

TOP 10 17IN & 19IN MONITORS

		17in monitors	Tube type	Viewable area	Dot pitch	Max resolution @75Hz @85Hz	Dimensions (wxdxh)	Weight
1		Mitsubishi Diamond Pro 750SB 0845 121 9200 www.mitsubishi-monitors.com NEW	• £139 ex VAT • 3-year onsite warranty • First review Feb 03	Diamondtron Superbright aperture grille	16in	0.25mm	1,600x1,200 1,280x1,024	397x415x392mm 17kg
2		ViewSonic P75F+ 01293 643 900 www.viewsonic.com/uk NEW	• £169 ex VAT • 3-year parts and labour warranty • First review Feb 03	PerfectFlat AG aperture grille	16in	0.25mm	1,600x1,200 1,280x1,024	409x422x401mm 18kg
3		Iiyama Vision Master Pro 413 01438 745 482 www.iiyama.co.uk LAST MONTH 1	• £159 ex VAT • 3-year onsite warranty • First review Feb 02	Diamondtron M2 aperture grille	16in	0.25mm	1,600x1,200 1,280x1,024	408x430x420mm 16.5kg
4		Benq G781 01633 628 600 www.benq.co.uk NEW	• £124 ex VAT • 3-year onsite warranty • First review Feb 03	FST shadow mask	16in	0.25mm	1,280x1,024 1,152x864	406x413x423mm 16kg
5		LG Flatron F700P 01753 500 470 www.lge.co.uk NEW	• £159 ex VAT • 3-year onsite warranty • First review Feb 03	LG Flatron aperture grille	16in	0.24mm	1,600x1,200 1,280x1,024	415x433x413mm 18kg

		19in monitors	Tube type	Viewable area	Dot pitch	Max resolution @75Hz @85Hz	Dimensions (wxdxh)	Weight
1		Mitsubishi Diamond Plus 93SB 0845 121 9200 www.mitsubishi-monitors.com NEW	• £179 ex VAT • 3-year onsite warranty • First review Feb 03	Diamondtron Superbright aperture grille	18in	0.25mm	1,600x1,200 1,280x1,024	442x448x443mm 23kg
2		CTX PR960F 01923 810 800 www.ctxeurope.com LAST MONTH 1	• £275 ex VAT • 3-year onsite warranty • First review Apr 02	FD Trinitron aperture grille	18in	24mm	1,600x1,200 1,600x1,200	406x469x485mm 26kg
3		ADI MicroScan P900 01923 474 460 www.adiuk.com NEW	• £155 ex VAT • 3-year onsite warranty • First review Feb 03	FST shadow mask	18in	0.26mm	1,600x1,200 1,600x1,200	446x469x466mm 21kg
4		LG Flatron F900P 01753 500 470 www.lge.co.uk NEW	• £229 ex VAT • 3-year onsite warranty • First review Feb 03	LG Flatron aperture grille	18in	0.24mm	1,600x1,200 1,600x1,200	467x473x474mm 24kg
5		Samsung SyncMaster 957DF brochure@samsung.co.kr www.samsungelectronics.co.uk NEW	• £265 ex VAT • 3-year onsite warranty • First review Feb 03	DynaFlat shadow mask	18in	0.24mm	1,600x1,200 1,280x1,024	440x460x461mm 21kg

TOP 10 17IN MONITORS

1 Mitsubishi Diamond Pro 750SB
A flat-panel may look more stylish on your desktop, but the sheer quality and value for money of today's 17in CRT (cathode ray tube) monitors ensures that the smart user will still plump for this bulkier technology. The Mitsubishi Diamond Pro 750SB is a case in point. Offering

a full 16in of glorious technicolour (due to the limitations of CRT technology, the actual viewing area is about an inch less than the tube size), this screen will cost you less than half as much as a comparable flat-panel. The 0.25mm dot pitch offered by the Diamondtron Superbright tube isn't the smallest on offer, but this appears

new



	USB downstream	sRGB	Superbright control	Power	Mac compatible	Dual ports
		Antiglare		Environmental compliance		BNC connectors
	no	yes	yes	66W	yes	no
		yes		TCO 99		no
	no	no	yes	95W	yes	no
		yes		TCO 99		no
	no	yes	yes	120W	yes	no
		yes		TCO 99		yes
	no	no	no	100W	yes	no
		yes		TCO 99		no
	4	no	no	83W	yes	no
		yes		TCO 99		no

	USB downstream	sRGB	Superbright control	Power	Mac compatible	Dual ports
		Antiglare		Environmental compliance		BNC connectors
	no	yes	yes	88W	yes	no
		yes		TOC 99		no
	4	yes	no	125W	yes	no
		yes		TCO 99		yes
	no	no	no	115W	yes	no
		yes		TCO 99		yes
	4	no	no	103W	yes	no
		yes		TCO 99		yes
	no	no	no	110W	yes	no
		yes		TCO 99		no

to make little difference to image quality. The healthy resolution support allows you to go right up to 1,600x1,200 should you wish, and although the menu system could have been easier to grasp, the wealth of onboard tools and functions makes it worth the effort.

