

Technofile: games consoles

The big three games consoles – Sony PlayStation2, Microsoft Xbox and Nintendo GameCube – are affordable, powerful and about to embrace broadband internet. Caramel Quin asks if the ultimate games PC has finally met its match



Until now, if you wanted to play games online the PC was your only choice. Not any more. This year will see all three of the latest games consoles – Sony PlayStation2, Microsoft Xbox and Nintendo GameCube – go online. Console prices have been slashed and games PCs are cheaper and more powerful than ever.

This is great news for gamers, but unless you have more money than sense it means a tricky decision. With many titles available on all four formats, and confusing performance claims, it's hard to know which to choose. And can a PC really justify a price tag that's five times higher than its rivals?

A high-spec PC (top-end graphics and sound cards, surround sound speakers, fast processor and plenty of RAM) can act as a hugely powerful games machine, making the consoles look stone-age in comparison. None of the consoles has more than 64MB of memory, while you'd be hard pressed to find a PC with that little nowadays. As ever in life, though, it's what you do with it that counts. Because the consoles are dedicated to games and don't need to cope with spreadsheets and the like, they are tailored specifically to gaming – producing far more performance than their specs would suggest.

But which to buy? We tested all four head-to-head and looked at genuine performance. We examined everything from ease of use to how many blades of grass you can see on the football pitch during a virtual kickabout.

Sony PlayStation2

Sony is the giant of the games console world. It launched PlayStation2 in late 2000, with over a year's head start on the Xbox and GameCube. As a result, 30 million PS2s have been sold worldwide – more than three times as many as the other two put together.

Many gamers bought PS2 for one simple reason: backwards compatibility. They wanted a machine that would still



← PS2's Grand Theft Auto 3: amoral car, gun and baseball bat violence

↓ GameCube's Pikmin: cute, family-friendly and looks beautiful



play the 1,000-plus PlayStation (PS1) games as well as tucking into the 300 PS2 games. But with the more powerful Xbox now matching its price tag and the GameCube undercutting it by £70, PS2 is facing stiff competition.

We played three games across all four machines: 2002 FIFA World Cup, Spider-Man: The Movie and Tony Hawk's Pro Skater 3. They all showed up the PS2's main strengths and weaknesses. Its major failing is graphics. It has less detail and fewer fancy effects than the other machines we tested. You don't feel let down while playing, but run it alongside the same game on another format and you'll instantly see how the PS2 is outperformed.

In particular, many games on the PS2 have anti-aliasing problems. This means that the outline of objects can be jagged – affecting everything from your character (which looks pixellated around the edges) to distant detail (which gets a moiré pattern). This was most noticeable on straight lines like skyscraper windows in Spider-Man and the pitch markings in FIFA. Graphics are far less of a problem in PS2-only games (which tend to be action-packed and violent), where programmers have worked around the system's weaknesses.

The PS2's main strength is its playability. The controller is a design masterpiece yet to be bettered – two analogue joysticks and lots of buttons all at your fingertips. Equally, while the graphics aren't great, the games still look good and are very addictive.

Down sides in terms of hardware are that it only has two controller ports, compared with four on the Xbox and GameCube, and that you get less for your money than with an Xbox. True, you can play DVDs on a PS2 without buying an extra controller. But for the same money Xbox has an 8GB hard drive and is ready to connect to broadband internet. With PS2 you'll have to buy add-ons (expected later this year, see box on page 74) for storage and internet use.

The PS2 is a good machine and it has potential above and beyond gaming. With the addition of a hard drive and broadband, plus the built-in iLink (Sony's version of FireWire) connector for digital camcorders, it could become a home entertainment hub, perhaps even offering hard disk-based video recording. But Sony has so far been tight-lipped about such plans. In the meantime, the PS2 is a winner so far in terms of sales, but is losing ground to more powerful rivals.

Nintendo GameCube

The GameCube is the cheapest console we tested, and the smallest. A colourful, diminutive cube with an integral handle, it looks like something designed to be carried around by Japanese schoolchildren.

