

# ALL-IN-ONE PCs

We report on our first tests of compact all-in-one desktop computers to see if they are the home PCs of the future, and to help you choose the right machine for you

All-in-one PCs could well be the happy medium you're looking for in a computer.

These space-saving, compact computers have the ease of use and simple set-up of a laptop, coupled with the benefits of a traditional desktop PC, such as a full-sized screen and a keyboard and mouse.

The big advantage is size. Instead of a large PC with a separate screen taking up valuable space, all the internal computer parts – such as the processor and graphics card – are encased neatly inside a slim monitor. And fewer separate parts mean fewer wires. Most all-in-ones come with a wireless keyboard and mouse, so the only wire you actually need is the one for power.

There are drawbacks with all-in-one PCs, though. If you're looking for lots of power or you like to upgrade the different components of your PC, an all-in-one isn't for you. The slimline design comes at a price, too – you'll pay more than you would for an equivalent desktop PC and monitor.

## Computer testing

This is the first time we've tested all-in-ones and we've focused on how they're used in the real world. For example, we assess how easy it is to access the ports and sockets: having a bunch of USB ports on the back of the monitor can make connecting devices such as digital cameras awkward. We assess how well each all-in-one handles everyday tasks that would be sufficient for most needs – such as burning a DVD – as well as more demanding tasks, such as playing video games.

If you're interested in power-intensive gaming or video editing then a higher-spec desktop PC that can be upgraded over time may be more suitable than an all-in-one. The sheer range and speed of change of conventional desktop PCs means we don't test individual models, but if you're considering buying one, our reliability ratings at [www.which.co.uk/desktoppcs](http://www.which.co.uk/desktoppcs) are a good starting point.

## Ports and sockets

You'll find the same connections that you get on a desktop PC such as USB ports, an Ethernet port (for wired networking) and a memory card slot. Expect to find at least four USB ports. Ideally, two or three of them should be on the side of the monitor for ease of access. Reserve the ports on the back for devices you're not going to unplug often.

## Remote control

Their large, good-quality screens make all-in-ones excellent media PCs. Many come with a remote control to complement this, making controlling films or music simpler.

## Memory

Ram is the computer's short-term memory and is used to perform tasks. Having more memory enables the computer to multi-task effectively. It's worth having at least 4GB of Ram if possible, to keep all your programs running smoothly.

## TV tuner

Some all-in-ones can double up as a television; they incorporate a built-in digital TV tuner so you can record and watch TV using Windows Media Center. You'll still need to attach an aerial to your computer though.

## Wireless connections

All the all-in-ones in our test are able to connect across a wireless network. The current fastest wireless standard is 802.11n. You'll find that some models still use 802.11g. It's slower, but you're unlikely to notice unless you transfer a lot of data across your wireless network. Wireless peripherals are also common.

PHOTOGRAPHY BY EUGENIO FRANCHI



## Webcam

The all-in-ones we tested all have a built-in webcam for video chat across the internet.

## Touchscreen

A number of all-in-ones have touchscreens. While this feature may have benefits for children or inexperienced computer users, it's not a particularly compelling feature. Windows 7 – the operating system from Microsoft – supports touchscreens but we find it easier to use a mouse.

## Speakers

Unless you need high-quality sound, there's no need to find additional space for a set of computer speakers as these come built into the screen.

## Dimensions

A key advantage of an all-in-one is its size. You only need to find room for the screen and keyboard. Monitor thickness ranged from 11cm to 25cm in our test, and screen sizes range between 19 inches and 23 inches or more.

## Processor

The processor is the brain of the computer. The two major manufacturers, Intel and AMD, produce a wide range. Intel's most powerful processors are in the Core i5 and Core i7 ranges, while AMD's are in the Phenom II range. The more cores, the more powerful the processor. Unless you're planning on editing lots of HD video, however, a dual-core chip is sufficient.

## Monitor

Unlike a desktop PC, once you've chosen your all-in-one, you're stuck with the monitor. Make sure you choose carefully. If you only want to surf the web and write emails, a 19/20-inch screen will do fine. If you plan to watch films, edit photos – or play games, a larger screen with a 1920x1080 full HD resolution is better.

## Optical drive

The disc drive sits on the side of the screen so make sure there's enough space around the machine to access it. None of the all-in-ones we tested have Blu-ray capabilities to make the most of the impressive displays. If you want Blu-ray you can buy a separate drive to connect to your PC (from around £60).

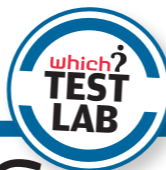
## Storage

The hard disk is the place to store all your programs, documents, photos and other files. Programs and some files – such as video files – can take up a lot of room so the bigger the hard disk, the better. Even a 500GB drive could fill up quite quickly, so consider how much you need to go on with. If you run out, an external hard drive is an easy and affordable alternative.