The monitor delivers a riot of colour, combining a rich palette with wonderfully sharp image definition, although the

ViewSonic manages to push it into second place on graphics quality. The Mitsubishi scores highly for its strong text output, however, and if the basic picture isn't clear enough, you can boost brightness with a press of the Superbright button.

As an all-rounder Mitsubishi's Diamond Pro 750SB is peerless and the £139 price tag turns an almost irresistible purchase into a true gem.

2 ViewSonic P75F+

At £169, the P75F+ is the most expensive of the 17in monitors but it still offers plenty of bang for your buck, with credentials beyond question. Aided by the PerfectFlat AG tube, the luscious colour scheme generates the smoothest images, as intense and glowering at the bottom end of the spectrum as they are light and crisp at the top. The Ultrabrite button (allowing to give a quick boost to the brightness of the screen) is useful, although, even with this, text output isn't quite the match of the other models.



There's very little to fault on the ViewSonic P75F+. Resolution support (85Hz at 1,280x1,024, with 1,600x1,200 thrown in for good measure) is as good as it needs to be, although a few extra features (such as USB or sRGB support) wouldn't have gone amiss. The control panel allows for swift option changes, although it isn't a particularly intuitive system, and the dual select buttons are as uncomfortable to operate as they are confusing.

For the very best graphics quality this 17in screen has the edge but, with text handling also taken into account, it falls behind the Mitsubishi. However our biggest complaint about the ViewSonic is its price tag – for just £10 more you can buy the magnificent 19in Mitsubishi Diamond Plus 93SB. Despite this, if graphics quality are your most important consideration, the ViewSonic could arguably lay claim to the Best Buy award.

3 Iiyama Vision Master Pro 413

Despite some enhancements, Iiyama's efforts to keep the 413 at the top of the 17in chart have been in vain. But to be beaten by the first-class Mitsubishi and ViewSonic screens is no disgrace; this is still a very good monitor.

In essence, the Iiyama is extremely similar to its rivals, pushing its aperture grille



technology, sRGB and strong resolution support to the maximum. The absence of a USB hub is also a minus although, as this is becoming something of a trend across CRT monitors, it would be unfair to single-out the Iiyama for criticism.

Image quality is always a strength with Diamondtron tubes, and the Iiyama's exciting graphics output is only a notch down on the superb ViewSonic and Mitsubishi screens. The image might not be quite as focused as its rivals, but the results can't fail to impress. Neither will the clear text output disappoint, although here again the Mitsubishi is superior.

The Iiyama doesn't quite have the all-round performance (or, in the case of the Mitsubishi, the competitive price tag) to keep it in the top two, but anyone looking for a high-calibre 17in monitor should count this as a real contender.

4 Benq G781

New to our monitor charts, Benq is hoping to capture readers' attention with a 17in CRT that's priced to shift. Very much a bare-bones model, the £124 G781 offers

value for money if you're not looking for a comprehensive feature set.

However, the Benq's rather individual image quality can't fail to make an impression, and if you're determined to save the pennies, the G781 is worth hunting down.

5 LG Flatron F700P

The silver F700P may be attractive, but for image quality you should look elsewhere. The specifications compare favourably to the competition, but in operation the LG no more than hints at its supposedly high-calibre aperture grille technology, producing rather insipid graphics images. Its good text output may please business users, but that doesn't justify the mid-range price.



TOP 10 19IN MONITORS

1 Mitsubishi Diamond Plus 93SB
Mitsubishi's emphasis on the quality of the picture at the expense of the odd feature allows its latest CRT (cathode ray tube) to clear the deposed Best Buy from CTX by almost £100.

The 93SB keeps its features to the essentials. The useful sRGB standard is present, but other potential additions are deemed surplus to requirements. Resolution support isn't particularly expansive either, although the inability

to get a refresh rate of 85Hz at the top resolution of 1600x1200 is probably less significant than it may seem. Correcting the image is a fairly simple task thanks to the extensive onboard features set, although the intricate menu system will take some getting used to.

Mitsubishi has pulled out all the stops to make this screen as fresh and vibrant as possible, and here the 93SB fires on all fronts. The incisive text output is also of the highest quality and, as with the 17in version, a Superbright button is included – perfect for office applications and work requiring high levels of detail.

Perhaps the most impressive aspect of the 93SB is its bargain-basement price tag. It almost undercuts several 17in models, promising a vast 18in of actual viewing area for close to a third of the price of a comparable flat-panel. Combine this with the superlative performance, and you have a CRT monitor that should easily be able to hold on at the top of the chart for many months to come.



How we test

Monitors don't always travel well, so when testing a CRT (cathode ray tube) it's important to make sure that the screen is properly set up. The most common fault is that the image doesn't stretch right into the corners, so we use the horizontal and vertical resize/position controls to correct this. If the edges aren't flat, the onboard tools can even out faults. If there's an auto-adjustment facility, this can prove a timesaver, but it won't always produce a perfect image. We always experiment with the control panel to see whether the menu system is easy to grasp or confusing and complicated. The quality and layout of the buttons is also assessed.

