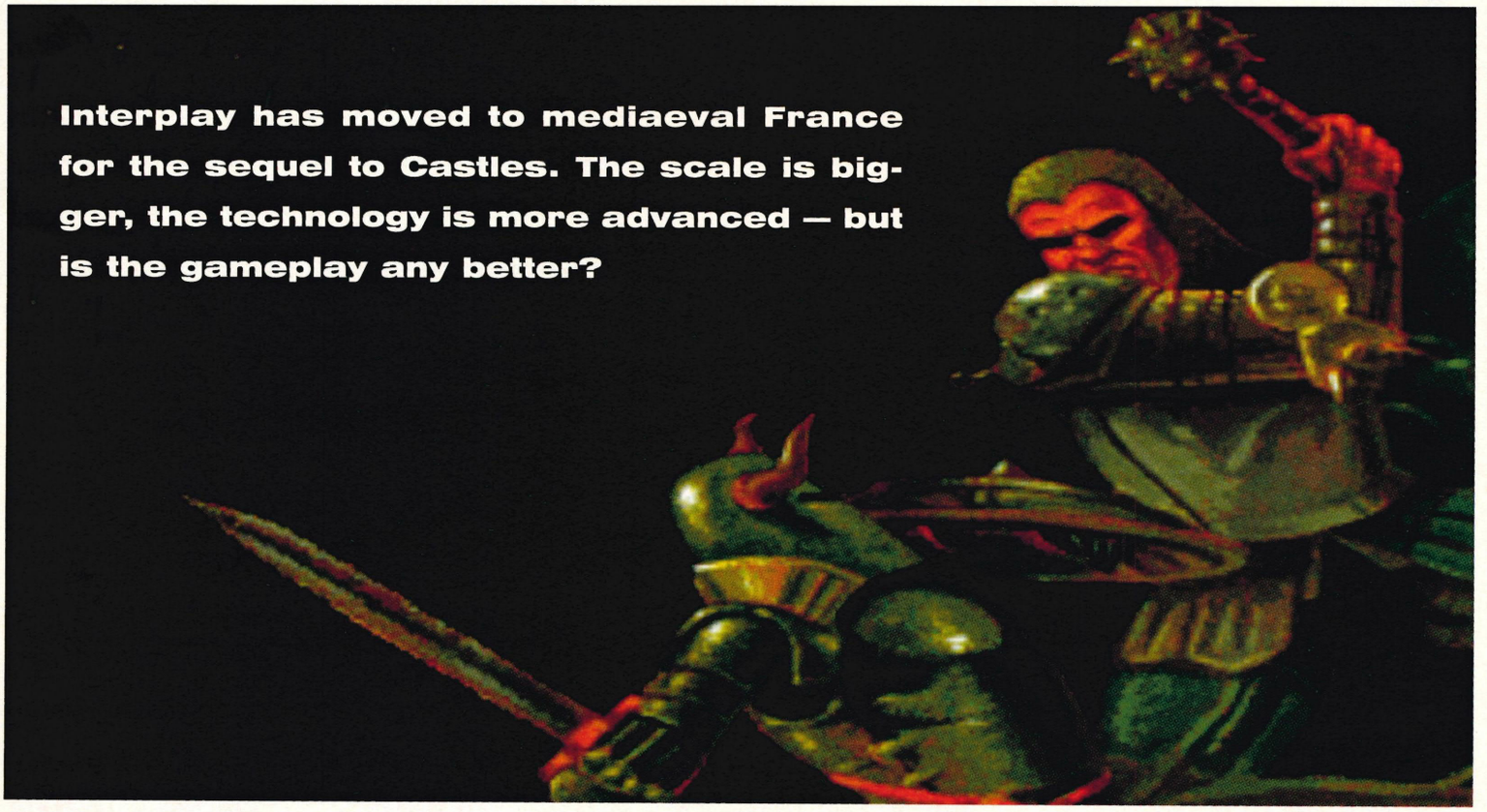


Title	**Castles II: Siege and Conquest**
Publisher	**Interplay Electronic Arts**
Contact	**(0753) 549442**
Price	**£34.99**

The King is dead ... Long live whoever manages to seize his crown. Bretagne's fledgling royalty, a collection of lords spread across 36 territories, is fighting for dominance. Only one can win.



At the beginning of the action you control no more than one territory. It's January 1st, 1312, and already the other lords are sending out scouts, collecting resources and building up armies. Maybe you should, too, then.



Interplay has moved to mediaeval France for the sequel to Castles. The scale is bigger, the technology is more advanced — but is the gameplay any better?

There are several French noblemen that you can choose to play, and they are all based on real characters from history.

Electronic Arts is building up a sizeable collection of mediaeval and mythical siege games — apart from Castles II, its catalogue includes the original Castles (and its data disk), Mindcraft's Siege and Bitmasters' Rampart. Castles II broadens the scope of its predecessor and tests your skills as an administrator, a military leader and a politician.

The semi-fictional scenario is set in 14th century France: King Charles has kicked the royal bucket and five feuding lords are scrambling to get at his crown. I say semi-fictional because the plot is loosely based around the real feuding that went on between French noblemen during the period of the Hundered Year war. You play one of these lords, from the families of Albion, Burgundy, Anjou, Aragon and Valois. The computer (at one of three difficulty levels) directs the actions of all the other participants, including the Pope. Your mission is to take control of the 36 available territories and become king within a predetermined time limit.

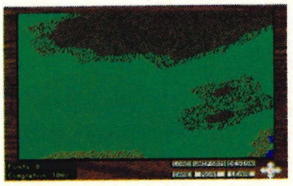


Before beginning you can select the difficulty level, decide whether you want to take part in various plot lines running throughout the game, determine the distribution of commodities (vital for trading) and turn battles on or off. More on these options in a moment ...

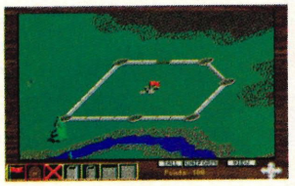
After you've run through the manual's somewhat inadequate tutorial, you can launch yourself into the game proper. The controls are no problem: all functions are accessed with a click of the mouse-button (or joystick, or keys), and there are only three main types of screen which have a direct bearing on the action — the main game screen where you carry out strategic decisions and keep an eye the changing boundaries that mark the limits of each players influence, the territory screens where you design and build your own castles, and the tactical combat screens where battles take place to decide the future owner of disputed territories.



A few weeks later and you've made considerable progress: you're collecting the natural resource of your territory (timber), you've established a fighting force, and you've already sent scouts to neighbouring territories.



Now it's time to design your fortress. By visiting a territory under your command you can build a castle to defend it, as well as keeping the locals happy. First of all, you ought to select a suitably green patch of land.



Next lay the foundations. There are a limited number of options (such as whether or not to have a moat), but the basic design should have a central keep, walls and towers. You can also save this plan for future use.



The castle is underway, but you've been sorely neglecting the requirements of your people. The animated film sequence in the bottom right corner tells you that your subjects are revolting. The results are disastrous.



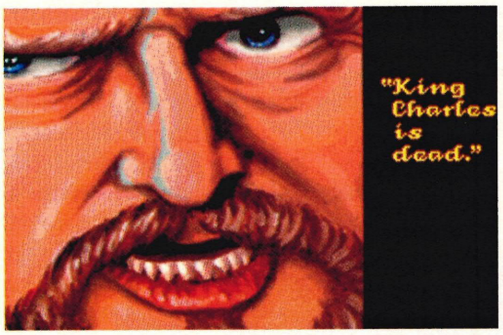
Castle construction is halted, the army rebels, the populace wrenches power from your grasp. Unfortunately, the worst is yet to come: your lordship is about to experience a very close shave at the hands of the executioner.

Castles II: *Siege and Conquest*

Almost everything in Castles II is achieved by performing 'tasks'. There are three different kinds, administrative, military and political, and the more ability points you have, the more tasks you can perform. At the beginning of the game you have a limited supply of ability points and only three task bars, which allow you to collect your local commodity, establish an army and scout neighbouring territories. As you progress your ability points and task bars increase (to a maximum of six), allowing you, for example, to build castles or attack enemies. All you need to do to carry out an action is to click on the icons and task bars on the right hand side of the screen.

Administrative functions help you establish a solid infrastructure and a strong economy. You can cut timber, refine gold, harvest food, mine iron, trade on the black market or build a castle. Every territory has a particular commodity, and if you capture that territory the commodity is yours for the taking. If you build a castle on the captured region, the production of the commodity can be doubled.

To build a castle you need to visit a captured territory. This brings up a small-scale map of the region, and you select a suitable site (usually a green plain) for construction. Building fortresses isn't as easy as it might have been: the graphical perspective makes it difficult to place towers and walls accurately, and the whole process is fiddly at first. Castle design would be a lot easier with an overlaid grid. One bonus is that castle designs can be saved to disk, saving you the trouble of redesigning in a different territory. Once you've finished the foundations for your fortress, construction doesn't begin immediately — you need certain commodities and adequate administrative points first.

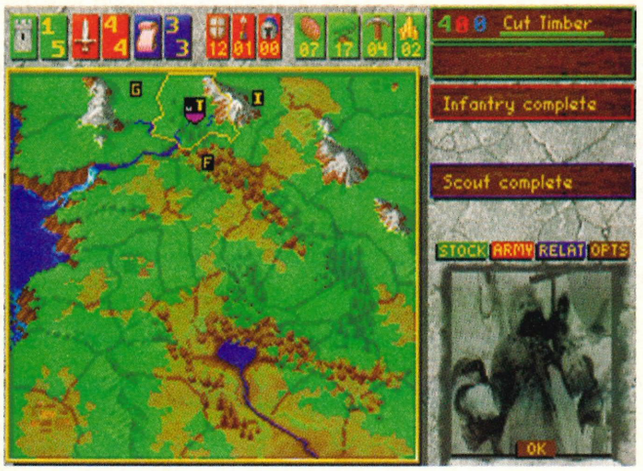


The tale opens with the death of King Charles. The ultimate position of power in the mythical land of Bretagne is up for grabs!

Military and political functions follow the same format as the administrative tasks: the actions you can perform depend on your ability points, and increased success means you are able to do more.

Military functions include augmenting your armed forces and their use, by recruiting infantry, archers and knights. When you advance to attack an enemy you can build a ballista, a catapult or a siege tower. The remaining tasks include sending a saboteur to another territory, policing the realm to avoid sabotage from your opponents, or simply launching an assault. Political functions allow you to learn about opponents' territories and establish relations with other characters in the game. Immediate options include scouting the land or spying, but you can also dispatch diplomats, trade goods, improve the morale of your subjects, or summon a council.

Castles II is initially unimpressive. Sub-plots are barely entertaining, usually involving a multiple-choice, text-based system without any presentation frills, and even installing the optional film sequences only gives you occasional snippets of fuzzy, black-and-white action in the message box, most of which are clips digitised from badly made Hollywood movies. These sequences are, in effect, more of an intrusion than a bonus, especially on slower machines.



If you've installed the film sequences, your decisions are occasionally interrupted by brief, black-and-white animations (bottom right). Here, you've decided to kill a papal emissary.

Tech*spec* **Castles II comes on five high density 3.5" disks and must be installed to a hard drive. Don't worry if you haven't got the full 11Mb free space required — you only need this if you decide to install the animated film sequences. If you don't install them (and they're nothing special anyway) you only need 4.5Mb. The minimum recommended speed is 12MHz, but you'll need more than that if you're impatient — the disk accessing can be sluggish. The atmospheric music is supported by the full range of Ad Lib, Sound Blaster and Roland cards, as well as the Pro-Audio Spectrum.**

Disk requirements

High density	✓				
Hard disk only	✓				
Space taken on hard disk	*11Mb*				

Graphic modes

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

Soundboards

Ad Lib	✓	*Roland*	✓	*Sound Blaster*	✓

Control

Joystick	✗	*Keyboard*	✓	*Mouse*	✓

Performance

Optimum speed	*16MHz*
Minimum memory	*640K*
Free RAM required	*565K*

PCreview 6

The plots and the message box are the game's weakest points: far more entertaining is the process of building your own castles, maintaining the balance of relationships with the variety of other characters in the game (including the Pope), building up your points tally, and laying siege to your opponents or engaging in battle. Tactical combat is a particularly interesting part of the game, featuring a different map for each battleground and a scaled representation of the opposing forces. The graphics are more cute than impressive, but it's all good fun.

If you reach 7,000 points and maintain the total for about four months, you will be crowned King. Random factors ensure that even if you do achieve this (and it should take at least a couple of days, even on the easiest level), you can try again with a different lord. The problem is that, once you've played the game a couple of times, the same old sub-plots keep cropping up, and this soon becomes tedious. It's a bit like dragging a tired old copy of Trivial Pursuit out at Christmas and then finding that there's no fun to be had from it because everybody can remember the questions from the year before.

Castles II is neither better nor worse than its predecessor. What it gains in size it loses in detail: the fine control over castle construction featured in the original is reduced to a basic points system and limited building functions here; on the other hand, the tactical side of the game is vastly enlarged and provides the main focus for enjoyment in this sequel. It would have been a nice touch, of course, to have had some compatibility between Castles I and II — it's true that the scenarios and basic structure are different, but couldn't Interplay have given us free rein to load in our favourite designs anyway?



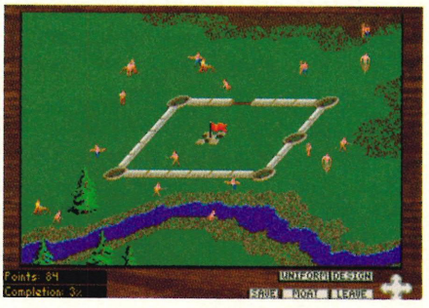
Once your castle has been completed it will play a central role in the defence of the territory that it is located in. It also helps to keep the locals in check.

There are still plenty of faults which need to be ironed out if a third game in the series is planned. For a start, the program had a tendency to crash during the film sequences which meant that I spent every five minutes saving the position to disk. Let's give the programmers the benefit of the doubt, and say it's a hardware problem. Even so, there are other drawbacks apart from the niggles mentioned above, such as the weak castle designer, the fact that the copy protection page numbers don't correspond to the manual, the mild tedium of spending your time simply advancing the dates so that you can finish tasks or reach the time for a prearranged meeting, and the overall lack of atmosphere.

Your castle is under construction — accompanied by appropriate graphics. Similar animated sequences accompany battles.

This last problem is almost relieved by the decent musical accompaniment, which is very jaunty sounding and suitably Mediaeval, but the overall dearth of presentation screens and the uninspiring graphics lessens the effect of the whole package. If you enjoy strategy games or playesd and liked Castles, take a look at Castles II anyway: the surface is a little rough, but there's a good game lurking beneath.

■ **Gordon Houghton**



Alternatively...



Castles
Interplay/EA, £34.99
This is more of an arcade game than Siege or Castles II, but you still need strategic skills to be successful in the long term. Your aim is to defend mediaeval Wales against invaders. There are various sub-plots, but the basic aim is to construct castles for defence and manage your kingdom's resources. A data disk, Castles: The Northern Campaign (£14.99), is also available.



Siege
Mindcraft/EA, £29.99
Rated 7, Issue 13.
This is a challenging siege game really for advanced strategists. You take part in one of 24 different assault or defence scenarios, selecting from 54 varieties of troop allocated to six different races, dwarves, elves, humans, goblins, orcs and trolls. Build bridges, erect ladders, launch catapults, tip barrels of boiling oil on your enemies. It's all good fun, if your hardware is up to it.

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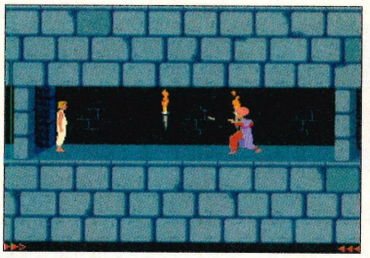
The games that got away



Jack Nicklaus: Signature Edition



Legend of Myra



Prince of Persia



Lombard RAC Rally

Some games released this month didn't quite make it to full review status, but they certainly aren't forgotten. Below we have a round-up of all those titles which just missed the cut

Hot on the heels of last month's budget games feature, another batch of re-releases has appeared on the Hit Squad label. While £10-£13 is a distinct improvement on the £30-odd you're usually asked to pay for a PC game, some titles stand the test of time better than others.

Prince of Persia (£12.99) passes the durability test with ease. First released in 1989, Jordan Mechner's beautifully animated central character climbs, vaults and skedaddles through the platforms to rescue the princess in a style that puts many programs of the 90s to shame.

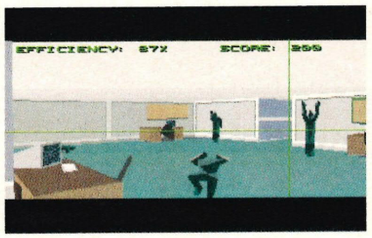
Test Drive II: The Duel (£12.99) is another real oldie, in which you get to race your very sleek, very fast Porsche 959 against a Ferrari F40 and pursuing traffic cars. It's all very attractively done, but in these days of catalytic converters and carbon dioxide emission reduction, it also looks very 80s, very dated.