If the cute design leads you to think the GameCube is for the kids, you're not wrong. Nintendo has long had a reputation for family-friendly gaming and has only recently let a select few gore-fests such as Resident Evil on to its console. But GameCube is still dominated by harmless fun, with exclusives including all the Mario games and other cuties like Pikmin (Lemmings with little flowers). Plus it can be linked to GameBoy Advance, the hugely popular handheld games device, often with downloadable mini versions of the main game for you to play.

But this is no kiddie in terms of performance. When tested alongside the PS2, Xbox and PC it acquitted itself well. Graphics were crisp, with a few anti-aliasing problems, but nothing like those of the PS2. Surface detail and particle effects, such as smoke, were far better than the PS2, but not as good as Xbox or PC.

The GameCube controller has a colourful plastic Fisher-Price feel to it. It's compact, maybe even a bit too small for grown-up hands, although perfect for children. There aren't enough buttons to satisfy a hardened gamer, but the buttons it does have are easy to use and excellent for simple button-bashing arcade games.

Because the GameCube plays 3in discs, it's the only machine here that will never be able to play DVD movies. The smaller discs also make for less storage space for games: a maximum of 1.5GB on a disc compared with 4.7GB for a standard DVD. And the GameCube has fewer games than any of its rivals, with around 40 in the shops so far and a total of 150 expected by the end of the year.

Nintendo appears to have less ambitious plans for its console than Sony or Microsoft. Forget being a home entertainment hub that offers all things to all men, the GameCube is happy to be a cheap, powerful games appliance that kids in particular will love. They'll love it even more when it's hooked up to GameBoy Advance or the internet (adapters for broadband and a modem are expected later in the year, see box, right).

Microsoft Xbox

While the GameCube may be tiny, the Xbox is absurdly large. It's twice as heavy as the PS2 and ugly with it. But inside it's a beauty.

The Xbox represents the best value for money here. For under £200 you get a powerful machine based on a Pentium III processor with an 8GB hard drive and an ethernet link. The latter means it's ready to connect to broadband



↑ Mesh X-treme's Counter Strike: Condition Zero involves first-person shooter with team-based online action

← Xbox's Halo: epic combat shooter with amazing graphics

Broadband: the future

The future of gaming is online. PC multiplayer gaming is already huge, and all three of the consoles are expected to get netted later this year. PC games can be played online using a modem, but a fast broadband internet connection is infinitely preferable for action games. The lower ping rates – meaning less time lag in data transfer from console to server – mean that broadband gamers can run rings around slower opponents. Even downloading patches for the latest versions of multiplayer games can be a problem with a modem – 20MB patches aren't unusual.

As more and more of the UK goes online and gets broadband, multiplayer games like Counterstrike and Warcraft III will become even more popular. Meanwhile, the launch of Star Wars Galaxies later this year will see massive multiplayer gaming, where thousands of gamers interact in one world.

None of the consoles is officially online yet, but they should be by the end of the year. Xbox looks set to have the strongest offering, although it's broadband only. In the USA, \$50 buys you a headset and a year's subscription to Microsoft's servers, where you can play games and be alerted if friends are online at the same time. In the meantime, you can get an Xbox online unofficially by downloading software via a PC from sites like Gamespyarcade.com and copying it over to the Xbox using a broadband router.

Both PlayStation2 and GameCube are expected to be online by the end of the year too. You'll need to buy a separate adapter but there will be the option of either modem or broadband connection. Prices and dates have yet to be announced, and it's unclear whether or not Sony and Nintendo will offer an online service. It's more likely that online gaming will be organised by games publishers or third parties.

While the future for consoles is simply getting online successfully, the PC is already there. PC games companies are now working on ever more complex and involving online worlds, building on the PC's reputation for serious games.

