

TOP 10 FLAT-PANEL DISPLAYS

		Flat-panel displays	Screen size	Dimensions (wxdxh)	Maximum power consumption	Brightness (candelas per metre²)	
			Maximum resolution	Weight		Contrast ratio	
			Pixel pitch				
1		Fujitsu-Siemens 5100FA 0800 004 003 www.fujitsu-siemens.com NEW	• £899 ex VAT • 3-year warranty • First review Feb 03	20in 1,600x1,200 0.255mm	482x200x458mm 9.2kg	80W 250 600:1	
2		Sharp LL-T1620H 0800 138 8879 www.sharp.co.uk NEW	• £354 ex VAT • 3-year warranty • First review Mar 03	16in 1,280x1,024 0.248mm	352x185x370mm 5.3kg	42W 300 400:1	
3		CTX S530 01923 810 800 www.ctxeurope.com LAST MONTH 1	• £249 ex VAT • 3-year warranty • First review Jan 03	15in 1,024x768 0.297mm	372x171x355mm 3.7kg	35W 200 300:1	
4		CTX PV722i 01923 810 800 www.ctxeurope.com NEW	• £389 ex VAT • 3-year warranty • First review Mar 03	17in 1,280x1,024 0.264mm	438x166x447mm 7.3kg	40W 250 500:1	
5		NEC MultiSync LCD-1860NX 0870 120 1160 www.nec.mitsubishi.com NEW	• £599 ex VAT • 3-year warranty • First review Mar 03	18.1in 1,280x1,024 0.281mm	398x200x370mm 8.3kg	43W 200 350:1	
6		Eizo FlexScan 722i 01483 719 505 www.eizo.co.uk NEW	• £669 ex VAT • 3-year warranty • First review Mar 03	18.1in 1,280x1,024 0.2805mm	399x178x428mm 6.7kg	55W 250 400:1	
7		CTX PV700 01923 810 800 www.ctxeurope.com LAST MONTH 2	• £395 ex VAT • 3-year warranty • First review Sep 02	17in 1,280x1,024 0.264mm	438x447x166mm 7.5kg	35W 200 350:1	
8		NEC 1700V 0870 120 1160 www.nec.mitsubishi.com LAST MONTH 3	• £449 ex VAT • 3-year warranty • First review Sep 02	17in 1,280x1,024 0.264mm	434x437x220mm 6.2kg	41W 250 400:1	
9		LG Flatron L1810B 0870 607 5544 www.lge.co.uk LAST MONTH 4	• £520 ex VAT • 3-year warranty • First review Nov 02	18.1in 1,280x1,024 0.2805mm	406x431x223mm 7.8kg	55W 200 350:1	
10		Philips 150P3A 020 869 2166 www.philips.co.uk NEW	• £320 ex VAT • 3-year warranty • First review Mar 03	15in 1,024x768 0.297mm	343x179x354mm 4.6kg	23W 250 350:1	



1 Fujitsu-Siemens 5100FA

The Fujitsu-Siemens, which we reviewed last month, is a costly display and will only appeal to those with a few extra coins in their pockets. However, anyone who decides to purchase the 5100FA will be rewarded with the best 20in flat-panel on the market.

Though expensive, this Best Buy offers good value for money for such a large screen. It may not have the chic styling seen on other flat-panel contenders, but the 5100FA shines with high-quality display output. It sports a maximum resolution of 1,600x1,200 and

because it's a large screen you can work at this resolution comfortably. The 5100FA's 0.255mm dot pitch creates sharp black text so you won't end up with a headache due to staring at a blurry screen. It's also possible to use the display in a bright room due to its high-end specifications. The impressive 600:1 contrast ratio is complemented by the 250 candelas brightness, giving the Fujitsu-Siemens a superb luminance and colour intensity. The wide 170-degree viewing angle allows for several people to watch the screen at the same time, making it great for multimedia presentations.

	Viewing angle	Digital connector	Portrait pivot	Software and extras
		Speakers	USB ports	
	170 degrees	yes	no	none included
		yes	no	
	170 degrees	yes	no	none included
		yes	no	
	120 degrees	no	no	none included
		no	no	
	170 degrees	yes	yes	Pivot Pro
		no	no	
	160 degrees	yes	no	ColourProfiles
		no	no	
	170 degrees	yes	no	none included
		yes	no	
	120 degrees	no	yes	none included
		no	no	
	140 degrees	no	no	none included
		no	no	
	160 degrees	yes	no	none included
		no	yes	
	150 degrees	yes	yes	Pivot Pro
		yes	no	

Round the back of the display are two connections – an analogue VGA and a DVI (digital visual interface) connection, so if you have a graphics card with a DVI port then you can get the best in digital picture quality. The Fujitsu-Siemens lacks a USB hub and you can't flip the screen to portrait mode but it does have integrated stereo audio. The OSD (onscreen display) menu system is easily operated by four buttons and when we tested the 5100FA we didn't come across any moiré patterns or ghosting problems – it passed most tests with flying colours.

2 Sharp LL-T1620H



We've reviewed Sharp flat-panel offerings in the past and they've always performed reasonably well, but the LL-T1620H really took us by surprise. It's the only display in the chart to sport a 16in diagonal viewing area, as well as combining a low price with generous specifications. All in all, it's worthy of our Recommended award.