Both Pictionary (£9.99) and Trivial Pursuit (£12.99) are frankly a disappointment, Pictionary because the computer version adds nothing to the original board game and is probably less fun, and Trivial

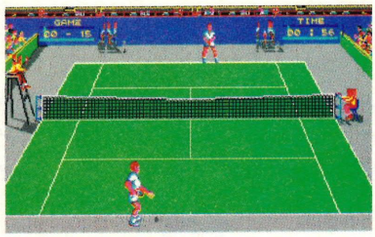
Reviewed this issue

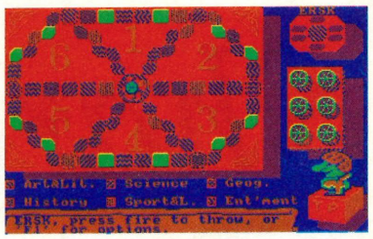
Car & Driver	8
F15 III	8
Wizkid	8
Caesar	7
Dune 2 — Battle on Arrakis	7
Front Page Sports: Football	7
Gobliins 2	7
Sherlock Holmes Consulting Detective Vol 2	7
Task Force 1942	7
3D Construction Kit 2.0	6
Comanche: Maximum Overkill	6
Castles II	6
Scrabble	6
Campaign	4
Risky Woods	4


STUN Runner



Robocop 3


Pro Tennis Tour


Trivial Pursuit

Pursuit is CGA-only. If you're dying to play TP on your PC, you'd be better off with the full-price Deluxe Trivial Pursuit (reviewed last month).

Other Hit Squad offerings this month are of a sporting nature. Pro Tennis Tour (£9.99), though since superseded by PTT2 (still full-price), is an enjoyable tennis simulation, and Lombard RAC Rally (£9.99) is a well-implemented motor-racing game with a difference, since it deals with rallying rather than track racing. It may not be state of the art any longer, but would still be a welcome addition to a driving enthusiast's collection. STUN Runner (£9.99) is an old coin-op conversion and futuristic racing game, which although it moves fast, lacks much variety in the gameplay. Jack Nicklaus Signature Edition (£12.99) is a relatively recent title to be getting the budget treatment, since it was first released just last summer. The most graphically pleasing of the Jack Nicklaus endorsed series, its flexible course design module is an attractive bonus to the game. It suffers in comparison with Links or David Leadbetter's Golf, but then they're still on sale at over three times the price ...

Aside from offering value for money, these budget re-releases are also a boon for those with less highly specified machines than the norm: all work in CGA on an 8086-based PC.

Happily, two of Cinemaware's TV Sports series have now resurfaced on the Mindscape Classics label. It's a big welcome back for TV Sports Boxing, which is a consistent performer in PC Review's Top 100 games. There are very few boxing simulations on the PC, and this one not only gives you good control over your character's movements, but has all the presentational touches you'd associate with Cinemaware. TV Sports Baseball is, likewise, put together effectively and enables you to choose tactics as well as play. TV Sports Football next, please, Mindscape.

Also making a comeback is Grandslam, which has just released Legend of Myra (£29.99). This may sound like an adventure or role-player, but in fact pays a distinct tribute to that old 8-bit classic Boulderdash in its gameplay, with you as a rabbit hero (although I'm sure that any male rabbit called Myra is going to have severe social problems, this is how Grandslam insists on referring to him — or it), planting your bombs and clearing your path forward with a nice cartoon-style presentation.

This is also a good time of year to find film licences, although the movie to computer translation hasn't always been the happiest of alliances. Thanks to the fate of Orion Pictures, Ocean's Robocop 3 is hitting the streets a good six months before the movie release, and works pretty well as a blast-away extravaganza. Cool World, however, doesn't really have the depth that you deserve after shelling out £29.99 — rather like the film, in fact.

Robocop shouldn't be confused with RoboSport (£29.99), a new Maxis game which runs under Windows. Here you need to control your robot team in a number of computer-generated 'sports', but the real fun comes when you play directly against other people over a Local Area Network (LAN). No Windows, no LAN? Well, you can always stick with Dyna Blaster.

Two new CD-ROM reference programs have also seen the light of day recently: The Animals and the New Grolier Multimedia Encyclopedia. The Animals is endorsed by San Diego Zoo, and is not too dissimilar to National Geographic's release Mammals in concept, but adopts a cosier, more jokey tone.

The New Grolier is a revised version of the Grolier Multimedia Encyclopedia, with 7,000 new or updated entries, and animation (if you have an MPC standard CD set-up) and motion included in some topics, such as the first space shuttle launch, or planetary orbit within the solar system. There's no doubting the worth of the Grolier, but you should be warned that this is a US publication, and the information herein understandably has a distinctly American slant.

PC Review's best buys

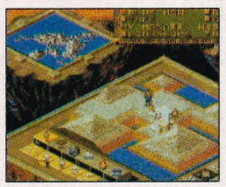
What are the best games currently available? PC Review's Best Buys are taken from the last three months of reviews in order to give you a good idea of what to shell out for.



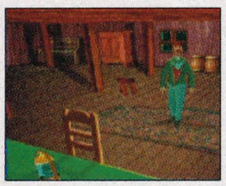
Formula One Grand Prix
MicroProse, £44.99
The long delay between its release on other formats and the appearance on PC may have taken the edge off the excitement, but F1GP is still fast, graphically exciting and highly playable.



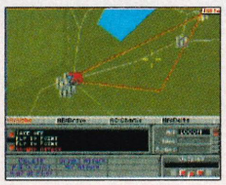
AV8b Harrier Assault
Domark, £39.99
MicroProse's forthcoming Harrer Jump Jet is going to have to be very good to topple Simis and Domark's effort. It may be single-mission only, but the attention to detail is without peer, and the combination of strategy and playability is a winner.



Populous II
Bullfrog, £34.99
The power and the glory that was Populous returns with a several of new features — volcanoes, baptismal fonts, head-to-head capability — but essentially more of the same as you create your peoples and control their destiny.



Alone in the Dark
Infogrames, £44.99
One that we've all fallen in love with here at PC Review, Alone in the Dark combines action, strategy, superb graphics and animation with a crackingly spooky story. Above all, a game with atmosphere.



ATAC
MicroProse, £44.99
A flight simulator with a difference from the undisputed kings of the genre. ATAC features F-22s, Apache helicopters and a full anti-drugs campaign. Superb graphics and plenty of excitement make for an all-round excellent game.



Lost Files of Sherlock Holmes
Electronic Arts, £39.99
Not Icom's Consulting Detective on CD-ROM that everyone is raving about, rather the floppy disk game that everyone is raving about. A challenging murder and impressive atmosphere make up a thoroughly absorbing game.

Shareware Reviews

This month Sam Mackenzie has been looking at a games compilation, and an adventure shoot 'em up, and indulging his interest in wine and reading menus of the MS-DOS variety.

Shareware menuing software

One way to make day-to-day use of a computer easier is to have your programs accessible via a menu. This means you wouldn't have to remember the directory names and the batch file commands needed to run word-processors, spreadsheets, utilities and of course games.

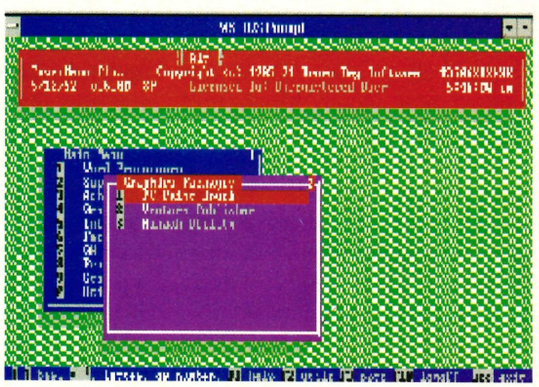
This month's Upgrading Your PC buyers' guide looks at menuing systems, but there are many such programs available as shareware. Perhaps the best known is PowerMenu from Brown Bag. It runs on an XT and above and requires a minimum of 300K. This has a sophisticated install program and if you opt for AutoInstall, Power Menu will search through files on all accessible drives looking for popular progams that it will then automatically add to a menu system.

The disadvantage of this, of course, is the limits on programs PowerMenu will know to look for. It cannot know about anything that post dates it and may therefore fail to detect some of your programs. However, as you can add to and delete from its selections it is a good starting point.

You can also use Power Menu to limit access to files on your computer. It provides the capability to establish 'accounts' for individual users and different users can have different access rights associated with their log-on names and, if required, passwords.

The supervisor account comes first and must have a password which there is no way to look up or bypass if it is forgotten, although the security supervisor can circumvent it. The latest version of the program includes PC-HookUp, a file transfer program and a new AntiVirus utility.

Alternative shareware programs include Automenu which occupies only 30K and can therefore be run from a floppy disk with no need at all to be memory-resident; Hard disk menu solely for your hard disk and allows for password protection and macros; Easymenu which is also for multiple users who are able to have their own menus and passwords; and Menu Commando, an easy to use menu system from the authors of Disc Commando and File Commando.



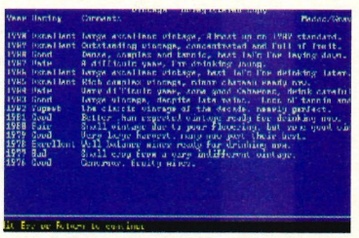
Vintage

If you enjoy fine wines and want to be able to obtain instant data about what to buy to drink now, what to lay down in your cellar, what to avoid and what to drink with specific food, Vintage is likely to be of interest. It has three sections. Vintage Charts has a number of screens with detail of vintages over the past 15 or so years from the major French and German wines wine-producing regions plus a screen for port that goes back to 1963.

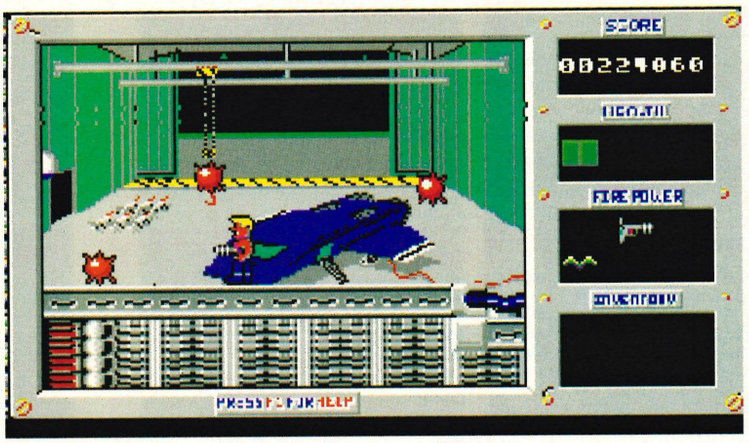
These contain both ratings and comments, so I now know that 1989 Sauternes were excellent, "a fine year, high levels of noble rot", and that I should buy some for the future. On the other hand 1984 Mosel is bad due to a "wet, late year". The second section, label terminology explains the terms on wine labels. Apparently, the word Minosegi on my favourite Hungarian wine means Premium Quality Wine and Crianza on Spanish Rioja means two or more years aged in wood. The third section recommends what to drink with foods. I tried it on meals I would have difficulty with. It suggested Chianti for chili, quite appealing as it turned out, but Champagne with eggs? I suppose it couldn't know I was thinking of fried eggs!

This program claims to be an expert system, but I have to differ. It does not have any decision trees so there is only one level in the food and wine section.

It also states it is intended for use on portable PCs: presumably the author expects you to pull out your pocket computer at the same time, requesting the wine list. I think I'd prefer to mug up on wines before going out to dinner.



Product:	**Vintage**
Supplier:	**Woolleysoft**
Tel:	**Humlesknowe Cottage, Ramoyle, Dunblane FK15 0BA**
Product code:	**None**
Price:	**£3.00**
Registration price:	**£10.00**
What you get for registering:	**Latest version**
Specification:	**XT– particularly aimed at portable and pocket PCs**
:Disk space:	**Minimal**
Graphic modes:	**Any**
Soundboards:	**n/a**
Control:	**n/a**



Deluxe Games 2

As a games compilation this contains some gems and some fillers. On the whole, though, the balance is towards quality items with lots of well known titles including Cosmo's Cosmic Adventure, Wolfenstein 3D, three episodes of Commander Keen, and Hugo's House of Horrors plus Captain Comic, which is still as much fun as today's games, even though it has been around a long time. For pastimes there are three variations on Tetris, a version of Backgammon and a variety of card and board games.

With 70 games to play, it will be a while before I can write the final word on this disk, so I'll just tell you about some of those I've enjoyed so far. The Scud Attack is a simple affair but fun in a relatively undemanding way. It's the sort of game even a fairly inexperienced programmer could produce. Another lightweight inclusion is Bananoid: following the idea of the original 'knock bricks out of the wall' game but with a sideways scroll that makes it much more sophisticated. I certainly thought it was worth both disk space and time.

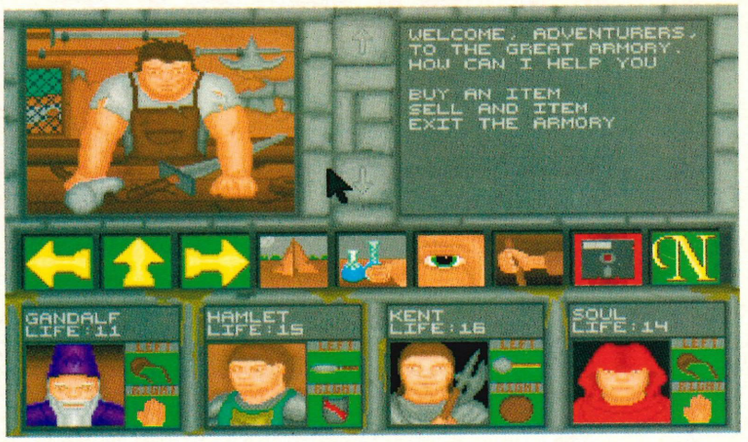
One of the top games in the collection is Duke Nukem, an Apogee game, which is to a certain extent more than enough comment for you to know that it's going to be excitement and action. It's a platform game in which you have to collect objects, such as keys to locked doors, in order to progress to further levels. There are lots of gremlins and obstacles to blast your way through as you go. Crystal Caves is another Apogee platform game with a considerably different storyline: its initial aim is collecting objects – this time crystals.

For another sort of game, try Floor 13, a whodunnit and why adventure game the full commercial version of which was renewed way back in Issue 2. The theme is government secret service. An insignificant official has been eliminated and your task is to find out what was the secret being covered up.

You have to sift through the paperwork and have varied resources at your disposal. It might seem bad taste that the deceased victim's name was Richard Bransom but it also serves as a reminder that this is a Virgin Games demo.

Unless you already have a lot of games, in which case you are likely to find duplicates, it seems good value, especially if you want games to suit a variety of skills and ages.

Product:	**Deluxe Games 2**
Supplier:	**Benetech Systems**
Tel:	**(0533) 611231**
Product Code:	**Deluxe 2**
Price:	**£17.20 for 14 disks, 70 programs**
Registration price:	**Various**
What you get for registering:	**Various**
Specification:	**80286, 1Mb of memory**
Disk space:	**22Mb if all expanded and installed**
Graphic modes:	**EGA/ VGA**
Soundboards:	**Various**
Control:	**Various**



Ancients I: The Deathwatch

Shareware goes deep underground, into a dungeon in fact, in this colourful role-player which owes an enormous debt of gratitude to Interplay's Bard's Tale series.

Although there's nothing revolutionary about Ancients' four-party, fight and explore style, it does claim to be the only game of this type on the shareware scene — and it is unusually well presented in terms of graphics and its user-friendly point and click interface.

Once the player has waded through the on-line manual and the slightly baffling background story (no actually, make that thoroughly baffling, let's be honest), the game proper begins in the mythical city of Locklaven, whose drab and uniform buildings make mapping an absolute necessity.

There are a number of fairly interesting locations to explore on the surface, the pub for example, and a few slightly dull characters to 'interact' with, but the game doesn't really swing into action until you've found your way downstairs and the battles begin (the brief notation claims that there are a total of 30 different monsters knocking about).

The game's designers haven't exactly lavished their full attention on the four characters in your default party, the usual wizard, warrior and so forth are all present and correct, but there is an option to build your own party, which more experienced RPG fiends might like to try out.

Speaking of experienced RPG fiends, the kind of hardened dungeon explorer who regularly finishes the latest Ultima instalment before breakfast may not find a great deal of challenge on offer here, but then the low price may just tempt a few newcomers who had previously been put off dipping their toes into the genre by the high cost of full-price RPGs.



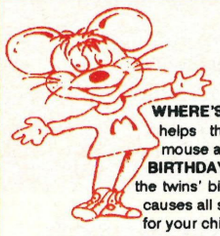
Product:	**Ancients 1: The Deathwatch**
Supplier:	**Farr-Ware**
Tel:	**010-1-613 591 2465**
Product code:	**n/s**
Price:	**TBA**
Registration Price:	**TBA**
What you get for registering:	**Additional levels**
Specification:	**286 AT and better**
Disk space:	**7Mb**
Graphic modes:	**VGA and better**
Soundboards:	**n/a**
Control:	**Mouse only**

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These stories offer the child choices throughout, so that the user decides the direction the story will take. Each package also features a personalised story in which your child takes part in the action. The references to your child by name and details of favourite food, best friend, etc. keep your child involved. This, together with lively colour illustrations and music make these stories "come alive" on the computer! Each package comes complete with two stories and a printed activity booklet featuring characters from the stories. The personalised story is sent to you within 24 hours of receipt of your child's details. They need an EGA 286 or above machine with a hard disc.



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NEW RELEASES

Here are some of the new titles that we have recently received. We have hundreds more, so if there is something else that you want, 'phone us to see if we have it.