Features comparison

Model	Telephone	Website	Price (inc VAT)	Warranty	Processor	RAM	Hard drive	Operating system	Screen		Speakers	Software included	Dimensions (width x depth x height)	Weight	Graphics processor/ RAM	Graphics performance (polygons per second)	Sound performance	DVD playback	Internet connection
Mesh X-treme 2000+ Pro	020 8208 4702	www.meshcomputers.com	£1,174	3-year onsite	AMD Athlon XP 2100+	512MB	80GB	Windows XP Home	19in Mitsubishi DPRO 920		Creative Labs Inspire 5300 five-point surround	Lotus SmartSuite Millennium, games bundle	465x205x450mm	16kg	ATI Radeon8500LE/ 64MB	62.5m peak	5.1-channel Dolby Digital surround	Y (plus CD-RW)	modem/ broadband
Microsoft Xbox	0870 601 0100	www.xbox.com/uk	£199	1-year RTB	modified Intel Pentium III 733MHz	64MB	8GB	n/a	not supplied		not supplied	not supplied, unless bought as a bundle	325x265x90mm	4kg	nVidia XGPU/ shares 64MB	116.5m peak,	5.1-channel Dolby Digital surround	remote control required	broadband only
Nintendo GameCube	02380 623 200	www.nintendogamecube-europe.com	£129	1-year RTB	IBM Power PC Gekko 485MHz	24MB	none	n/a	not supplied		not supplied	not supplied, unless bought as a bundle	110x150x161mm	1.4kg	ATI/Nintendo Flipper/ 16MB	6-12m in game conditions	4.1-channel Dolby ProLogic surround	N	requires separate adapter
Sony PlayStation2	N/A	www.uk.playstation.com	£199	1-year RTB	Emotion Engine 300MHz	32MB	none	n/a	not supplied		not supplied	not supplied, unless bought as a bundle	301x182x78mm	2.2kg	graphics synthesiser/ 4MB	66m peak	5.1-channel Dolby Digital surround	Y	requires separate adapter

internet. Online gaming will be available later this year (see box on previous page).

While the specs appear basic in PC terms (a mere 64MB of RAM for both main processor and graphics), a huge amount of gaming power has been built into it and it's been tailored to suit programmers. The graphics processor works much like a top-notch PC 3D graphics card, preprogrammed to understand a range of fancy techniques such as bump mapping, volumetric textures and triangle tessellation. And of course there's the anti-aliasing – you won't see any of the PS2's jagged edges here.

The result is very impressive graphics. In our test it was often on a par with the PC, and never far behind. Spider-Man had real-time shadows, calculated depending on your position relative to the sun. FIFA's lighting varied depending on the time of day and the players' kit had cloth shadowing.

The other result of the PC-like architecture is that it's easy for developers to port titles to Xbox. So as well as Xbox-exclusive games, you can expect most upcoming PC titles to soon be on this platform. Right now there are just around 50 Xbox games, but over 300 more are in development.

It's hard to fault the hardware, but the controller is a bit of a drawback. It's so large, you'd think its target market was professional basketball players. Grownups find the bulk a bit uncomfortable and younger kids would struggle to use it at all. Luckily you can buy smaller ones with the same buttons but there aren't as many buttons as the PS2 controller.

As a games machine, the Xbox is head and shoulders above the PS2. As a brand it has a way to go: Microsoft has zero street cred. But with a decent range of games and many more on the way, this is a performance winner and a bargain.

Mesh X-treme 2000+ Pro

Pitting a PC that costs over £1,000 up against sub-£200 games consoles is by no means a level playing field. So putting performance aside for a minute, it's worth looking at what you get for your money. We tested the Mesh X-treme 2000+ Pro, which is specified for gamers and comes with a number of important extras. The supplied Force Feedback joystick, surround sound speaker package, wireless keyboard and mouse would cost over £200 if bought separately. In comparison, the games consoles come with a single gamepad controller. The PC also has a 19in monitor, whereas you need to plug the consoles into a TV, and if you don't have surround sound speakers then tough luck. Console versions of games also tend to cost around £5 more than PC versions.

While setting up a console is just a matter of plugging it in, PCs take longer

and involve a lot of cables. The PC we tested worked beautifully out of the box, with all drivers thankfully preinstalled, but just unpacking and plugging everything in took over half an hour. This isn't a machine that you'd tuck under your arm and take round to a friend's house for the evening. Games also need installation the first time you play them, which takes five to 10 minutes. Also, as we all know, PCs can crash, whereas consoles rarely do and never need more than a quick restart.