## Keyboard and mouse

Unlike a laptop, an all-in-one PC comes with a full-sized keyboard, making it much easier and more comfortable to use than the one built in to a laptop. Some are wireless as well and, unlike a laptop, you can replace the keyboard and mouse if you don't like them.





# TEST LAB ALL-IN-ONE PCs

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## More all-in-one PCs

We'll be continually adding new models to our all-in-one PC tests. You'll find reviews of the latest models tested, including Best Buys at [www.which.co.uk/allinonepcs](http://www.which.co.uk/allinonepcs)



### APPLE iMAC 21.5-INCH £1,020

WHICH? TEST SCORE 74%

**PROS** The entry-level iMac is slim, silent and stylish. Build quality is great and its 500GB hard disk offers plenty of storage. It proved impressively fast when copying and moving files around. Its 21.5-inch screen with 1920x1080 full-HD resolution puts it in direct competition with the Sony Vaio,

but the iMac trumps it for clarity, brightness and colour vibrancy. The iMac has more than enough power to motor through most applications. Graphics on 3D games were smooth-moving and detailed. Apple's 'Magic Mouse' looks almost feature-less, yet its touch-sensitive surface enables all kinds of nudging and swiping to sweep through photos or scroll websites. Audio is surprisingly good for such a slimline system.

**CONS** Windows users might take time to acclimatise to the iMac. The low-profile wireless keyboard has small cursors and no numeric keys, which takes some getting used to. There's no Blu-ray drive or touchscreen.

**CHEAPEST HIGH STREET STORE** Apple store  
**ALSO AVAILABLE AT** PC World



### LENOVO IDEACENTRE A700 £900

WHICH? TEST SCORE 70%

**PROS** This solidly constructed all-in-one is one of the best we've seen for 3D game playing and really excels in more graphically intensive tasks, too. The built-in speakers have a clean and well-balanced tone and we like the touch-sensitive volume controls on the front of the PC.

The A700's keyboard is robust and easy to use and the mouse is just as good. It has just about every port you could ask for, with six USB ports, two on the side of the screen, plus HDMI input and outputs and Gigabit (high-speed) Ethernet for wired network connections. It has a fast wi-fi connection, a very effective TV tuner and an optical output for connection to a separate surround-sound system.

**CONS** The 23-inch, 1920x1080p, full-HD screen is not the best we've seen. The power supply gets warm while the PC is in use. A Blu-ray drive is an optional and costly extra.

**CHEAPEST HIGH STREET STORE** Currys, Dixons and PC World  
**ALSO AVAILABLE AT** Amazon, Dabs.com



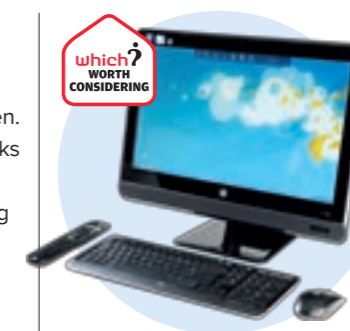
### PACKARD BELL ONE TWO M £599

WHICH TEST SCORE 68%

**PROS** The OneTwo M handles basic tasks such as web browsing and office applications well. The 19.75-inch touchscreen display

shows crisp detail and copes well with bright lighting conditions. It has an effective, multi-touch-capable touchscreen. The built-in Freeview tuner works flawlessly with Windows 7's Media Center software, enabling easy recording and playback of programmes.

**CONS** The relatively low spec means it's not a good choice for those wanting to carry out graphically demanding tasks such as video editing. It also struggles with 3D graphics.  
**CHEAPEST HIGH STREET STORE** Currys, Dixons, PC World  
**ALSO AVAILABLE AT** Pixmania



### HP ALL-IN-ONE 200 £574

WHICH? TEST SCORE 64%

**PROS** This model has a simple, no-fuss design. In some tasks, such as compressing video for use on a smartphone, it delivered

an above-average result. Its 21.25-inch screen can run HD video and an LED backlight helps it produce bright images in all lighting. The matt finish means it doesn't deliver the deepest blacks, but it makes the screen less reflective. It can double as a TV and a video recorder.

**CONS** It feels plasticky. Its low spec is apparent for more graphically intensive programs where it begins to struggle, and its scores in 3D tests are poor.  
**CHEAPEST HIGH STREET STORE** Currys, Dixons, PC World  
**ALSO AVAILABLE AT** Amazon, Oyyy.co.uk



### SONY VAIO VPC-J11M1E £850

WHICH? TEST SCORE 72%

**PROS** This is an elegant, understated machine. The 21.5-inch, full-HD screen is excellent, producing sharp, vibrant, high-contrast images. It's perfect for editing photos or watching movies. The display functions effectively as a touchscreen device. The slimline

keyboard with its standard layout and mouse offer an excellent and more conventional way of working. The mouse has a responsive scroll wheel. The built-in stereo speakers are good with clear output and more bass than you might expect. The NVIDIA graphics processor helps to deliver a respectable performance in 3D applications, though it doesn't have the power needed for modern action games. The newer 802.11n wi-fi standard is supported, along with Bluetooth and Gigabit (high-speed) Ethernet.