ENVISION PUBLISHER (2)(HD) Fantastic DeskTop Publisher. The first in Shareware!
PHYLOX (1)(286)(HD)(VGA) Great arcade game.
STARFIRE (1)(286)(VGA) Brilliant space invaders.
KEEN DREAMS (1)(640K)(EGA)(HD) The "lost" Commander Keen adventure!
SPELLBOUND (1)(3.5" only)(HD) Playable demo of children's arc2ade spelling game.
OVERKILL (1)(3.5" only)(CGA)(HD) Great space invaders shoot 'em up game.
CORNCOB 3D (1)(VGA(HD) Quality 3D flight sim.
SPEAR OF DESTINY (1)(286)(VGA)(3.5" only) The Wolfenstein sequel, amazing virtual reality.
MATHS RESCUE (1)(EGA)(HD)(3.5" only) Similar to Word Rescue but for maths.
THE PERFECT CV (2) Great new CV writer.
WORD TRANSLATOR FOR WINDOWS (3)(HD) Translates words/documents into/from foreign languages.
CONQUEST V1.5 (1)(EGA) V. good world conquest game.
DEATH WATCH (1)(VGA) 3d fantasy role playing game.
DARNIT (1)(EGA)(mouse) Excellent card game.
KINGS UP (1) Good new Windows card game.

TESTWARE'S TOP SHAREWARE

(Based on sales in the last three months)

COMMANDER KEEN III (1)(HD) "Aliens Ate My Babysitter"
HOORAY FOR HENRIETTA (VGA)(1)(HD) Latest version.
COOPER SET PCX (2) Over 1500 clip art pictures for DTP
COMMANDER KEEN I (1) One of the best ever PC games!
GRAPHIC WORKSHOP (2)(HD) Converts, views and edits.
COMMANDER KEEN II (2)(HD)(EGA) "Goodbye Galaxy"
HENRIETTA'S BOOK OF SPELLS (VGA)(1)(HD) New version
JILL OF THE JUNGLE (1)(HD) Super-heroine Jill is a hit!
WOLFENSTEIN 3D (1)(HD)(286) Virtual Reality game.
WHERE'S THAT MOUSE? (1)(HD)(EGA)(286) age 4 to 8.
PRINTPARTNER (1) For cards, banners, calendars, ltrhead.
TOUCH TYPE TUTOR (1) Easy to use typing tutor.
C TUTOR (2) Learn to program in C.
ASEASYAS (1) Famous 123-style spreadsheet.
COSMO'S COSMIC ADVENTURE (1)(HD)(286) The best yet?
BROTHER'S KEEPER (4)(HD) Genealogy program.
FAMILY TREE (1) Another popular family tree program.
DRAFT CHOICE (1) Accurate, easy to use CAD program.
ASTROMART (1) Calculates Astral charts.
MONKEY BUSINESS II (1)(EGA)(HD)(286) Age 7 to 10
PERSONAL C COMPILER (1) Good for learning C language.
WINDOWS GAMES (1) 12 games for MSWindows.
CHARTS UNLIMITED (1) Flowcharts/electrical/Gantt, etc.
SHOOTING GALLERY (1)(VGA) 7 shooting competitions.
PKZIP/PKUNZIP (1) The indespensible file archiver.
BOLO ADVENTURES (1)(EGA) Forty levels, superb graphics.
HYPERDISK (1)(HD) Very flexible disc caching program.
FORD SIMULATOR III (4)(HD)(VGA) Test drive a Ford today!
GALAXY LITE (1) WordStar compatible word processor.
EASY DRAW (1) Technical drawing, flowcharts, diagrams.
FOOTBALL FORECAST (1) Helps you find the score draws!
VGA PAINT (1) Excellent graphics/drawing program.
DARK AGES (1)(HD)(286) Great game.
SCREEN PEACE (1) Screen savers for MSWindows.
MCAFEE VIRUS TOOLS (2) Virus detection and clean up.
FRENCH TUTORS 1 & 2 (2) Multiple choice tests.
BACKGAMMON (1) Plus Cribbage and Draughts. Very good!
TUTOR 1-2-3 (1) Interactive tutorial for beginners.
COPYMASTER (1) Great disc copying utilities.
MR LABEL (1) Flexible label making program.
PAGE FINANCE CONTROL (2)(HD) Leading finance package
WAMPUM (1) Fast, fully relational database. Great value!
POWERMENU (2)(HD) Friendly menus, easier than DOS.
GALACTIX (2)(HD)(VGA) Fantastic space invader game!
HUGO III (2)(HD)(EGA) Jungle of Doom, biggest Hugo game
GEOCLOCK UK (1) World map/time with moving sunlight.
F-117A TRIAL (3)(286)(VGA)(HD) Microprose simulation.
PC LEARNING GAMES (4)(EGA) Maths, words, etc. (2-8 yrs)
8086 TUTOR (1) Good basic tutorial for Assembler.
A86/D86 (1) Fast Assembler/debugger.
CRYSTAL CAVES (1)(HD) Cave after cave of adventure.
PKZMENU/PKLITE (1) Two utilities for PKZIP.
DUKE NUKEM (1)(HD) Stop Dr Proton from ruling the world.
PCX-SUPERSHOW (2)(HD) Professional presentations.
WINCHESS (1) Very good chess game for MSWindows.
PUNTER'S PAL (1) UK horse racing analysis program.
ZEPHYR (2)(HD) Easy to use fully relational database system

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Hooray!

New 256 colour versions of these popular educational games! These programs have optional Sound Blaster support and need a hard disc and VGA.



HENRIETTA'S BOOK OF SPELLS (ages 7 to 14, Price £29.99). Henry has been turned into a frog by the evil witch Morgana and by answering spelling and hangman quizzes, the child helps Henrietta break the spell! You can create your own word lists and even French, German, Italian and Spanish words can be used.
HOORAY FOR HENRIETTA (ages 5 to 12, Price £29.99) Your child can help Henrietta marry Henry by answering sums. John the parrot has other ideas and keeps trying to cover Henry in custard! Great for teaching addition, subtraction, multiplication and division.



SPELLBOUND! (age 7 to adult, Price £29.99) A compelling arcade action game for the whole family. Provides endless fun while developing logic, memory and spelling skills. Defeat the twisted genius Professor Grime, by retrieving five keys to a concealed strongroom. Collect letters and words, whilst defending yourself against all kinds of cleverly disguised robots from the mad Professor's lab!

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Shareware Finder Service

I would like to find an EGA chess game that will also work with VGA when I eventually upgrade.
Ralph Tingle
Derbyshire

Power Chess will run on CGA, EGA, VGA or Hercules and is described as a "solid – with all the frills". It has a clear, conventional display and certainly has all the essential features – save and restore, multiple levels of play and an index of moves. It supports all the international chess rules but also allows for take back of moves. It has 64 set-ups and allows custom set-ups.

Please you could locate some shareware Windows games?
Andy Baker
London

There are now literally hundreds, maybe even thousands, of games for Windows although you should not necessarily expect the polish associated with the very best MS-DOS games. Last month, I mentioned the CICA MS Windows CD-ROM which includes a large games section and of course these same games are available on disk from lots of shareware libraries.

Shareware Windows card games abound, in addition to those that are bundled with Windows itself. Examples include Cribbage, Taipei, where you turn over cards that are in a 'heap', and Arachnid which sounds a little different but turns out to be another variation on patience (or solitaire as the Americans call it). There are also plenty of board games – Chess, Checkers, Backgammon, Othello-type games, variations on Battleships and strategy games.

Another popular sub-set of games are of the cat and mouse variety where you have to catch up with moving objects on the screen. Variants on this theme include Jewel Thief where you attempt to pick up objects while under fire from a range of sometimes bizarre attackers. The simpler catch up with the moving target really do help with mouse control and so if you are caught playing them when you are supposed to be doing something more serious, you can always claim to be in a training session!

When it comes to action games there are fewer to choose from, but titles include Alien Force, a simple 'blast everything that moves' game, Atmoids the Windows counterpart of Asteroids, Bangbang a cannon shooting game, Blitzer, a shoot 'em up, and Chomp, a variation on Pac-Man. I took these from an alphabetical listing and as you can see I'm running out of space at C. Two games that deserve special mention in the A-C group are Battle of Distant Planets (action category) and Castle of the Winds, a fantasy role-playing adventure game.

It's worth looking out for Windows Games compilations because these are likely to include a taster of the types of program that are available and then you will be able to look for more of the same. In Issue 12 I reviewed Windows Games 8 from Shareware Marketing (0297) 24088 and, as this title suggests they have other collections. Benetech (0533) 611231 have come up with an attractive scheme that applies to all their shareware files and not just to their Windows titles, 75 of which were listed in the version of the catalogue I looked at.

The idea is that you make your compilation by choosing programs from their on-disk catalogue with ordering done interactively on disk and completed by sending in the disk, having typed in your address details as well as selecting the items you want to order.

The whole process is handled by a program written in Visual Basic for DOS and you are charged on a sliding scale for disks according to the number you order, £2.35 for one, reducing down to 99 pence each. To obtain the catalogue initially send two first class stamps to Benetech System, 21 Loughborough Road, Leicester, LE4 5JL.

Do you know of any easy-to-use programs for password protection of specific files and for restricting access to entire directories?
Chris Keene, London SE2

Adding password protection to MS-DOS is a difficult task because it isn't built for security. As a result all password protection add-ons are fairly easy to defeat. If you want a good password protection system, you need to leave MS-DOS for DR-DOS which does have a password security, but of course DR-DOS isn't shareware and it is a big change.

Having said this, there are a number of shareware password utilities for MS-DOS but none are particularly easy to use. DosLock and the Guardian both work by password protecting an entire disk and so don't really fit the requirements. Secret allows you to make any subdirectory hidden and so stops people from being curious. PassKey seems about the best of the bunch and the only one I know of that allows you to password protect individual directories. If you would be happy just hiding the files that you don't want anyone to work with then you could try the standard command: note this method is completely free!

ATTRIB +R +H *.*
This will set all of the files in the current directory to Hidden and Read/Only so that they also cannot be deleted by accident. To bring the files back the command is:

ATTRIB -R -H *.*
Be careful using this commands not to forget about files that you have hidden because they vanish from a normal 'dir' command.

The only real way to achieve security on an unmodified PC is to either copy files to floppies and lock them away or use an encryption package. An encryption package will code the file so that no one can read it, not even you without the password. There are lots of shareware encryption packages including Guardian, PC-Iris, DES, Merlin etc. Another possibility is to use a menuing system to set up user menus to which access is limited by passwords.

Do you know of any shareware software that will emulate the Commodore Amiga so that I will be able to run Amiga software as well as PC software on my PC, therefore getting the best of both worlds?
Michael Bennett
Westmeath
Ireland

I am afraid I know of neither commercial nor shareware software for this but as there is nothing at all to make it theoretically impossible, and it would seem like something lots of people might use, someone out there must know something. So if you can help Michael with a source please, write in with details.

If you would like to take advantage of the Shareware Finder Service, fill in the form, right, or reproduce it in letter form, and send it to PC Review, Shareware Finder Service, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. You can also fax your request to (071) 972 6710, or e-mail it to pcreview@CIX.compulink.co.uk.

Please note that PC Review doesn't undertake to supply you with the software we come up with, but we will identify the product we believe will suit your purpose, and make our own, necessarily subjective, evaluation of it.

Name .....
Address .....
.....
.....
Daytime tel no (in case we need more details).....
PC system specifications:
Processor.....RAM .....Hard/floppy disk.....
Graphics .....DOS. .....Windows .....
I am looking for software which will perform the following task .....
.....
.....
.....

QED

It's time to unmask the villain in the third and final part of Robin Matthew's complete guide to The Dagger Of Amon Ra

Laura Bow II
The Dagger of Amon Ra

Part Three

Towards the end of Act IV you should have discovered the body of the Countess Lavinia Waldorf-Carlton. Before you examine her body, make sure that you have some snake oil left: you will need one final dose towards the end of the game. If you haven't any left, go down to the preservation lab and refill your snake oil bottle. This must be done at this stage, as once you've finished examining the body, Act V will commence and you are effectively in a series of forced moves and cannot return to the lab.

So, as long as you are OK for snake oil, examine the deceased countess, looking at and taking the grapes, reading the notes and using the magnifying glass on her ankle and behind her ears. The cause of death is pretty obvious but the item found higher up is a necessity to finish the game. Look all over the unfortunate Lavinia and when you finish your examination the clock will move forward to 4.15pm, the conclusion of Act IV.

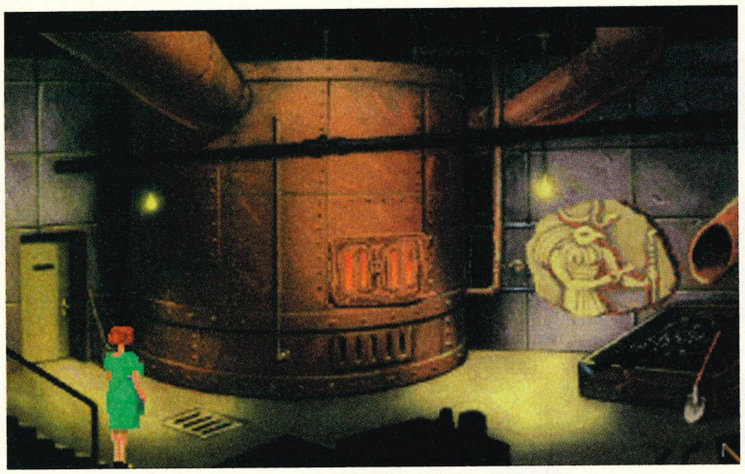


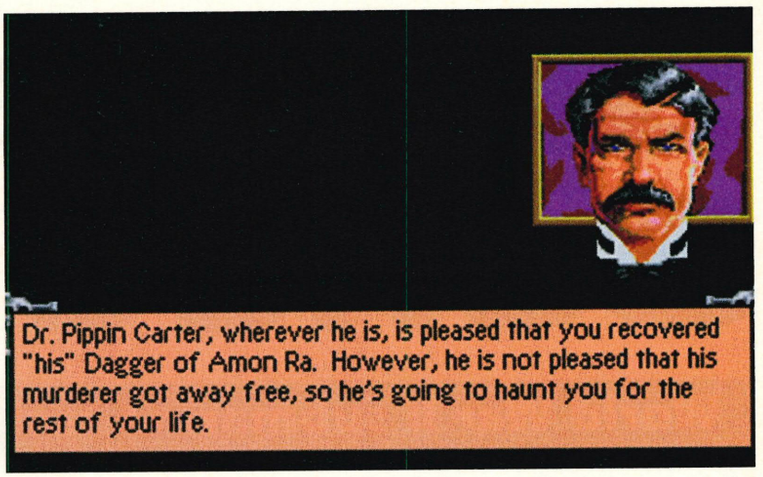
ACT V: Rex takes a bite out of crime

Things really start to get hectic now. As soon as Act V starts you are being pursued by the murderer who has decided you are getting too close. The villain will chase you from location to location, so to gain time (and set the scene for later on) you must visit these locations.



The scene starts in the Mastodon Room. Quickly select the movement icon





and run into the Pterodactyl Room. Anywhere else and you'll be dancing with the choir invisible. As soon as you enter the Pterodactyl Room, use the wire from the downed bird to tie the double doors together, gaining you some time.

From the Pterodactyl Room run to Mediaeval Armour Room I. Turn around, close the door and drop the bar. Again, this will keep you half a step ahead. Now go north and enter the upper part of the Armour Room. As you pass the door that has always been locked move the chair and stand on it to open the window light.





Now sprint into the western part of the Egyptian Display and hide in the sarcophagus.

It may take a couple of attempts, but you can save in each room when you perfect the technique. The murderer will enter Egyptian Display Room II and will return to the Armour Rooms. You'll hear a breaking noise as the murderer assumes you've gone into the Egyptian rooms.

It's safe for a while now so leave your hiding place and enter the storage room. That lunatic is still on the loose, so blocking the door well is a priority. Rearranging the furniture will pay dividends and will take you down to a new area. Again, watch your back and use an unlikely item to wedge the door handle.

Surrounded by the relics, examine them carefully. Things will look up if you use a self-defence tool on high. Matters get complicated now as you gatecrash a formal party. There is no way to avoid capture but two correct answers will set you free. The riddles are not too difficult: on the one hand poles apart, but on the other they sound alike.

This should take you into the boiler room and to the scuttled stevedore. Clear his face and revive him with the item from the dead countess, but as he rises make sure to do the Cinderella bit to avoid putting one's foot in it. Steve can now help to move the wall symbol and reveal a final secret tunnel.

Cast some light upon the problem and as things are on the up and up, repeat an earlier tactic to repel the slippery foes (if you have noted the earlier comments you should be OK, if not it's back to a saved game before you examine the last body). Cheese is the way past the writhing rodents, but put it all behind them. Their demise is the way to go and when you reappear in familiar territory you can put your finger on the final solution. The murderer should now have bitten off more than another can chew and this will conclude Act V.

Many may finally arrive at Act VI, The Coroners Inquest, but the real challenge is to satisfy the police and to find all the clues — and to have asked the right questions. Its too late at this stage if you've missed something and even if you get most of it correct, the closing sequence may just be too hard to watch if you've left something behind.