For testing the image we use an eight-port adapter to connect multiple monitors to the same PC, allowing us to directly compare the screens. The monitors are always turned on at the same time – a minimum of 45 minutes before testing because CRT technology needs a few minutes in which to heat up before the colours are perfectly formed.

Our main testing suite is the industry standard DisplayMate (www.displaymate.com) program. With dozens of different screens designed to assess every aspect of monitor technology, this package is the clear winner when it comes to in-depth testing. In particular, we're looking to see that images are clear and focused – not just in the centre of the screen, but also right into the corners – and free of flicker, and that lines are straight and in perfect alignment. The ideal colour palette must not only be bright and vibrant, but balanced as well. Do the colours blur into one at the extremes of the palette, or is there suitable variation between the shades?

It doesn't matter how strong the testing package, there's always room for some real-world testing so we try out each screen with a number of graphics and text files to help us form an expert opinion of how each monitor performs.



2 CTX PR960F

Proving that they really don't make them like they used to, the CTX PR960F boasts a pixel-perfect 0.24mm dot pitch and resolution support that outclasses most of the other chart entries, including the new number one which knocks the costlier CTX into second place this month.

The PR960F is no slouch on features, either, offering full sRGB compliance, BNC connectors and a four-port USB hub. Helped by the FD Trinitron tube, this screen offers wonderful graphics and its sizzling colour palette pulses with energy. Text definition is good, too, almost matching the Mitsubishi's, and you could happily use this screen for detailed work.

We expect prices to fall as a product ages, so it's perhaps surprising to note that the CTX's only weakness is its relatively steep price tag. But if cost is no object, this is still a fantastic screen that only just falls behind the Mitsubishi.

3 ADI MicroScan P900

We usually wouldn't recommend cutting costs when it comes to choosing a monitor, but compared to some of the low-end monitors you can find piled up in warehouses ADI's £155 P900 isn't a bad choice for the undemanding user on a tight budget. Its colour scheme may be a little washed out and its images certainly aren't the sharpest, but the results aren't as bad as you might expect from the 0.26mm dot pitch.

Rather surprisingly, text output is good and this, combined with the capable resolution support (going right up to 1,600x1,200 with a refresh of 85Hz), makes it a decent choice for business users who won't need strong graphics facilities. If in any doubt, however, we would still



recommend paying more for a 19in monitor, and the availability of the Best Buy Mitsubishi for a mere £24 extra is the best reason we can think of for not choosing the P900.

4 LG Flatron F900P

Like its 17in cousin, the Flatron F900P's smart silver livery marks it out from much of the competition. But we couldn't help feeling that some of the care so obviously lavished on this monitor's external looks would have been better spent redesigning the control panel or the poorly moulded buttons, which make navigating the F900P's long list of features a laborious procedure. The unit offers a battery of BNC connectors, a generous four-port USB hub and strong resolution support, which allows it to claim a refresh rate of 85Hz at the high setting of 1,600x1,200.



However, the dark and strong image quality generally exhibited by aperture grille technology is considerably toned down here. It's not that the LG's picture is poor, but it lacks the depth of colour of the other aperture grille monitors. It is, however, well suited to close-up work and the 0.24mm dot pitch is possibly a factor in the crystal clear text definition.

5 Samsung SyncMaster 957DF

For our money, the Samsung's SyncMaster 957DF's image isn't quite sharp enough at either text or graphics. Although the versatile features do compensate, we would also have preferred more options. The SyncMaster is competent, but its general performance lags behind that of the top contenders.



Buying advice

Due to the limitations of CRT (cathode ray tube) technology, not all of the image generated by the tube will be visible. In practice, this means that a 19in monitor will only be able to display an 18in image, while a 17in screen will produce an image of 16in or less.

The type of tube used by the monitor will be a factor in the image quality. Aperture grille technology tends to be darker and more intense, as opposed to the lighter and breezier images generated by shadow mask FST tubes. A Superbright option can be a real boon for detail or text work.

The larger the monitor, the finer you want the dot pitch to be. Ideally you want a 19in monitor to be capable of handling 0.24mm, although 0.25mm is quite satisfactory. Think extremely carefully about any monitor with a dot pitch of 0.26mm or more. Also, check that the dot pitch is being measured vertically. Some manufacturers will quote the horizontal dot pitch, which generally shaves about 0.05mm from the figure.

Resolution support should be kept in perspective. Although it may be useful to have the option of 1,920x1,440, you certainly won't need a resolution higher than 1,600x1,200. A high refresh rate will produce smoother output and should reduce eye strain. Look for a refresh of 85Hz or higher on any resolution.

USB is a useful addition and the convenience of being able to plug new devices into the front of the monitor shouldn't be underestimated. Few monitors come with onboard speakers, but if you need sound capabilities and aren't put off by the rather tinny audio reproduction, onboard sound will save desk space.

If you need the colour scheme on your monitor to match the one used on your digital camera or printer, look for sRGB compliance. This sets down precise guidelines on the tone, saturation and brightness of each colour. However, results are always reliant to a certain degree on how good the device itself is.