**CONS** Two of the five available USB ports are on the rear of the machine and are not easily accessible. We would have liked a Blu-ray drive.  
**CHEAPEST HIGH STREET STORE** Currys, Dixons and PC World  
**ALSO AVAILABLE AT** Pixmania



### ACER ASPIRE Z5610 £816

WHICH TEST SCORE 69%

**PROS** We were impressed by the Aspire's brushed-metal style and sturdy construction. It starts up quickly and achieved high scores in our most processor-intensive tests. The 1TB (a terabyte is 1,000GB) hard disk proved speedy with ample room for photos, music and video.

The 23-inch, 1920x1080 full-HD screen is bright and clear in most lighting conditions, though the glossy coating is highly reflective. The display doubles as a multi-touch-capable touchscreen. It comes with additional software, including media-management and social networking apps. The built-in stereo speakers are surprisingly powerful with lots of bass and a good, clean treble. The Aspire boasts a TV input. Use this with Microsoft Windows 7's excellent Media Center software, and you can watch and record Freeview TV.

**CONS** Unfortunately, it only has a DVD rewriter, not a Blu-ray drive. The keyboard has a disappointing spongy action.  
**AVAILABLE AT** Ebuyer.com, Play.com, Oyyy.co.uk

	SPECIFICATION					WHICH? TEST PERFORMANCE				
	PRICE (£)	SCREEN SIZE (INCHES)	PROCESSOR	STORAGE (GB)	DIMENSIONS HxWxD (MM)	SCREEN QUALITY	PERFORMANCE - EVERYDAY USE	PERFORMANCE - ADVANCED USE	SCORE (%)	
1	APPLE iMac	1,020	21.5	Intel Core i3 3.06GHz	500	460x530x190	★★★★	★★★★★	★★★★★	74
2	SONY VAIO VPC-J11M1E	850	21.25	Intel Core i3 350M 2.26GHz	500	395x525x170	★★★★	★★★★★	★★★★	72
3	LENOVO IdeaCentre A700	900	23	Intel Core i3 350M 2.26GHz	640	440x570x170	★★★	★★★★★	★★★★★	70
4	ACER Aspire Z5610	816	23	Intel Core 2 Quad Q8200 2.33GHz	1000	480x580x180	★★★★	★★★★★	★★★★	69
5	ACER Aspire Z5700 <sup>a</sup>	900	23	Intel Core i5 650 3.2GHz	500	480x575x150	★★★★	★★★★	★★★★	69
6	PACKARD BELL OneTwo M <sup>b</sup>	599	19.75	Intel Pentium Dual Core T4500 2.3GHz	640	420x510x150	★★★★	★★★★★	★★★★	68
7	PACKARD BELL OneTwo L	800	23	Intel Core i3 540 3.07GHz	1000	490x590x170	★★★★	★★★★	★★★★	67
8	HP TouchSmart 300	972	20	AMD Athlon II X3 400e 2.2GHz	750	415x520x250	★★★★	★★★	★★★★	66
9	SAMSUNG U200	580	19.75	Intel Pentium T4400 2.2GHz	500	380x505x110	★★★	★★★★	★★★★	65
10	HP All-in-one 200	574	21.25	Intel Pentium Dual Core E5500 2.8GHz	500	460x540x240	★★★★★	★★★★	★★★★	64
11	DELL Inspiron One 23	579	23	Intel Pentium P6100 2GHz	500	420x570x150	★★★★	★★★★★	★★★	63
12	ASUS ET2400	716	23	Intel Pentium Dual Core E5500 2.8GHz	1000	465x580x240	★★★	★★★★	★★★★	60
13	LENOVO IdeaCentre A310	817	21.5	Intel Core i3 350M 2.26GHz	500	410x520x210	★★★	★★★★	★★★★	51

**Note** We have used the word PC throughout as a generic term for computer to include Apple Macs. <sup>a</sup> Specifications for this model have changed since we tested. The closest version to the model we tested now has a 1TB hard drive. There is also a cheaper model available with a less powerful (Intel core i3) processor for £800 <sup>b</sup> Specifications have changed since we tested. **Memory (not included in table)** All models have 4GB of memory except the Packard Bell OneTwo M and the HP All-in-one 200 which have 3GB.

## Using the table

**Specification**  
**Price** see p27  
**Screen size** Diagonal measurement

**Test Performance**  
**Screen quality** Appearance of on screen image in a range of lighting conditions  
**Everyday use** Includes start-up time, speed of copying data and effectiveness

of wireless connection  
**Advanced use** includes speed of compressing video, speed of copying data across a wired and wireless network and effectiveness at playing games

**Score** Ignores price and is based on:  
Ease of use 40%  
Performance 25%  
Screen and sound 25%  
Versatility 10%