Without giving it all away, here are some hints for the inquest:

1- *To finally convince the police you will need:- the garter, the grapes, animal hairs, Yvette's shoes, the bifocal glasses, the Dagger of Amon Ra, the police file, the Ankh, the watch, the wire cutters, the carbon paper, Pippins notepad and the red hairs.*
2- *There may not be too many murderers.*
3- *The characters may not be as they seem.*
4- *'Financial gain' or 'covering another crime' is the motive for most of the murders.*
5- *The butler didn't do it!*

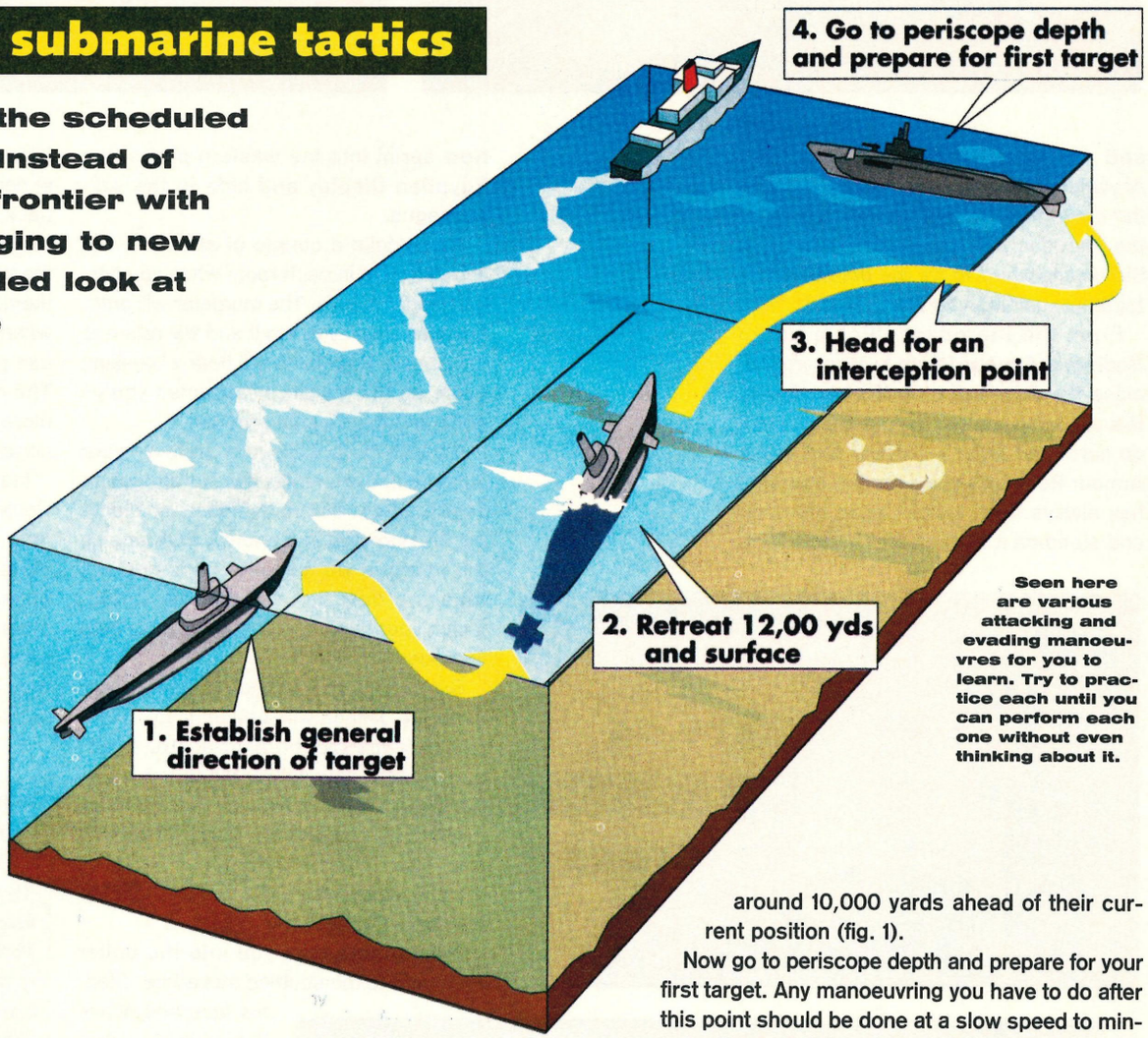
● We've had a couple of hitches with our players' guide to Dungeon Master, so those of you waiting for the next instalments will have to hang on for a little longe. We hope to bring them to you as soon as possible.

QED

Simulation School Lesson 5

World War II submarine tactics

Another change to the scheduled lesson this month. Instead of exploring the final frontier with Shuttle, we're plunging to new depths with a detailed look at submarine warfare



Seen here are various attacking and evading manoeuvres for you to learn. Try to practice each until you can perform each one without even thinking about it.

Possibly the most popular submarine simulation at the moment is MicroProse's Silent Service II and as such, this lesson has been written with this particular game in mind. The tactics and skills are equally as applicable to practically every other historical simulation currently available.

Planning

The secret of successful engagements with the enemy is careful planning. Resist the temptation to steam straight into a group of enemy ships and loose torpedoes at random. You may well sink some ships that way, but you're less likely to escape intact. With a little thought you should be able to maximise the amount of tonnage you sink in each engagement. Don't automatically take on each target you sight - assess your status first. If you have bulkhead or other serious damage and are returning to port you would be unwise to take on any targets if you can avoid it. If you have less than four torpedoes remaining it's probably not worth tackling anything but the smallest of targets, and not even these if they're fast patrol boats.

Battle stations

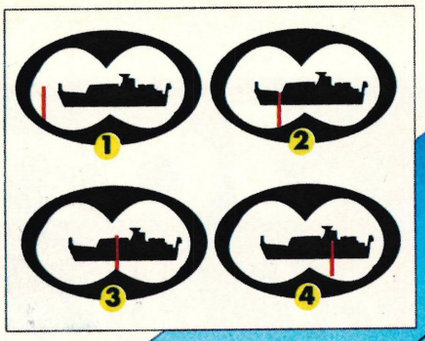
Your first action when you engage the enemy is to avoid detection. Whenever possible you should give yourself time to assess how many ships you are engaging and what type they are. The best way to do this is to retreat to a range of 7,000 yards or more, go to periscope depth and identify the targets with the ID book and maximum magnification. Your main concern should be to check for fast anti-submarine boats and slow merchant ships. The former are to be avoided at all costs while the latter make for easy targets.

Once you've identified your targets try to assess their general heading. You may have to observe them for several minutes because most groups will undertake a zigzagging pattern to make it harder for your types to get them. Having determined the general direction of the group you should retreat to at least 12,000 yards, surface and head at full speed for an interception point around 10,000 yards ahead of their current position (fig. 1).

Now go to periscope depth and prepare for your first target. Any manoeuvring you have to do after this point should be done at a slow speed to minimise the possibility of sonar detection. While you are waiting for your target to reach you, check the depth to the bottom of the sea bed. If this figure is greater than the test depth of your submarine, you've nothing to worry about. If the number is smaller, make a note of what it is. We'll come back to it later.

Fish in the water

You should be aiming to hit the heaviest and slowest moving ships because these are more likely to be valuable targets and are easiest to hit. If you are using historical or realistic torpedoes you should att-empt to fire into the ships's broadside at about 45 degrees. Try not to hit the ships square on because the torpedo is more likely to fail when it makes contact.



Seen here are various attacking and evading manoeuvres for you to learn. Try to practice each until you can perform each one without even thinking about it.

Once your targeting computer has locked on to the correct target, you should fire a spread of torpedoes by first moving the steering pin away from the centre of the dial in the direction that the target is travelling and firing the first torpedo. Fire three more torpedoes, moving the pin back towards the centre of the dial and past it for the final shot (fig 2). The distance from the centre of the dial that you start and end each spread depends on how fast the target is. The faster it is, the further you should move the pin. Firing a spread in this way allows for the possibility of the target turning into or away from the path of your shots.

Once you've loosed your spread of torpedoes, don't hang around waiting to see whether they hit or not. You have to make a very quick decision about whether to try immediately for a second target (if there is one) or whether to make yourself scarce. If there are any anti-submarine boats about, it won't be long before they are on to you. If the other boats in the group are all quite slow, you should manoeuver yourself for a shot at the broadside of the most accessible target (not necessarily the most desirable one).

Patrol boats

Don't bother trying to sink small, fast boats with torpedoes. They are so quick that unless you are on top of them they will be able to avoid anything you throw at them, even with a good spread. Having said that, here is a good trick for those of you playing on an easier level. If you get spotted by a patrol boat it should come straight after you. Quickly lock your targeting computer onto it and move your heading to match your bearing, so that you are directly facing the incoming boat (fig 3). Wait until it gets to just over 1,000 yards before loosing two torpedoes at it. Don't wait to see if they hit, immediately crash dive to avoid a collision. The chances are that at least one of the torps will hit and you will have on less ASW (anti-submarine warfare) boat to worry about.

Run silent, run deep

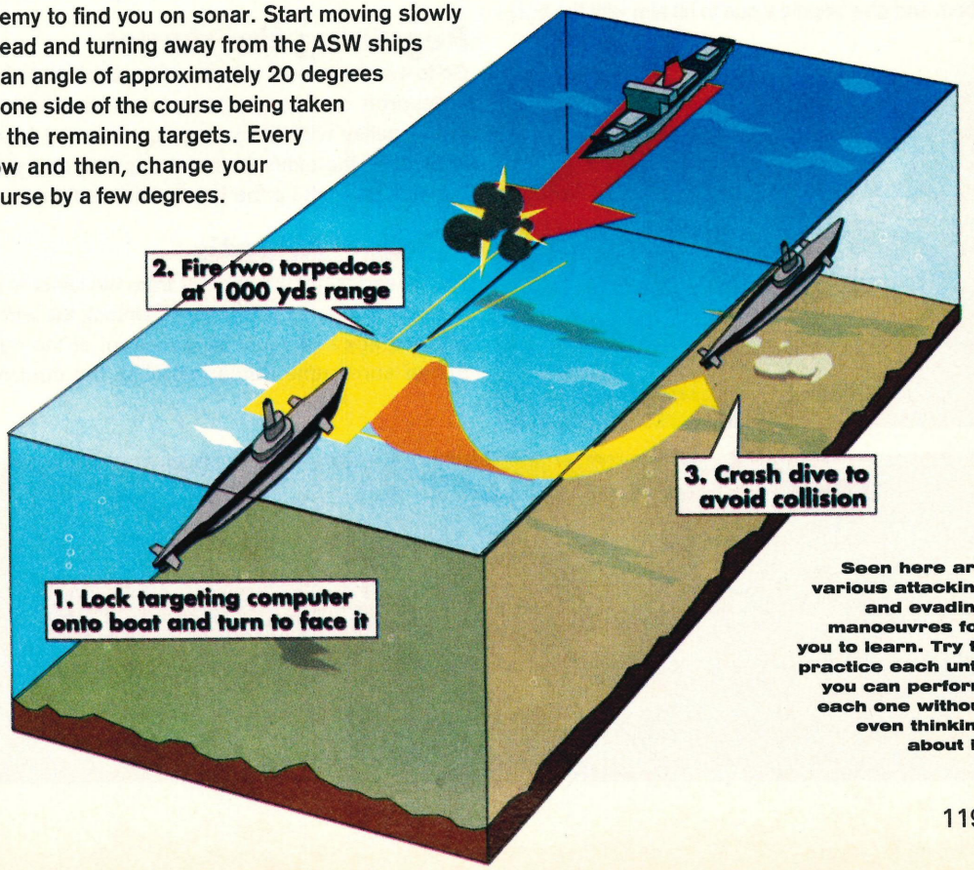
Right, you've managed to put a few holes in the first ship of a group and now there are a couple of ASW boats heading for you. The worst thing to do is to try and move away quickly – all that will do is give away your position. Most patrol boats are faster than you are anyway so they would soon catch up. You should stop dead, lower your periscope and dive to a depth that is 50 feet above your test depth. If, however, your depth under keel is already less than your test depth you should dive as far below 250 feet as you safely can (keeping at least 50 feet between yourself and the ocean floor). You should now be below the thermal layer which makes it harder for the enemy to find you on sonar. Start moving slowly ahead and turning away from the ASW ships at an angle of approximately 20 degrees to one side of the course being taken by the remaining targets. Every now and then, change your course by a few degrees.

If the ASW ships start to drop depth charges on you, don't panic! Stop dead and rise by about 100 feet, then start moving again. If you are subject to any further attacks, take the same course of action only diving this time. If the depth charge attacks are persistent try ejecting your debris and keeping still. After a heavy depth charge attack this may be enough to convince the enemy that you have been sunk.

Hit and run

Providing you are still undamaged, it's time for a little opportunism. If you have been careful about avoiding the ASW ships you should find that you are closer to the remaining targets than they are (they should still be searching for you in your previous position). If you have enough battery power left, head on a parallel course with the remaining targets at full speed. As you draw ahead of them go to periscope depth and follow the ambush procedure outlined above. You should have some time to finish off at least one other ship before the patrol boats catch up with you again.

You can repeat this procedure indefinitely, but remember that discretion is the better part of valour as far as submarine warfare is concerned. By this stage all of the shipping in the area will have been alerted to your presence and if you are persistent in attacks, nearby ASW patrols are likely to join the hunt for you. After two attacks you would best be advised to sneak away, return to port and begin searching in another location.



Seen here are various attacking and evading manoeuvres for you to learn. Try to practice each until you can perform each one without even thinking about it.

Indiana Jones and the Fate of Atlantis

Concluding our complete solution to LucasArts' graphic adventure, following the team path ...

Part Three

The submarine

There are three tasks to be performed on the submarin: freeing Sophia, regaining the stones and finding the correct tools to be able to steer the sub to the Atlantean entrance. To move safely around the ship you must use the intercom on the bridge, telling the crew to move from one end of the ship to another, making sure you explore only the deserted sides.

Rescuing Sophia

First, go to the small room behind Sophia, out of the sight of the guard. From behind, ask her to distract the guard, while you sneak up on him. Go back around the sub until you enter the guard's room and give Sophia a cue to hit him with the bucket. The only line that doesn't do this is the one about "fine leather jackets".





Regaining the stones

Go to the small room with the strongbox inside and eavesdrop on Kerner. Using the porcelain mug in the galley with the battery acid on the lower level, melt the sides of the strong box and grab the stones. Pick up the key that is also here.

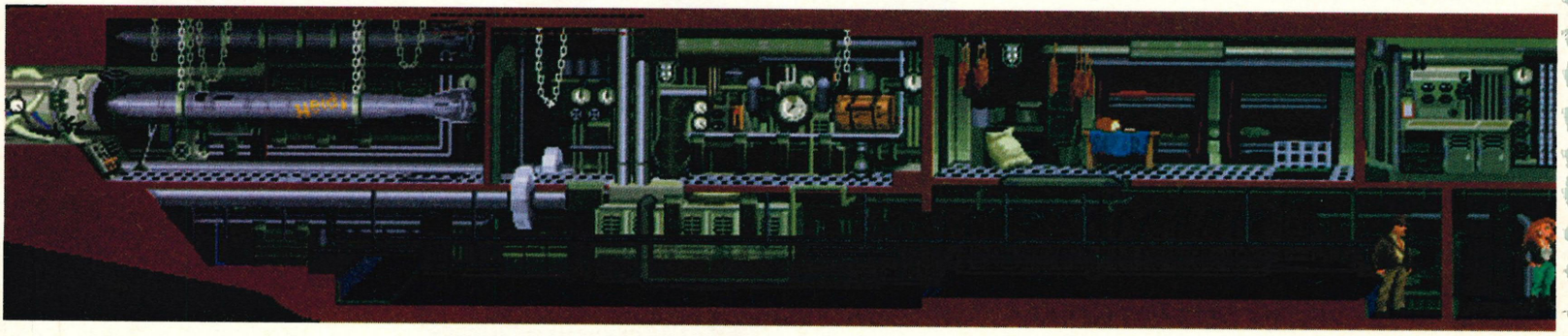
Finding Atlantis

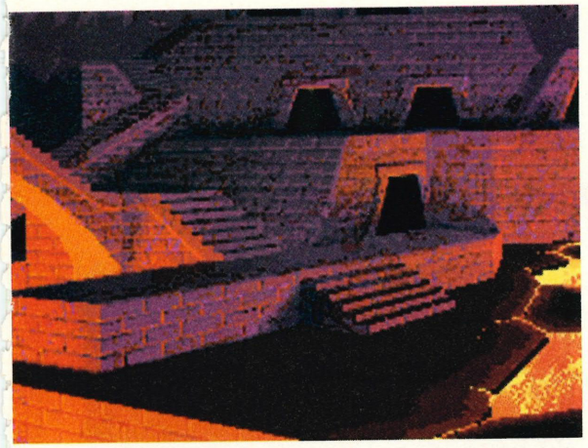
You'll need to get the plunger from the lower level to fix the bridge's control panel. Unlock the wheel with the key and you'll be in control of the sub. Spend some time getting used to the controls (remember you can sail in and out of the screen too), and then look for an opening on the sea bed. Steer towards it and eventually you'll arrive at ...

Atlantis

By feeling around in the dark you'll eventually find a ladder. Using this on the rubble will enable you to find a stone box, inside which is a torch (activated by using an orichalcum bead). Now that you have light, set the three stones to the standard combination on the pedestal, but as is written in Plato's diary, they have to be reversed. Feeding another bead into the mouth of the statue will complete the door opening procedure.

The rest of Atlantis is laid out randomly every





time you play a new game. Instead of going through it all step by step, here are the answers to some of the problems you're likely to come up against (in no particular order).

Finding your way around

Try to avoid the guards wherever possible by running in and out of rooms. When you leave the main map area, the guard's position is changed straight away, so a quick step in and out of a room can send an approaching guard to the other side of the screen. Another thing to remember is that grilles can usually be opened and will allow you to enter otherwise unreachable areas.

To get the cup

Simply place the ladder over the gap in the floor and crawl across.

To kill the Nazi guarding Sophia

Find the secret passage that leads to the grille next to the statue's mouth and feed it an orichalcum bead.

To gain more orichalcum

First find the bronze cog on the disabled robot and attach it to the large machine with the wheels. In the lava room put the cup on the pedestal. Take the statue head that's pouring lava and attach it over the cup. Once the cup is filled, remove the head and take the cup back to the large machine. Pour the lava into the funnel at the top and orichalcum will pour into the dish at the bottom.