In our test, though, the Mesh was on its best behaviour. Games performance was excellent, with graphics that were generally the best on test. Like the Xbox, these included real-time shadows, smoke particles and complex levels of detail. At 2,048x1,536 pixels, the resolution is far higher than that of the consoles. Also unlike consoles, you can opt to turn off some levels of detail in return for faster performance. The occasional graphics letdown was from the programmers, not the PC – for example, Spider-Man had a lazy circle of shadow at all times, which ruined its otherwise breathtaking looks.

What the PC is missing is a killer controller. The supplied joystick is good, but it's best for flying and shooting games. Otherwise you're left with keyboard and mouse – these will control the game, but might leave you with an aching hand. The most important controller any gamer can own is a gamepad (see the *Gaming accessories* box on the previous page). There are plenty of PC gamepads around, but none is as good as the PS2 controller.

Try two players head-to-head on PCs and control is even trickier – although some controllers can be daisy-chained together. But the PC does excel at multiplayer gaming, and playing online is



← These shots are taken from Spider-Man – all of the consoles have their own version of the game (from top: GameCube, Mesh X-treme, Xbox, PlayStation2). Note how the detail on the PS2's skyscrapers looks impressive... until you see at the Xbox version

available now, not sometime later in the year. A bonus is that you don't have to be an internet whiz to play over the web; when you install Tony Hawk 3 it automatically offers to connect you to Gamespy.com. Offline, the PC is still the platform of choice for specific genres of games, such as military strategy, in-depth adventure and, for now, multiplayer online gaming.

Conclusion

A well-specified PC is the ultimate games machine in terms of performance, with the Xbox coming a close second. The many other uses for the PC help to justify its higher price. But before you get the credit card out, ask yourself whether you really want to mix business with pleasure.

Unless you're into specific genres of game that are dominated by the PC, there's a strong argument for buying a £200 Xbox instead. You get incredible levels of gaming power for your money, no technical hassles and – soon – multiplayer gaming on broadband internet.

The PS2 is the coolest console among teens and the top seller, making it easier to swap games with friends. The range of games is excellent and it's the natural choice for a PS1 gamer who doesn't demand state-of-the-art performance. The GameCube, meanwhile, is a great machine to buy for younger kids – the price is right and the games tend towards the kiddie market. ■

Gaming accessories

Consoles typically come with a single gamepad, which means forking out an extra £60 or so if you want enough controllers for four-player gaming. PCs often ship with no controllers, although the Mesh X-treme comes with the excellent Microsoft SideWinder Force Feedback 2 joystick (£90 when bought separately). Joysticks are good for flight sims and other flying/shooting games, but gamepads rule for general arcade action. The Logitech Wingman and Microsoft SideWinder are well-supported PC gamepads, starting at £20. There's a wide range of controllers for PC game aficionados. Wheel/pedal combinations start at around £50. For the ultimate in realism, the Logitech Momo Force (£159) has a hand-stitched leather steering wheel, aluminium pedals, gear shifters and six programmable buttons. This and the Microsoft joystick both offer force feedback – so the wheel or stick moves in reaction to the game, jerking away when you get hit and juddering when you spin off the track.

Controllers aside, to get truly immersed in a game you'll also need decent surround-sound speakers and a subwoofer. If you have a home cinema setup, consoles will work with your existing speakers. The PC we tested came with Creative Labs Inspire 5300 speakers (£100 when bought separately), which were very powerful. For your PC to be able to make full use of these, make sure your sound card supports 5.1 channel surround sound. PC headsets like the Microsoft SideWinder Game Voice (£35) and the Plantronics Audio 70 (£25) provide great audio support in online team games, helping you pinpoint the sound of enemy footsteps and allowing you to talk to teammates over the internet. Similar products like the Logitech USB Headset for PS2 will arrive later in the year for online console gaming.