To open the large doors

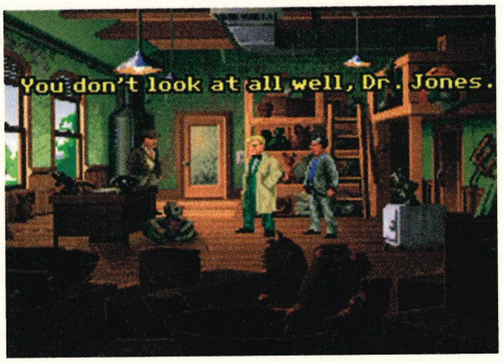
Put an orichalcum bead into the eel statue and drop it in the water. Once the pool is empty, use a bead in the fish statue and the doors should open.

To free Sophia

First you'll need to fix the sentry statue in the inner ring (see below). Once you've got the hinge pin give it to Sophia, then lift the cage door and get her to jam it open.

To get rid of the octopus

Once you've got the skeleton's rib cage from the subway car, bait it with some food. Use it in the crab room to trap a crab to feed to the octopus.



To travel on the canal

The raft is powered by orichalcum (get there by simply walking across the water) and use the stones to open the gates. Remember to pick up the stones after you use them because you will need them again.

To fix the sentry statue

You will need the bronze cog, the bronze gear, the robot part and the crescent shaped gear. There should be a diagram in the crescent gear's cupboard showing you how to attach the parts.

When the bronze gear is on the upper left peg, a bead of orichalcum will move his arm forward. When it is on the lower peg it will move back.

Next, connect the chain to the bronze loop on the door, then swing the statue's arm around until you can attach the other end of the chain to it.

Now move the statue's arm back and it will pull the door open. Don't forget to pick up the hinge pin in order to free Sophia.

To cure Sophia

First get a close-up view of Sophia's necklace by Looking At it, then pop a bead of orichalcum into it. When she holds it up and it starts glowing, convince her to put it into the gold box to shut off its evil powers.

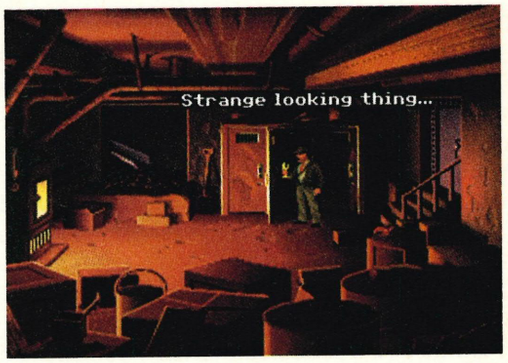
To control the hulking machine

Check out the two diagrams (on the corridor wall and on the floor next to the machine) to see how to start and stop the machine. Insert the hinge pin and the scepter from the lava pit room into the lever slots and use an orichalcum bead to power it up.

To align the stones in the God machine correctly

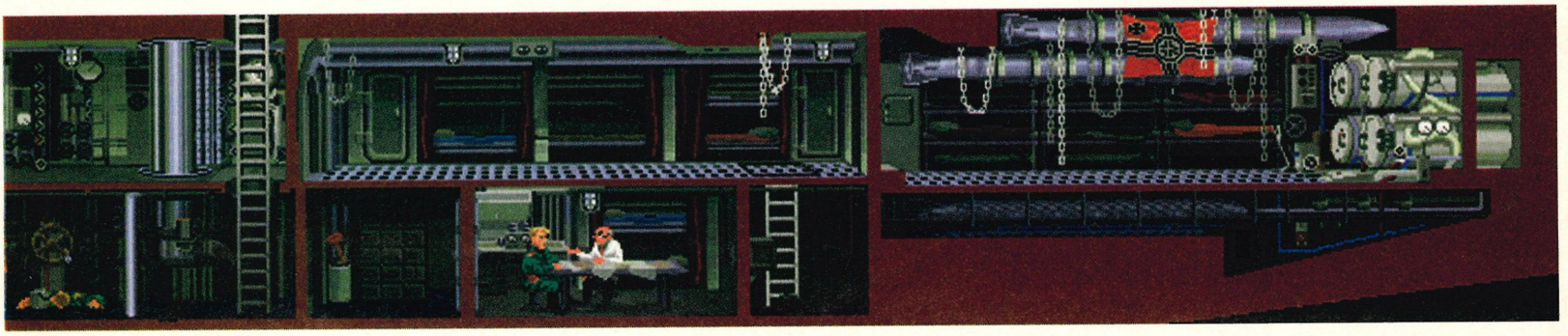
The correct combination is carved on the wall in the lava maze area.

Hopefully by now you should be facing Ubermann and Kerner in the God machine room. I won't spoil the ending by telling you how to get out of this



spot, suffice to say, it's up to you to talk them round to your way of thinking. Don't think you can complete the game without Sophia by your side. If you decide to leave her behind in the cage you will not be able to finish it.

As for the other two paths, the Wits and the Fists paths, LucasArts has produced an Indiana Jones and the Fate of Atlantis hint book, packed with helpful information, maps and scoring indicators. The book is published by LucasArts and US Gold and anyone wanting further information should contact (021) 625 3366.



QED

Populous II

The Alex Trowers guide to devastating effects

Alex Trowers is the designer of Populous II. Here he takes you through the various special effects of Populous II and how best to use them



Whirlwinds and whirlpools

These should be placed on the coast of enemy lands or in inland pools. If an internal pool can support a whirlpool (ie, it is at least 2 x 2 squares wide) then you should plant one immediately. Enemy leaders or heroes should be placed in whirlwinds to reduce their technological level and to carry them away. If you are the target of whirl-things, the only thing you can do is constantly build up the land and fill in pools.

Swamps

Swamps are only really useful for killing an enemy hero or leader, unless you are strong enough to 'swampify' his land totally. One trick is to lay a road for your enemy's settlers to follow, leading it straight into a swamp. To remove swamps, it is best to raise and lower the land constantly. Extensive swamps should require the use of verdant.

Fire columns

On its own a fire column is fairly pathetic and easy to destroy (simply lower it into the water). When used in conjunction with the plant tree effect, it turns into one of the most lethal combinations possible. Plant loads of trees in the enemy land (at least three clicks per screen) and once developed, 'light the blue touch paper and retire'. This effect is capable of wiping out half of the enemy population depending on how much tree planting you did beforehand.

Tidal waves

This is definitely one of the most devastating effects. Unfortunately a lot of people seem to wipe themselves out as well. To wave without commiting suicide you have to resort to the 'rail gun' principle. Make a small U shape in the land that has one water block inside it.

Place the tidal wave inside this U and it will move only in the direction of the U. Your island should be completely safe (providing you aimed in the right direction).

If there is a tidal wave heading your way the only thing to do is frantically raise a land wall in its path. If you can make a wall that is longer than the wave you should be safe. It's very hit and miss (or should that be sink or swim?). Strips of basalt stretched along the sea will stop some waves. These take time to make, though, and may infringe upon your expansion.

Wind

Before using wind make sure none of your men are beyond the line it will take. When it kicks in, lay a series of swamps or earthquakes behind the enemy. His population will then be blown into the swamps and killed. You can also use baptismal fonts, but this is risky if the land is too close to the end of the map.

An alternative for when a lot of land is flat is the 'steam press' tactic. Create a castle wall that stretches the entire width of your land and place the wind so that it blows the wall into the enemy land. This won't harm the people but when it's finished, the wind will substantially reduced his land area while you have a lot of flat area to start developing.

Fungus

This is only really useful when there is a large expanse of flat land, usually towards the end of the game. It works along the basic principles of life which are as follows.

If any cell is adjacent to two or three other cells, it will survive (this includes diagonals). Any other amount of cells means that it will die due to either isolation or overcrowding. If three cells are adjacent to a blank square, a new cell will be born.

Using these rules it is possible to create patterns that perform several tasks. In Populous terms it is possible to make 'bomb' patterns that explode and spread fungus everywhere, 'glider' patterns that fly off in one of eight directions and 'assassin' patterns that destroy a single enemy house without leaving a trace. There are other patterns (lots more) but they will require experimentation to use effectively. Try to make a library of useful ones.

Plague

If plague gets a foothold in your population you are in real trouble. When you plague a house, try to plant one piece of fungus beside it. This will reduce the house size and kick people out to spread it around further.

There is nothing you can do about plague short of killing all the infected people. One risky tactic is to pile the plagued people into baptismal fonts and transfer the problem to the other player. Alternatively you could try making these plagued people into a single leader before turning him into a hero. You can't afford to have *any* plagued people in your population.

Heroes

Always pick the right hero for the job. If you have spent the whole game swamping the enemy land it is pointless sending out Achilles. The following is a list of circumstances for each hero:

Achilles – enemy land covered in forests, lava streams (from volcanoes) or fire columns.
Odysseus – enemy land covered in storms. Enemy needs to be attacked quickly.
Adonis – enemy land covered in swamps or fungus. Enemy population must be very small or it will turn the game around.
Heracles – enemy land covered in earthquakes. Good hard-hitting hero.
Perseus – good general purpose hero. Useful if the enemy land has a light cover of several ground-based effects.
Helen – any time there are no baptismal fonts on enemy land. Unlike other heroes Helen should be created with a very weak leader.

Try to catch the enemy leader before he is turned into a hero. If he makes a hero however, you can try lightning or drowning him when water is fatal.

Castle walls

While fairly ineffective in the early stages, towards the end they can form a formidable barrier for the enemy to cross. If you create a large wall surrounding your land, whenever you take over an enemy settlement you should extend the walls to surround your new capture. This way the enemy will not have a chance to recapture lost settlements.

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TIPS

Hi ho! Welcome again to the part of PC Review that turns itself completely over to you. Contained herein are some of the finest, juiciest, choicest tips to ever grace a page of an entertainment-based computer magazine. Enjoy

Dragon's Lair

A trio of tantalising tidbits from one Duncan Bramble of Cheshire. The first is for Readysoft's original cartoon classic. On the first screen (with the snakes coming up from the moat), let them grab you and press Escape. This will send you straight to the last level.



Heimdall

Next from Dunc (you don't mind me calling you Dunc, do you, Dunc?) is yet another cheat for this Nordic saga. To gain loadsamoney, go to the island where a guard asks you for a silver coin. Pay him and find the shop. Give Heimdall all the gold and the adamantite axe. Sell the axe and confirm the sale. Then sell it again and again for more money than you can possibly imagine.

Golden Axe

The final offering from Mr Bramble is to skip levels on Virgin's top-rate arcade conversion. Quite simply, tap the level number (from one to eight) whilst on the character selection screen. This doesn't work with the keypad numbers, just the ones along the top of your keyboard.

Wolfenstein 3D

The shareware sensation of the 90s finally receives its ultimate accolade by having people discover its cheat mode. George Casey of London is the first out of the bag. Instead of typing Wolf3d to load the game, type 'Wolf3d – next' from DOS. Start playing the game as per normal then press Enter, Tab and Ctrl at the same time to activate 'God' mode. Now press the following combination for the following effects:

Tab & E – *complete the level*
Tab & W – *warp to any level*
Tab & C – *change the border colour*
Tab & G – *toggle cheat mode on or off*
Tab & I – *increase weapons, health and points*
Tab & N – *to walk through walls*
Tab & S – *turn slow motion on or off*
Tab & F – *give your current co-ordinates*
Tab & C – *give you information about current level*

● Also from Thomas Ford of Essex:

Tab & A – *for free items, weapons and ammo*
Tab & X – *for extra bonuses*

PC Tools

Here at PC Review we get quite a few cheats and tips making use of file editing programs such as PC Tools. Here now are just a few of them:

Elite Plus

James Whiting of Hampshire explains how to get 77,000,000 credits: first load the game and save straight away as Commander Jameson. Exit the game, load up the file editor and bring up the Jameson.cdr file. Find the hex sequence 00 00 00 00 00 00 00 00 00 00 01 00 e8 03 00 00 and replace it with the hex 2e (a period). Save this and load the game again with your saved file.

Elvira, Mistress of the Dark

To gain bags of experience without sacrificing lives or spells follow Kevin Toms' instructions. Start the game as normal and skip the opening sequence. You will be in the castle grounds outside the dungeon. Save the game and quit. Using the editor, call up the saved game file and edit it as follows:

Relative sector	Displacement	Old value	New value
40	277	x32	x63
40	279	x0a	x63
40	281	x50	x63

Your strength, resilience and dexterity are now at 99 points.



You know the way this works by now. Send your tips and cheats to the usual PC Review address, marking your envelope QED Tips (not Help wanted or Help Supplied or just QED, but Tips, OK?). Each month we'll print as many as possible and the one deemed to be of most use will be awarded our Star Tip prize – a free game. So don't forget to send all your machine's stats with your letter.

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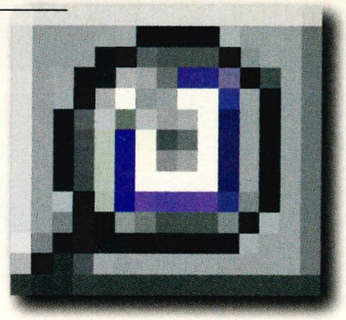
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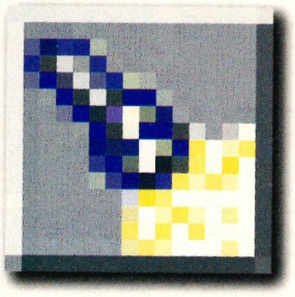


Using Windows

Many PCs these days are sold complete with Windows 3.1, a graphical user interface which is designed to make the PC intuitive and simple to set up and use. Sue James explains how Windows can make life with your PC easier

PC users still fall into two camps — enthusiastic users of the Windows environment and those who proclaim they want nothing at all to do with it. I suspect many of the latter group had their prejudices established when Microsoft first brought out Windows and it was frankly disastrous. Now not only is Windows 3.1 a stable product, Windows for Workgroups promises to transform working practices in companies up and down the land, wherever there are two or more computers gathered together. But what does Windows 3.1 have to offer the rest of us?

Windows is a graphical environment: it allows you to interact with programs in a visual way by manipulating picture icons, rather than issuing terse and cryptic commands at the C:> prompt, and so, for most users, it's a much easier environment in which to work. Equipping a PC with a graphical user interface, or GUI, makes it more like a Mac, Atari or Amiga (all of which automatically depend on GUIs) from the moment they are switched on. I suppose that this does mean it takes a certain amount of the challenge out of using a PC and there will probably always be some users who want to stick with DOS just because it is more difficult, and they can find their own way round the problems it poses.



One of the several reasons why Windows has improved out of all recognition is simply that today's hardware is so much more powerful than when Windows was first launched. Then it struggled to meet the demands not only of 286 machines but also of the 8088/86 XT, whereas now Windows 3.1 is really more specifically targeted at 386/486 PCs, even though it will still run on a 286. Its two operating modes, standard on a 286 and enhanced on a 386/486, would be better called standard on a 386/486 and substandard on a 286.

Windows 3.1 is faster than 3.0 and better at handling problems. Windows 3.0 was often blamed for failures that were really not its fault. Blame should have gone to the applications programs that were misbehaving, but because Windows 3.0 just used to crash without any warning with a UAE, an unexpected application error, it was the Windows environment itself that got the bad reputation. Windows 3.1 is very much more stable. When an application running under it crashes, it not only tells you that the application has produced an error it also gives you information about where and how it has happened and you do not lose all your work in other open applications as a result. Although you do have the freedom to carry on working without the crashed application, when such an error occurs you are well advised to save any other programs you have open, exit from Windows and re-boot as this stops the crashed application causing problems elsewhere.

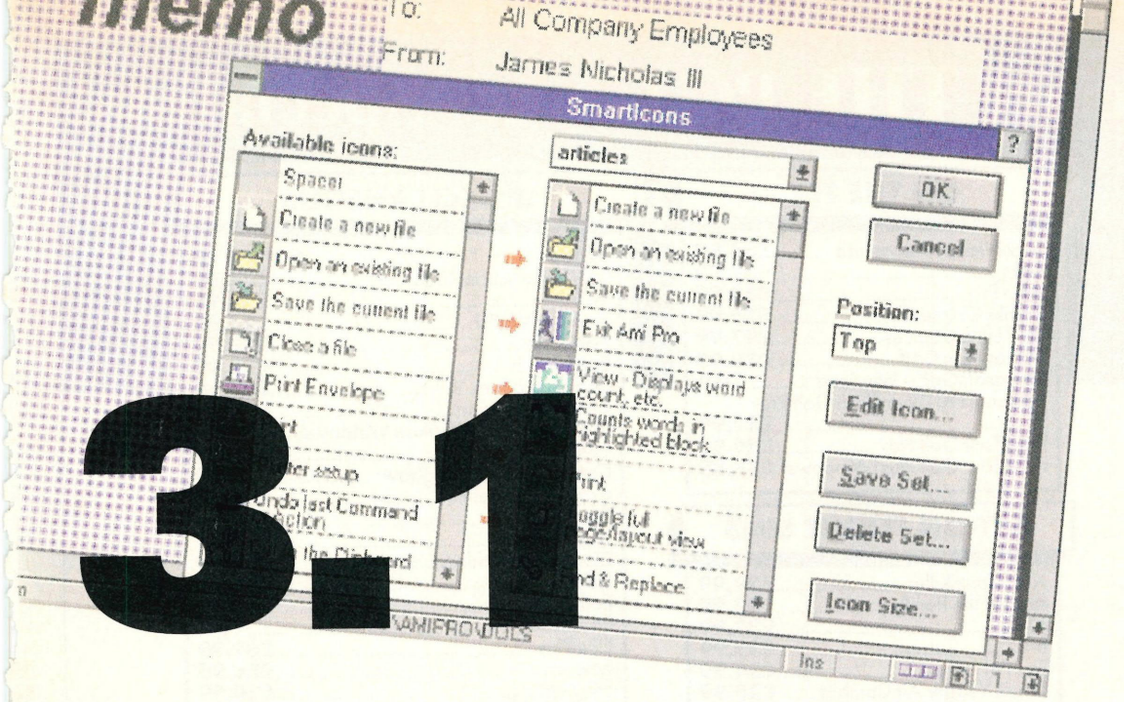
Multi-tasking

Working under Windows essentially allows you to do more than one thing at once and saves you having to duplicate your efforts. For example, suppose you are writing a letter to your bank manager about proposals for repaying a loan and you have worked out your figures in a spreadsheet, you can have both applications not only open at the same time but also on view, so you can refer to your calculations without having to go to the trouble of printing them out. If you want to use any information from the spreadsheet in the letter you can just cut and paste it in using the Windows Clipboard.

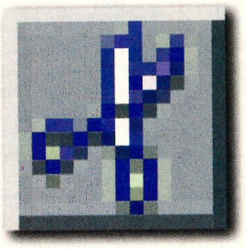
This example uses Windows facilities at their very simplest, but the capabilities offered by DDE (Dynamic Data Exchange) and OLE (Object Linking and Embedding) go very much further than this. DDE lets you make 'live links'. Essentially this means that if you use data from a spreadsheet in a word processor document and then later alter the figures in the spreadsheet, the information in the word processor will also be updated. This idea is certainly attractive in principle, but can be somewhat difficult to put into practice and OLE, which also results in 'active' links, are to be preferred. The great advantage of an OLE link is that it lets you work in another application while still being inside the first. You create an 'object' in the application you are working in that is linked to another application and when you click on that object you go directly into the other program. OLE links to graphics packages are particularly helpful, allowing you to use the facilities of a drawing or painting program from within a word processor in order to illustrate your written work.



Having looked at the wider benefits of Windows, let's home in on the more mundane advantages. Windows allows you to work in a completely different way and once you have got used to it you never want to go back. I have to



confess that I used to be phobic about the mouse but they are so quick to use intuitively, that now I find I prefer to use icons to menus and even to the short-cut keypresses that are permanently etched in my brain. This change of heart is due to the convenience of being able to use the mouse to select areas of interest — a phrase or a paragraph in a document, a range in a spreadsheet and so on. Then you can proceed with operations such as cut and paste or applying fonts and so on.



On the whole, Windows applications are more feature-rich than DOS programs for the same tasks and this used to mean that there was only high-priced Windows software. Many top-end Windows packages are still relatively expensive — among word processors, Ami Pro 3.0 costs £395 and Word for Windows 2 is £445; among spreadsheets, Excel 4.0 and 1-2-3 for Windows are both £395; among databases, Microsoft's latest, Access, is £495, and among graphics packages, Corel Draw! is £395. However, there is now a selection of budget packages to choose from, with the word processors Just Write and Lotus Write and the graphics packages Intellidraw and Designworks all priced around at £149. If you are starting from scratch, it is well worth investigating across the board bundles offered by both Microsoft and Lotus which work out as tremendous bargains.

It is also worth remembering that Windows also comes with a free word processor, Write, a calculator, a cardfile and a painting cum graphics editing program, Paintbrush, so you can do quite a lot without having to acquire any Windows programs. You can also use any existing MS-DOS applications you have from within Windows and while this, of course, means you cannot take advantage of DDE or OLE, you can still use the useful clipboard facilities for data transfer, using copy and paste, and have more than one program running, and even on display, at once.

All Windows applications are what you might call 'glossy' in that they are not only designed to work but to look and feel good. They nearly all expect to be used in colour and all support high quality fonts courtesy of TrueType.

Windows for games

A machine that is going to be good for games, that is a 386SX or better with VGA or SVGA graphics and a hard disk of at least 40Mb, is ideal for Windows 3.1, but does Windows offer anything to games and leisure? At the moment most Windows games use high quality graphics, but don't go in for much action.

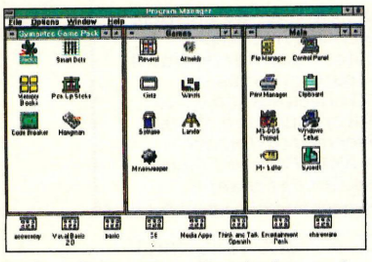
The difficulty is that Windows isn't a fast way to do graphics and it doesn't allow programmers to use all the little tricks that speed up DOS programs. As a result the first wave of games are 'pastimes', mainly card games, logic or games that depend on small areas of animation. Microsoft itself is planning to unleash a series of Windows-based games early next year, which should give the market a boost.

While there are relatively few commercial Windows games there is a great wealth of shareware, the results of programmers experimenting with the new facilities. See this month's Shareware Finder column for some examples.

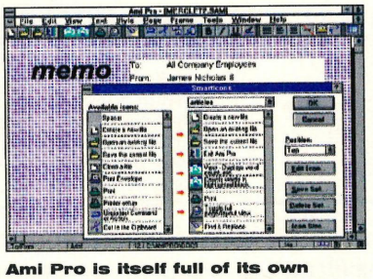
Where Windows does have an advantage is in multimedia. Windows 3.1 is fully multimedia-aware and comes complete with a media player and sound recorder. More importantly, it defines a standard for sound. Once you have installed a sound card and its software driver, any Windows program that uses sound can work with it. You no longer have to worry about compatibility — the software takes care of any differences. Of course you need a few extras to do anything much but the foundations are there and an increasing number of Windows applications are using sound cards and midi interfaces. The next step down the road in the Windows AVI (Audio Visual Interface). This adds full motion video to multimedia's stereo sound. If you want to see moving videos in resizable windows, then the AVI extension lets you. I suppose professionals might use it to produce promotional and training videos but the leisure potential is obvious. At the moment the AVI extension is still under development, but I have tried it and it works.

So should you switch to Windows 3.1? Fortunately you don't have to make a choice in this way. Windows and MS-DOS will happily live on the same machine and you can use them as you please. At the moment there are few reasons for using Windows, if game playing is your only computer use. Many games, usually the most impressive, will not run under Windows and you have to return to MS-DOS to use them. On the other hand, if you are interested in multimedia, then Windows is essential. You will need a good machine to do it justice though. I would recommend a 386/486 with 4Mb of RAM and SVGA as a minimum. You will also need a large hard disk: Windows applications use disk space as if it cost nothing. I would recommend 100Mb as a minimum.

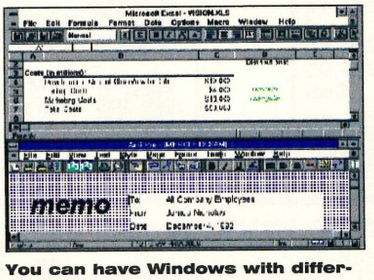
Windows 3.1 has revolutionised the way that we work and it will do the same for the way we play — just you wait and see ...



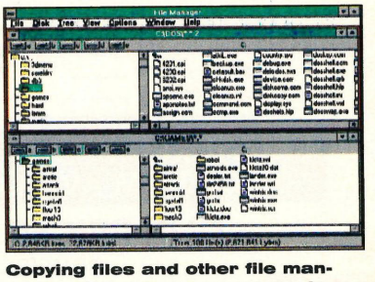
Rather than using directories and files names when you work in windows you click on grouped icons.



Ami Pro is itself full of its own icons, known to this program as Smarticons.



You can have Windows with different programs running at the same time – this is multi-tasking.



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Buyers' guide

Menuing systems

If you want to make life under DOS easier, but don't have either the inclination or machine capacity for Windows, you can always choose a menuing package to help you build and use menus. A menu simplifies the use of your PC and speeds up access to the programs you want to use without having to wade through lots of commands on the way. Some menuing packages also include logging and tracking features, so you can discover how much time is spent on what projects. It has to be admitted, though, that with the rise of Windows and other GUI interfaces, MS-DOS menuing programs are in a bit of a decline. What this means in practice is that you can expect to see more menuing programs appearing as shareware. It is also worth knowing that if all you want is a simple menu then you can get quite a long way using nothing but MS-DOS batch file commands.

Shells

One of the jargon words that you will hear around MS-DOS is 'shell'. MS-DOS shell is just a program that sits in front of MS-DOS and tries to make it easier to use or gives it extra capabilities.

Suppliers

Adris, Nutsey Lane, Totton, Hants, S04 3NB
tel (0703) 868947, fax (O703) 861618

Centralpoint Software International, 3 Furzeground Way, Stockley Park, Uxbridge, Middx, UB11 1DA
tel (081) 848 1414, fax (081) 569 1017

Guildsoft Ltd, The Computer Complex, City Business Park, Stoke, Plymouth, PL3 4BB
tel (0752) 606200, fax (0752) 606174

Newstar, Kenwood Nurseries, Waltham Road, Boreham, Essex, CM3 3AX tel (0245) 465505, fax (0245) 465515

Riva, 3 Bentley Industrial Centre, Bentley, Farnham GU10 5NJ tel (0420) 22666, fax 0420 23700

Skye, Unit 1, Viking Road, Wigston, Leicester, LE8 1BT
tel (0533) 885838, fax (0533) 888870

Software Paradise, Avenue House, King Edward Avenue, Caerphilly, Mid Glamorgan CF8 1HE
tel (0222) 887521, fax (0222) 862209

Symantec, MKA House, 36 King Street, Maidenhead, Berks SL6 1EF tel (0628) 776343, fax (0628) 776775

MICL, MICL House, 2-6 Rainsford Street, London W2 1PY tel (071) 262 7377; fax (071) 262 2718

- **VIP Cockpit, £69.95, Guildsoft**

Minimum hardware: hard disk, 512K
Sets up simple menuing system based on folders, plus security module, e-mail module, projects module which can be password protected.

- **Norton Desktop for DOS 1.0, £149, Symantec**

Minimum hardware: hard disk, 512K
Not just a menuing package and program launcher as it includes an impressive range of extra facilities for file management, data recovery and disk maintenance. Also includes calculator, notepad and calendar, anti virus and backup software and a software cache to make things run faster.

- **XTree Gold 2.5, (XTree Corporation) £120, Adris**

Minimum hardware: hard disk, 512K
File management package characterised by showing directories and files as branches on a tree. Allows you to build menus of applications or launch them directly from the file tree. Utilities for recovering deleted files and scrubbing disks clean.

- **Direct Access (5th Generation) £99, Riva**

Minimum hardware: hard drive, 256K
Very easy to use to create menus as it has impressive automatic set-up features and recognises 1,000 standard applications.

- **Automenu (Magee Enterprises) Software Paradise**

Minimum hardware: will run on minimal system — from 64K
One of the original menu programs and gives good facilities for screen customisation. Requires some programming but once set up the menu system is very easy to use.

- **EZ-Menu (Progressive) £54 Software Paradise**

Minimum hardware: hard disk, 512K
Allows nested menus and any menu can have 120 options with 26 displayed at a time. Has many features including automatic reset function in the event of power loss

- **Lazy Susan (GetC Software) £60 Skye**

Minimum hardware: hard disk, 512K
No automatic menu set-up facilities but offers a basic menu structure that is easy to set up and use. Up to 100 items per menu with nesting to 15 levels, allows 26 hot-keys to be assigned to macros. Password locking with screen concealer. Provides audit trail.

- **Menu Works (Touchstone) £99 Riva**

Minimum hardware: hard disk, 512K
Simple solution for program launching and hard disk management, includes disk labelling program, bundled with Checkit — diagnostic software.

- **Norton Commander £99.95 Symantec**

Minimum hardware: hard drive, 256K
A DOS shell offering file management and file viewing facilities which enables you to copy and paste between files. Also provides task switching.

- **PC Tools Deluxe 7, £139 Centralpoint Software International**

Minimum hardware: hard drive, 640K
Desktop manager plus a full range of disk utilities, virus protection and recovery tools.

- **ProMenu (BBHW) £45, MICL**

Minimum hardware: hard disk, 512K
Any number of menu structures may be stored each with 10 pages of menu screens within each menu file, with up to nine options. User-definable help screen can be created and timed events can be set up.

- **TOPDOS (Paperback) £59.95, Newstar**

Mimimun hardware: twin floppy
A DOS shell that at first try may seem difficult to use but once hooked it is difficult to give up! Aimed more at speeding the expert user than getting the beginner started.

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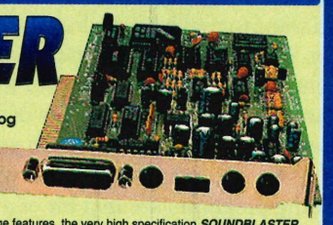
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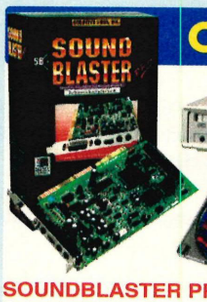
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CPU PERFORMANCE COMPARISON CHART

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LANDMARK v2.0	20 MHz	25 MHz	31 MHz	47 MHz	51 MHz	66 MHz	54 MHz	67 MHz	84 MHz	111 MHz	221 MHz
POWER METER MIPS v1.5	2.23	2.60	3.3	6.9	7.9	9.6	7.1	8.7	11.0	14.7	23.3

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Powerline

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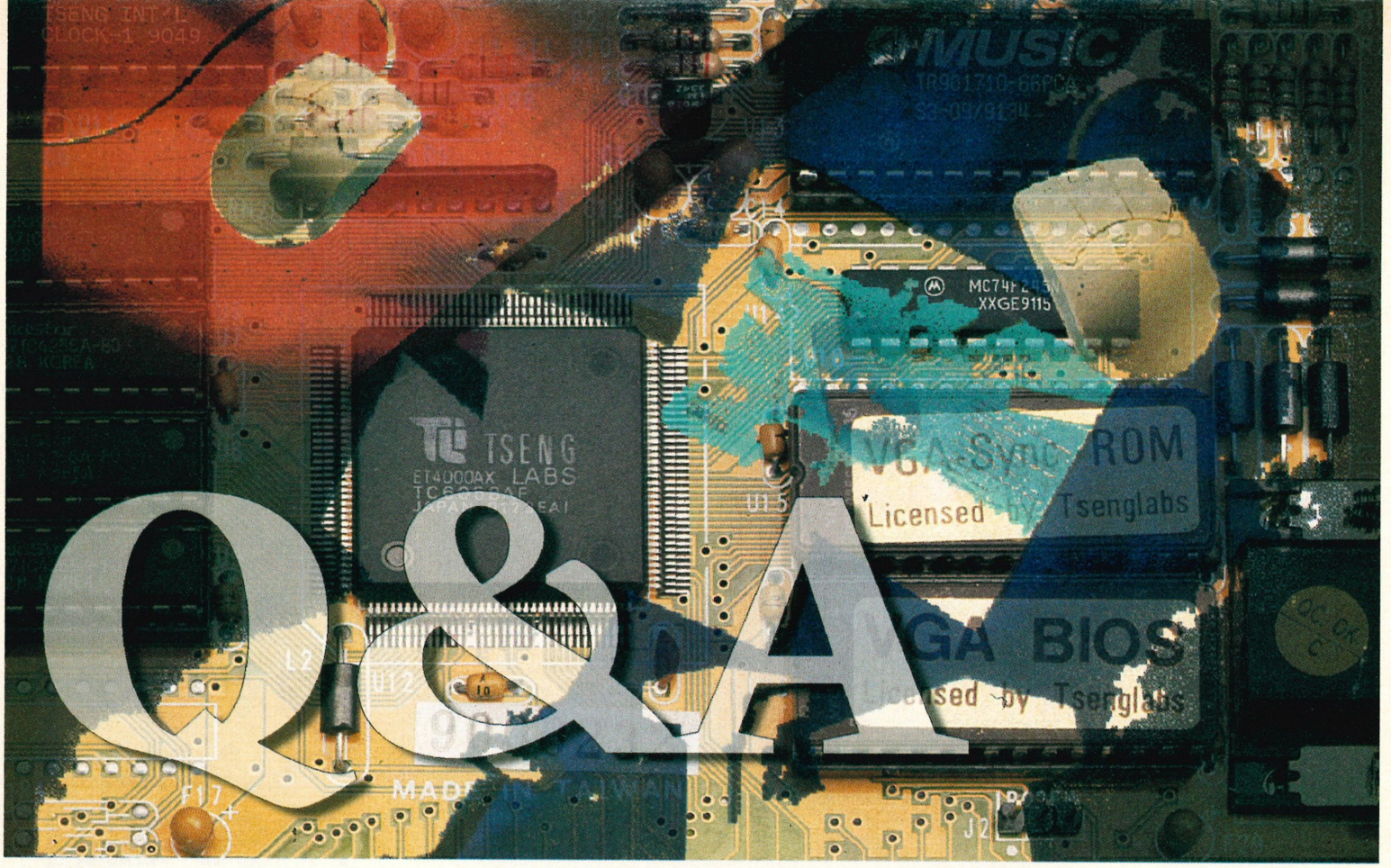
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Which computer(s), if any, do you own?..... 96D

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Bemused, befuddled, or bewildered about your PC? If your hardware gives you headaches and you're stricken with software seize-ups, share your problem with Q&A's Mike James and he'll endeavour to help

Sound card and CD-ROMs

Michael Williams
Herts

Q Having been befuddled by the array of sound cards on the market I found the article in November's PC Review clear and helpful, but it did not answer the one niggling fear I have in that I might invest my cash in a card which does not cover everything I can do with my system.

My real need is something which gets the most out of CD-ROM. I bought a Goldstar GCD R200 and I'm pleased so far. I also have a number of disk-based games but my computer's speaker doesn't do them justice.

My inclination is to buy Sound Blaster Pro (with MIDI) but I am worried by your comment that "it will only directly support Creative's own CD-ROM drives". Is this correct and does this mean it will not be right for my Goldstar? If so, what do I do? Of course it may be best for me to hold fire until the 'right' card comes along, but this may mean I am always waiting for what is just around the corner.

A *Yes, the waiting forever syndrome is well known among computer users. It is also the case that sometimes the more you know the harder it is to make a choice. You are unlikely ever to find the add-on that does everything possible and even if you do, it will be superseded by a better one next month — that's what makes computers fun!*

To get back to the nitty-gritty of your question, I am pleased to tell you that you needn't worry about the Sound Blaster card not being able to live with your CD-ROM drive. The Sound Blaster does come with a built in CD-ROM interface but you don't have to use it if you don't want to. The software will make use of the Sound Blaster card if it can, irrespective of where it was loaded from — the hard disk or the GoldStar CD-ROM. The built-in interface is simply a good way to add a CD-ROM drive if you haven't already got one. I would also like to say that the only reason that I didn't mention the Goldstar drive in the CD-ROM hardware article in Issue 14 was that despite repeated requests and promises they never actually got round to sending me one to test.

Which PC?

Q I would like to buy a 486 PC with 120Mb-200Mb hard disk, 4Mb RAM and 50MHz, and I ask if the brand is very important, because I don't have very much money (about 300,000 pesetas), and changing to a more modest brand brings it down to what I have, 300,000 pesetas. Which should I buy?

Marc Crespo Costa
Riola
Valencia

A The question of PC brand names comes down to only one thing: service. Many aeons ago when PC designs were breeding like rabbits I used to review machines by taking them to bits, running tests, etc. These days it just isn't worth it because the performance differences between machines of roughly the same specification are slight. What is different is after-sales service. If you are worried about the future maintenance of your machine, make sure you buy it from a dealer and manufacturer who will still be in business in 12 months' time. In most cases, this means buying from a large company but even this isn't 100% security.

Personally, I purchase the lowest cost hardware I can find because my own experience (and those of readers as well, see the letter below from M J McSherry) is that after sales service is usually non-existent or very expensive, no matter who you buy from. If you can do better, then good luck.

Bust computer?

Q I bought a PC386DX HD from Trader Systems, also known as PPP, in August 1992. It has just gone bust and my PC bought has a fault requiring maker attention: "Parity Error System Halted". Do you have any tips or suggestions as it is still under one year's guarantee. I sent it to them but

the PC was just returned as delivery could not be carried out.

M J McSherry
Brondesbury

A This is exactly the after-sales service that I was discussing in the previous answer. The good news is that the error message means there is a memory fault and in a modern system these are relatively easy to fix.

If you open the case and locate the memory devices — and given the recent date of your machine it is almost certain to use SIMM modules — it is possible that just pushing them back into their sockets would clear the fault.

Failing this, removing and refitting sometimes helps. If none of this works then you will have to replace them. The cheapest option is to buy a single replacement SIMM and use this to replace each SIMM on the main board one at a time. When the fault goes away you have solved the problem.

It is just possible, but unlikely, that the fault is more serious and nothing to do with the memory but the only way you can reach this conclusion is to eliminate the memory as a cause.

If the fault does not appear to be due to the memory, the cheapest option is to replace the mainboard and reuse the memory. If all this sounds difficult and very technical, it isn't, but you do need to read some more about it.

To clean or not to clean?

Q My question is about the cleaning of floppy disk drives. Lots of companies sell disk drive cleaners, but a friend went on a PC maintenance course and was told not to. Could you clear up this question for me?

P J Doherty
Willingham
Cambridge

A The heads on floppy disk drives do get dirty and as a result they stop working. Cleaning them solves the problem completely. The danger is that you will be tempted to overdo it. Disk drive heads are very delicate, which is why they are so prone to the dirt problem in the first place. Cleaning them when they are already clean simply wears away the softer parts of the heads and so damages them more than the dirt would. In theory, at least, the trick is only ever to clean the heads when there is some dirt that needs to come off, but well before it has built up enough to cause read/write errors. So how do you know when a disk needs cleaning? The answer is that you don't.

Most users either take the approach of not cleaning until they see data errors; others clean on a regular basis in the hope that they get it about right. There is a new cleaning kit on the market called Headmax which claims to test the read/write ability of the head, clean it and then measure the quality again.

If there is an improvement the head is cleaned again and so on until cleaning produces no improvement. I can't say that I have tried it but it sounds plausible.

My own opinion is that disk drives are a lot tougher than they used to be and unless you clean every day for 20 minutes there is unlikely to be any real damage. By the way, the same arguments about cleaning apply to all tape and video recorders.

Single sound source

Q I am the proud owner of a Sound Blaster Pro card and after carefully reading through PC Review Issue 13's special report on sound devices, I was interested to see that it is possible to have all the PC speaker noise output through my soundboard.

I would, as I expect many others would, like to know where to stick the wire.

Nigel Penfold
Harrow
Middlesex

A The answer is in the back of the Sound Blaster manual, Appendix D, but it is a bit sketchy. Connector JP1 on the Sound Blaster Pro card is the audio input connector.

All you have to is unplug the wire that goes from the tiny speaker to the speaker connector on the mainboard. Next connect a new cable from the speaker connector on the mainboard to JP1 on the Sound Blaster.

The only tricky bit is that the +5V pin on the speaker connector must go to pin 1 of JP1 — otherwise damage may result. In other words, you can plug the cable in the wrong way round and if you do, it's new Sound Blaster card time.

The only other problem is that you have to get the cables complete with suitable connectors. There is a similar audio feed though for CD-ROM drives. Yes, that's right: you can play your audio discs through your Sound Blaster card. Doesn't sound any better but you only need one pair of speakers. In this case the connector is J1, helpfully labelled on the card CD IN. The pin connections are 1 ground, 2 left, 3 ground, 4 right.

Amstrad 1386

Q I have an Amstrad 1386 with 4Mb RAM with which I was able to run Falcon 3.0A fully. Whilst trying to cope with the (unadvertised) increase in low memory required to run the data disk Operation Fighting Tiger I have run into a barrier which is basically caused by not having enough contiguous upper memory to store the EMS driver *and* the LIM window. Apart from high memory, which I believe can't be used to store either of these functions, I seem to have one 68K block and two 16K blocks of upper memory available.

So ... question one: Is this BIOS unique to my Amstrad?

Secondly, are there any commercial EMS drivers which do not require to be loaded in one chunk, since if, for example, I could load half high and half low I'd gain about 10K of low memory?

I should add that the basic version of the data disk is playable on my machine, it's just irritating to lose features and be left with only using 64K of the available 3Mb of added RAM.

F B Dickens
Tyseley
Birmingham

A The Amstrad BIOS is unique but this usually doesn't cause any problems. You are correct in your understanding of the Amstrad's slightly odd upper memory configuration.

If you are prepared to invest in MS-DOS 5 you can increase conventional memory to around 564K by allowing DOS to use the HMA. If you invest in a memory manager such as Qemm or 386Max or spend time optimising Emm386 that comes with MS-DOS 5 you can add another 40K to conventional memory. In addition Qemm and 386Max do load most of themselves into extended memory to avoid using up conventional memory. For example, recommended Config.sys line for Qemm is

```
DEVICE=QEMM.SYS RAM
FRAME=D000 EXCLUDE=E000-
EFFF INCLUDE=B000-B7FF
INCLUDE=C000-C3FF
INCLUDE=E000-E3FF
INCLUDE=F600-FCFF
```

This gives the maximum amount of free upper memory blocks. After this you can load high Mouse.sys, Smartdrv.sys, Hd386.sy and Ansi.sys and anything else you can find.

PS if you want to know what UMBs and the HMA are, see Q&A Update.

Too long a card

Q I have recently purchased an Amstrad PC5286 Family Pack. After buying this, I have a few inquiries:

1) Can I run Windows v3.0 or 3.1?

2) Can I install a Sound Blaster Pro?

3) Is there any point in upgrading to DR DOS 6? I have two potential reasons: to double my hard disk capacity and to have a more powerful version of DOS.

And finally, 4) Can I upgrade to a 386SX (or DX) or even better a 486SX (or DX)?

Aamer Moghal
London

A The PC5286 is a fairly standard 16MHz 286 machine. As such it can be used to run Windows 3.0 or 3.1, but don't expect it to run very fast. As a standard AT machine it should be possible to fit any expansion cards, but I don't think that you can fit a Sound Blaster Pro card for the very silly reason that it is too long.

The 586 will take one expansion card 200mm long and one 170mm long — roughly half-length cards. The Sound Blaster Pro that I measured was well over 200mm. If Creative Labs has revamped its design to be 200mm or shorter, then it will fit and work. This is a general size constraint on any cards that you are planning to fit to a 5286.

As to DR DOS 6.0, yes, you would get something from the upgrade but disk capacity is what you are wor

rying about, why not buy Stacker or one of the other disk compression programs?

Finally, I have to tell you that it isn't really feasible to upgrade the 5286 because its mainboard is an odd size. However, I have to admit to saying this about the 1640 and now I seem to be wrong because someone has specially made a mainboard for it — see the article on page 47 of this issue.

Clock speeds

Q I own a 286 10MHz VGA PC. I started off using it for programming and it is only recently that I realised its potential for games. Reading Issue 6 I saw the Classic Game Guide review of Wing Commander.

I also noticed that you originally said you recommended 11Mhz minimum. Don't worry, this isn't another processor upgrade question! I tested my computer with the Landmark speed test and it told me my computer performs like a 13MHz AT.

Could I therefore run Wing Commander, and, for that matter, any software that requires 12MHz minimum?

I also noticed that several letters from people wanting to run Monkey Island 2, but they only had 8MHz PCs. If the Landmark speed test took them above 10MHz, could they run it?

Secondly, are screen filters any good and if so which type is best?

David Linn
Swansea
West Glamorgan

Send your queries to Q&A, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, or, if you have access to CIX, the Compulink Information Exchange, you can e-mail us at: pcreview@cix.compulink.co.uk.

Mike James can only reply to your problems on this page, so please don't enclose SAEs or requests for personal replies.

A *You will need to be aware of the way in which clock speeds are generally reported. The only part of the whole specification that cannot be argued with is the actual, real verifiable clock speed itself which is used to drive the processor.*

This is the CPU clock speed and it is usually one of 16MHz, 20MHz, 25MHz, 33MHz or these days sometimes even 40MHz or 50MHz — all nice neat numbers.

The second most common type of clock speed quoted is the Landmark speed. This is simply how fast you would have to crank up the clock speed on an original IBM AT to make it turn in the same performance as the machine under consideration. Landmark speeds are funny numbers like the 13MHz you quote and sometimes figures like 13.439MHz, believe it or not!

The point is that Landmark figures are worked out by one of a number of possible methods and so don't necessarily give nice neat results. Landmark speed is often quoted in manufacturer's literature, because it sounds much better than the real clock speed.

In most reviews the Landmark speed isn't used because it is a bit vague and instead magazines quote the type of processor and a real clock speed.

For example, "I wouldn't run this on anything less than a 33Mhz 386DX" means don't bother if you have a 386SX, or a slower DX! In other words, if the review is quoting real clock speeds there is no point in you comparing these figures with tested Landmark clock speeds.

On the other hand, the judgment of how fast a machine needs to be to get the best from a game is very subjective. If someone says that a 33MHz 386DX is needed you might still find it OK on a 20MHz 386SX. When it comes to computers, speed limits aren't the law.

The tail end of your question is more difficult to answer because you don't say what sort of filter you are interested in. Anti-glare filters do work and increase the contrast of the screen at the expense of some brightness — but in my opinion they are over-priced. If you are thinking of a radiation filter then sitting a bit further from the screen will have as much effect.

What are UMBs and where is the HMA?

Q&A update

In Q&A Update, Issue 13, I described, in a nutshell, different types of memory in use on a PC, conventional, expanded and extended. Perhaps the nutshell was a little small as I have since been asked what type of memory UMBs (Upper Memory Blocks) and the HMA (High Memory Area) were. Here is an answer.

All PCs can work with 1Mb RAM and this is the chunk of memory the traditional 640K of conventional memory is carved out of. What do you think the remaining 384K (remember, 1Mb = 1,024K) are used for? When IBM defined the structure of the PC it couldn't imagine more than 640K would be needed so it claimed the rest of the space for use by hardware. It is in this top 384K that the video memory, BIOS, hard disk controller, etc, live. Now let's be 100% clear about this: the top 384K or Upper Memory Area (UMA), as it is called, isn't any different from the precious 640K of conventional memory. Upper memory has just been given a different job to do.

Now for a revelation — there are 'holes' in the upper memory area. Yes, there are quite large chunks of the UMA unused by anything at all. Given that the pressure on conventional memory is so great don't you think that it would be a good idea to move some RAM into the holes and try to make use of it? This is exactly what a UMB, or Upper Memory Block, is. If you have an XT, you need some special hardware to place RAM into the unused areas. Some 286 machines also need extra hardware; a few already have it. All 386/486 machine can move extended memory into the UMA using nothing but software — a memory manager such as Emm386 in MS-DOS 5.

Once you have some UMBs, what can you do with it? The answer is that you can move parts of MS-DOS into it and any other memory resident programs such as CD-ROM drivers/players, network software, etc. Normally, all of these take up space in conventional memory and so the joy of having some UMBs is that you can increase the space free to run programs. The downside is that all of this is very technical and you have to work out how best to pack things into the UMBs. If you don't feel up to it you could try Qemm, which is a memory manager that attempts to do the whole job for you.

Having disposed of the mystery of UMBs, it's time to tackle the HMA. The HMA or High Memory Area is a 64K chunk of memory that sits just above the 1Mb that we have been discussing so far. If you understand memory jargon you may recognise that this makes it the first 64K of extended memory and so only 286 and 386/486s machine can possibly have it. (8088/86 XT machines don't support memory beyond 1Mb except by indulging the gymnastics of expanded memory.) In principle, memory above 1Mb should be invisible to standard MS-DOS programs, but by some curious accident the first 64K can be accessed and this is the HMA.

What can you do with the HMA? If an MS-DOS program knows how to, it can add the 64K HMA to the free conventional memory. However, this ability is rare. You *can* get hold of MS-DOS 5 or DR-DOS because both of these will load a 64K chunk of themselves into the HMA, leaving an equivalent portion of conventional memory free. So all applications programs have 64K more conventional memory to work in and sometimes this makes all the difference.



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Letters

PC Review welcomes letters on any subject under the PC sun. The editor will chop them to fit if need be, and we'll assume letters are for publication unless you state otherwise. Send your mail to letters, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Star letters win software prizes

Ultimate woes solved

You published a letter entitled Ultimate Woes in PC Review, Issue 13. The first paragraph deals with Mr Muir's efforts to get Wing Commander 2 working on his Amstrad 2386.

The information given, far from helping anyone confused with memory management, is an expression of Mr Muir's own confused thinking on this subject and the key to why he is having so much trouble with games that require expanded memory and lots of base memory.

But first let's get to the hardware issue. There's a lot of rubbish talked about incompatibility problems. I have owned both a 2086 and a 2386 now for two years and know the machines well. My advice for owners of these machines experiencing any problems is simple:

1. Trash the Amstrad mouse. Not only is this a nasty little beast to use, it has been the sole cause of all software incompatibility problems I have encountered. The Amstrad mouse and driver do not, contrary to what is said in the manuals, appear to be 100% Microsoft compatible. There are two ways of replacing the built in mouse:

(a) Buy a serial mouse and connect it to the Amstrad serial port via a 25 to 9-pin serial adapter.

(b) If you need your serial port, for a modem for example, buy a bus mouse with a driver card that plugs into a free expansion bus slot.

With both options the Amstrad mouse should be disabled as described in the owner's manual to prevent an interrupt conflict.

2. Make sure that you load the original Amstrad keyboard driver supplied with your machine. The Amstrad 2000 series does not use 100% standard keyboard codes so, if you change your DOS to one other than that supplied with your machine and attempt to use the supplied keyboard driver, you may find that you get odd results from some key presses and will lose the ability to warm boot (Ctrl-Alt-Del) altogether.

Now to memory management. With an increasing number of games requiring expanded memory and more base RAM, it would make good sense for PC Review to cover this confusing subject with an in-depth article. As for Matthew Muir's problems and his Amstrad however, he has obviously fallen into the trap set by the confusing Amstrad setup program. In addition, the fact that Matthew is getting none of the extra extended memory effects with Wing Commander 2 and using a boot disc to try to get more base memory, indicates that he does not understand the memory management routines built into MS-DOS 5. Hopefully the following will help Matthew and others who are unsure about how to set up their computer for games applications.

1. Ignore the example in the Amstrad manual regarding the setup for DOS applications. Set all available memory to extended, ie, for the set-up option type in 3456K. Generally, all 386 and 486 machines,not just Amstrads, should should be set up this way to take advantage of the special memory usage available on these chips.

2. Some games, like many other DOS applications require expanded, not extended, memory. MSDOS 5 provides drivers to convert extended memory into expanded and manage memory to free up much of the base memory normally taken by DOS itself. You should read the MSDOS 5 manual on this thoroughly. For the lazy however, the following should be added to the beginning of the Config.sys file in the root directory of drive

```
DEVICE=C:\DOS\HIMEM. SYS
DOS=HIGH
DEVICE=C:\DOS\EMM386.EXE 3264
RAM
```

3. Another very important thing is to make sure that there are no unnecessary drivers and TSR programs loaded by the Config.sys and Autoexec.bat files. Forget Fastopen.sys and Ansi.sys. The only drivers needed for games are those mentioned above and Mouse.sys, if you change from the Amstrad mouse. If you have any terminate and stay resident programs being loaded by Autoexec.bat (eg, a pop-up calculator), then my advice is to scrap them. They all waste memory and some are so badly written that they cause spurious errors to occur in other program..

Kelvin Harley
Norwich

Thanks for the memory

I was interested in the letter in the November issue regarding freeing up enough DOS memory when using Superstor.

I have solved this and have a basic memory of 635K which is enough to satisfy all game users, I trust. One solution is to use DOS 5.0 with Qemm386 or some similar memory manager. Your Config.sys file must reside in the uncompressed drive (usually drive D) along with the necessary files for QEMM386, ie, Qemm.com; Qemm386.sys; Loadhi.com; & Loadhi.sys; plus the files for Superstor, ie, Devswap.com; Sstordrv.sys; Sspartss.swp – a hidden file.

The extract region for the load Loadhi command will vary according to the size and number of other devices loaded high. If using Windows it also helps to have Smartdrive in the uncompressed drive, ie, Smartdrv.sys; 386spart.par (hidden swapfile for Windows)and Winhiram.vxd. Note that Smartdrive is best loaded before Sstordrv.sys. Boot-up is quicker this way.

C H Hawkes
Ipswich

I thought your readers might like to know of a method of increasing their precious conventional RAM by anything up to 60K when using DOS 5. Better still, it takes all of 30 seconds to accomplish. Too good to be

true? Well, that's what I thought when I chanced upon the idea courtesy of the excellent CD-ROM mag Nautilus, but it works for me and my machine is still humming along happier and faster without any apparent discomfort. So how's it done? Simply use any text editor to call up your Config.sys and re-edit the Device line relating to Emm386.exe so that it includes the switch /I=E000-EFFF.

For example, mine now reads Device=C:\windows\emm386.exe 256/I=E000-EFFF RAM. Apparently, this /I parameter re-enables the E segment of memory and provides lots more UMB (Upper Memory Block) space for the Devicehigh and Loadhigh commands of DOS 5. The RAM parameter gives access to UMB and expanded memory, but if you don't want or use expanded memory then substitute "noems" instead – without the quotation marks.

I've now been able to load Smartdrive, Mscdex and my CD-ROM driver (totalling 62K) into upper memory and I still have 615K of conventional RAM. Try it – only, as ever, do make sure you have a system disk at hand should anything go wrong!

Paul Thain
King's Lynn

Starletter

Where there's a 286 ...

More and more you hear of the minimum PC being the 386: well, I'd like to strike a blow for 286 users by humbling Origin's claims that a 386SX is the minimum requirement for Ultima Underworld. I got my copy of Underworld care of your generosity and my sending in a tip. It required some fiddling to get the game to work, but I allocated the required amount of EMS and lo and behold it worked. There I was playing Underworld with my face glued to the monitor of a 286. Granted, it wasn't one of the smoothest games I've played, due to the fact that a 286 isn't really fast enough for Underworld. However, if you have a 286 and can allocate about1Mb to EMS then it will work. Even on a 286 it is still a remarkably brilliant game, and you can drop the detail level to speed up animation. The clock speed on my machine is 16MHz and I wouldn't recommend people with slower machines to buy it unless they are very patient and/or determined.

With the knowledge that Underworld will work on a 286, will Epic also run on a 286 as the box says 386SX minimum?

Finally, thank you very much for sending me the copy of Underworld as it has given me weeks of enjoyment. Here's another tip, whatever you do don't kill Judy on the fifth level as it seriously screws up your chance of finishing the game.

Howard Roscoe
Cheshire

Wired for sound

I am writing to warn others away from the annoyance I have been caused. I have recently purchased Grand Prix Unlimited by Accolade and am running it on a Viglen 386 machine running at 25 MHz. It has 4Mb of RAM and a 80Mb hard drive. I am also using a Sound Blaster Pro – well, I wish I was anyway. I installed the program with no problems and then set it up to run my Sound Blaster. After this I loaded it up and the game started to run music and all. I chose a single race and the car I was to use. I was just ready for a good burn around Silverstone when as soon as I pressed a key to start driving the program dumped. I reloaded the game and the same thing happened, so I reinstalled it and set it up to the Sound Blaster and I had the same result. So, annoyed, I decided to go and create a new track to try and race on. I spent about an hour making the track and placing objects, went to save it and it dumped, I tried again and the same thing happened.

I phoned the mail order company that I purchased it from and explained my problem so they offered to replace it, but this could take two weeks or more. So I phoned the Technical Support number at the back of the manual, I was put through and so I explained my problems and to my surprise and disgust before I had finished explaining, the man said that he already knew what the problem was because he had a list of faults in front of him. He said that these problems had been reported in previous versions and this was about the third time they had tried to put the fault right. He asked me to phone back in two weeks for more information and hung up.

Please tell me why Accolade is allowed to sell this item when it knows that there are faults in it.

Andrew Hill
Jersey

Accolade says it now has an upgraded version of Grand Prix Unlimited, designated v1.4, which is available to anyone who bought one of the previous versions. Give them a call on (081) 877 0880 and they should be able to help you.

As to why companies sell programs with bugs in them: there is a school of thought that computer software in general is so complex that it's impossible to produce totally bug-free versions because the play-testing would take too long.

We at PC Review reckon that this may be partly true, in that there are probably tiny little bugs that one just doesn't find, or notice, in many programs. However, it's hardly inevitable: the majority of games around perform without problems. Major bugs should always be ironed out before release, and we also firmly believe that in the case of serious glitches, publishers should offer free upgrades until the product is bug-free.

How much a bonus the Opus?

Having just negotiated the minefield involved in purchasing a 486 PC, I thought I should respond to Christina Erskine's review in Issue 13 of the Opus Leisure Station Plus.

It seems to me that the Opus is a reasonably attractive piece of hardware that has been 'tarted up' by throwing in a few little extras to enhance its leisure appeal. While this is excellent marketing, readers should bear several things in mind.

Firstly, the Opus only includes a 486SX processor, running at 25MHz. There are now some excellent 486DX-33s on the market at under £1,000 for a complete system, including 1024 x 786 SVGA, 4Mb RAM, caches and hard disks with enough room to hold Wing Commander II, Falcon 3.0, Sherlock Holmes and the latest Ultima epic, with still enough room to keep Windows chugging along around in the background.

Secondly, before you rush and spend all that hard-earned cash, make sure you get *all* the information on the system you're buying. PCs costing exactly the same may differ vastly in certain aspects: there are 486s around with 256K secondary cache, a 1Mb SVGA card and maybe even a windows accelerator, for under a grand.

And don't forget that if a package has Windows, a couple of business packages and one or two games bundled with it, the cost of that software is going to have been taken off the hardware. It may well be worth waiting for more games if you're getting hardware that will last longer and will perform better.

Another thing to look for is expandability and upgradability. The newly refashionable tower and mini-tower PCs tend to have more free expansion slots than the standard desktops, and you know there will always be room for the three different soundboards you've always wanted, the CD-ROM you simply can't live without, that vital scanner, and all those other lovely peripherals which seem so important at the time.

This brings me rather neatly on to one of the advantages of the Opus: it comes ready fitted with a Sound Blaster. If you don't buy a games

package, you won't get any kind of soundboard. You can't argue with this, except to point out, as does Ms Erskine, that it's not a Pro.

After several weeks of searching, the system I settled on was the Omni Pro 486 (DX-33). For £999, the system has an 85Mb hard drive, and all the features I mentioned above. The only gripe I have about it is that the monitor supplied with it didn't have quite the same power as the SVGA card, in that it couldn't handle the 72Hz update when running at 800 x 600. However, the speed of the system knocks my old 286 into a cocked hat, and the system as a whole is superb. You can phone Omni on (081) 558 1569 for details.

Finally, prices are falling fast. With the 586 processor just around the corner, and the 686 only 18 months behind it, 486s are going to get a lot cheaper in the near future.

Duncan Sutcliffe
London

The point which we make consistently about buying bundles such as the Opus Leisure Station, as opposed to shopping around for soundboards and joystick cards separately, and juggling around with configurations, is that you are buying convenience, rather than necessarily getting the machine at a rock-bottom price. With a pack in which every component is installed and up and running, the novice doesn't get bogged down with technical detail immediately after buying the machine.

The situation regarding ever-decreasing prices is actually less clear-cut at the moment than you suggest. Component prices would appear to have hit a floor at the moment, and some have even risen.

I don't doubt that the introduction of new Intel processors will have an effect on 386/486 prices, but in the current economic climate, this may not be quite as dramatic as you expect.

COMPETITION*WINNERS*

Lord of the Rings (Issue 12)

There are plenty of Tolkien aficionados out there wanting to get their hands on the Alan Lee limited edition prints, produced to celebrate the centenary of J R R Tolkien's birth, judging from the response we had to this competition.

The three first prize winners walking away with the prints are: Allan Rae, of Burslem, Stoke on Trent; Blair Martin,of Kirriemuir, Scotland; and Martin Butcher, of Kettering, Northants. Congratulations to the three of you.

Ten further winners get a centenary edition of The Lord of the Rings: C Buchan, of Edinburgh; Graham Miller, of Hamilton; James Chaney, of Worthing; Jamie Purchas, of Trowbridge, Wilts; Beren Lewis, of Bath; Dennis Paice, of Luton; Miss J E Graham, of Peterborough; Mr F J Hume,of Cramlington, Northumberland; Stuart Edwards, of Brighton, and Terence Brady, of Dublin.

Then there were 15 more prizes of Interplay's Lord of the Rings II game, and these will be winging their way to: Mr R M Peters, of Leighton Buzzard; Richard Weeks, of Horrobridge, Devon; Zoe Mitsis, of London E3; Chris Fairgrieve, of Denmark; Jonathan George, of Portsmouth; A J Bishop, of Crawley, West Sussex; Rudi Tapper, of Southampton; Mrs P Britton, of Swansea; Stuart Taylor, of Walkley, Sheffield; Patrick Wild, of Low Edges, Sheffield; Sandra Meehan, of Bradford; Lloyd Hewitt, of Helensburgh, Dunbartonshire; Simon Lee, of Sheffield; Tony Dyal, of Sutton Coldfield, and J Wiscarson, of Hayling Island.

And now, the answers. Question two should really have read, "Name one of Tolkien's invented languages" — as quite a number of you pointed out — so we were pretty versatile when it came to accepting answers here.

1. The J R R in Tolkien's name stands for John Ronald Reuel.
2. Well, take your pick. Most of you plumped for Westron.
3. Eleventy-one — it was his eleventy-first birthday.

ON THE SPOT

PC Review arranges regular visits to the UK's top PC companies, taking with us a selection of readers who have filled in the form below. This gives you the chance to talk to various movers and shakers within the industry: interview them, ask them about their PC plans, how they design, write, produce their games, what they hope to be doing in the future. The exact nature of the visit, and the degree of formality, depends on the companies concerned, but you usually get a chance to see some sneak previews of forthcoming products, meet the programmers, and have a guided tour of company HQ.

A full report of the visit then appears in a later PC Review – useful for those who didn't go, because they'll read the answers to the questions you asked. In other words, the issues which you, the readers, care about, rather than we think is important.

We're currently planning a second trip to Electronic Arts, and we've added the company to the list below. If you want to visit a company other than those mentioned below, tell us, and if there's enough interest we'll try to arrange it.

If you want to take part in an On the Spot visit, fill in the form below and send it to: On the Spot, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Note: we don't take very many people at any one time, so that if selected, you'll have every chance to have your say. Because of this, the places get filled quickly, but we'll be doing return visits to all the most popular companies. If you miss out the first time round, sit tight, because another visit to the same place will come up and we don't throw your forms away.

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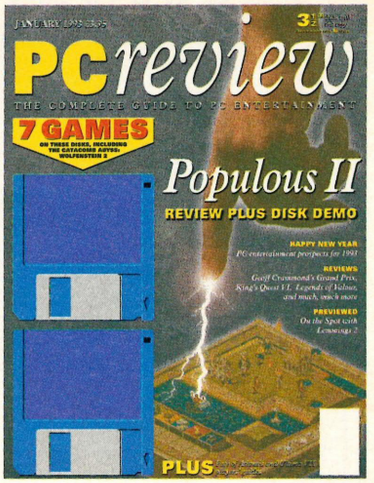
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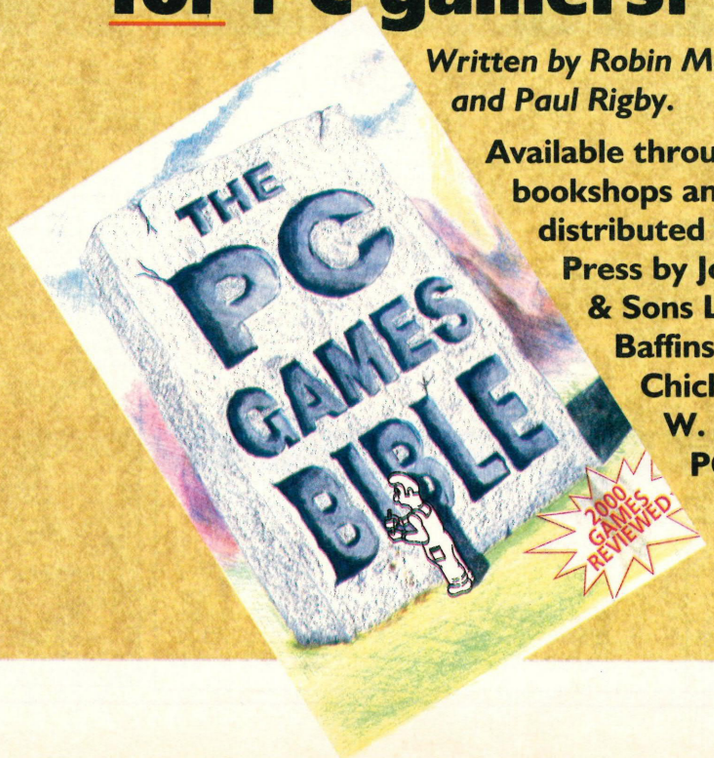
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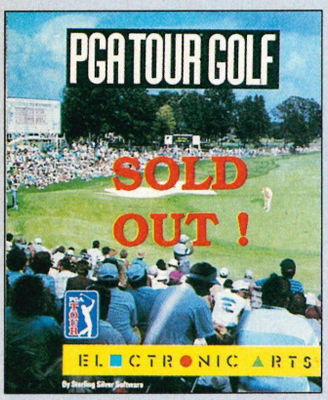
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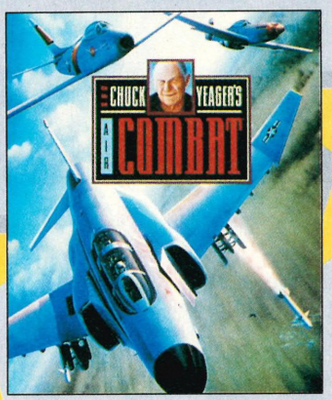


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PGA Tour Golf is the only computer game ever licensed by the US PGA. Panoramic fly-by shots and look-back view let you play real tournaments on real courses. Instant replay lets you relive great shots as you compete against 60 PGA pros!

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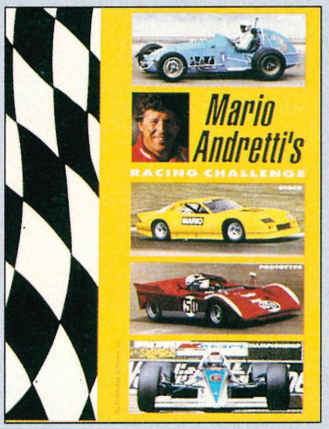
Choose from over 50 missions from World War II, Korea and Vietnam as you fly with the leading pioneer of modern air combat, General Chuck Yeager. Learn from the experience and guidance



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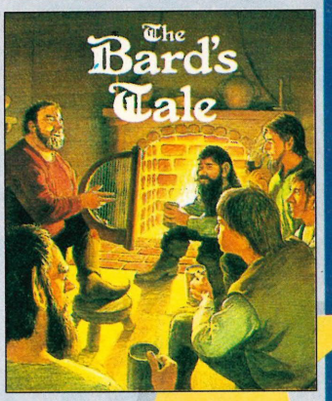
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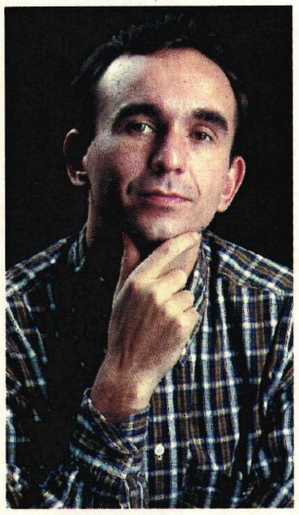
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Peter Molyneux's

Classic Game of the Month

Civilization



"This is such a complete simulation of taking a civilization from its beginnings to conquering earth. The great thing about the game is that it doesn't get bogged down in technical detail. In Civilization, the Zulus can invent space travel or create the Hanging Gardens of Babylon — maybe not historically accurate, but great fun to play. The hidden depths in the game mean that there are lots of ways of winning and the more you play, the more intricacies you find."



Civilization was Sid Meier's second world-building simulation after Railroad Tycoon. The idea of the game is to develop an advanced society, starting with primitive tribes in a largely unexplored land and moving through landmarks such as Bronze, Republican and eventually Space Ages. Exploration, trading, city building and war are just some of the strategies you'll need to employ to succeed.

Peter Molyneux began programming in 1984. Although this was the golden age of arcade games, Molyneux decided to do things differently and produced a business simulation, The Entrepreneur, which sold a grand total of two copies (or so he says). He followed this up with Populous which has become the best-selling 16-bit game of all time. Populous was followed by Powermonger, and most recently Populous II. Molyneux personally is currently working on a very different type of game, provisionally called PIP.

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