One look at the display will tell you that Sharp spent its money on ensuring high image quality. It has a maximum resolution of 1,280x1,024 and the very



impressive 300 candelas make it one of the brightest displays we've seen. Add a 400:1 contrast ratio, choice of digital or analogue interface and a brilliant 170-degree viewing angle, and you have the specifications for a great display.

Text is crystal clear thanks to the 0.248mm dot pitch and Sharp has thrown in some decent colour calibration controls, so you can tweak hue or saturation to suit your viewing needs via the OSD (onscreen display). Consequently the LL-T1620H is a great budget corporate model that performs well on text and graphics but isn't so impressive as a home entertainment display.

While it scores highly on specifications, the Sharp could do better when it comes to styling. This display isn't wafer thin and won't particularly liven up your desk space. The LL-T1620H also lacks extra hardware features such as USB ports and a portrait swivel option. It does have integrated speakers, though – invaluable if you're pushed for work space.

3 CTX S530



Dropping to the third spot but still looking good is our ex-Best Buy, the CTX S530. On a pure value-for-money basis there's nothing around to top this Recommended model. In the flat-panel market, true value for money is to be found among the smaller displays. A 15in screen will save you around £150 on a 17in model and give you a viewing area equivalent to that of a 17in CRT (cathode ray tube) monitor.

For the high-end user, the CTX will seem short on features. There are no USB ports, for instance, and no DVI (digital visual interface) connector. Specifications are generally adequate, however. The 0.297mm pixel pitch and 300:1 contrast ratio are common across the 15in market,



as is the resolution support of 1,024x768.

CTX's trump card, though, is image quality.

The S530 is excellent for graphics and its intensely colourful palette catches the eye. Text on flat-panels is often far from successful, but the CTX's sharp character definition will make it easy to concentrate during long sessions.

In fact CTX is so confident you'll enjoy the S530's flawless picture, it is offering a 101-day guarantee against dead pixels. When a totally black screen is being displayed on your flat-panel, look for any white dots. These are caused by defective pixels in the LCD (liquid crystal display). Budget flat-panels tend to have up to five dead pixels, but if you can find even one on the S530, CTX will replace the screen.

4 CTX PV722i

The PV722i is a bargain-priced 17in flat-panel that's superbly designed and packed with high specifications. CTX has put this model together as a budget home entertainment system and the attractive black-and-grey finish mean it won't look out of place in the home. The wide 170-degree viewing angle allows DVDs to be comfortably watched by several people in the room.

It also has correction controls on the OSD (onscreen display) so you can adjust tints in flesh tones. When we hooked up a DVD, however, we did notice some pixellation out to the sides of the screen. That said, text was spot on thanks to a maximum resolution of 1,280x1,240 and

0.264mm dot pitch.

The screen can be swivelled to portrait mode, making it perfect for working on long documents, and the PV722i offers impressive luminosity thanks

to the 250 candelas and a 500:1 contrast ratio.

There aren't any integrated speakers but we were pleased to see the inclusion of DVI (digital visual interface) and VGA leads to go with the digital and analogue interfaces.

5 NEC MultiSync LCD-1860NX

NEC gave *PC Advisor* an exclusive look at this brand-new screen. It narrowly missed out on an award because there were simply too many models touting a better combination of value for money and specifications. That said, NEC knows how to offer consumers great image quality: if you want to watch DVDs on a huge 18.1in flat-panel display then look no further.

The 1860NX is a simple and streamlined model that will look good whether it's adorning an office or your living room. At 8.3kg, however, this isn't a lightweight model. The dot pitch and candelas ratings were disappointing on paper, as were the viewing angle and contrast ratio. Eizo's 18.1in FlexScan 722i managed to outperform the NEC on most of these specifications but it does cost an extra £100 thus ended up sixth.

Given its average specifications the MultiSync performed surprisingly well. We also liked the sharpness option on the OSD (onscreen display). Be warned, though, if you display graphics with the sharpness turned up the screen suffers from moiré patterns.

6 Eizo FlexScan 722i

The 722i is a decent enough model with good colour output but the extra cost means it doesn't get a higher chart position. This 18.1in flat-panel's plain finish doesn't carry any stylistic kudos. As with plenty of the other contenders, the FlexScan sports the increasingly common choice of digital or analogue connections – anyone with a DVI (digital visual interface)

How we test

When assessing flat-panel displays we take three major factors into consideration: specifications, features and price. A well-balanced combination of these qualities will give a model a better shot at a higher chart place but it's not a guarantee. Before any of the hopeful entrants are entered into the chart we evaluate its performance. It's all very well if products look good on paper but it's no good if they can't match that with a decent performance.

We use DisplayMate, developed by DisplayMate Technologies, to test the image quality of flat-panels. This calibration suite allows users to get the best possible picture quality from their display by manually tweaking configurations. More importantly it serves as an excellent way to evaluate the quality of all types of displays.

Obviously, we also look at text and graphics clarity over several resolutions without the need for DisplayMate, but this program allows us to evaluate a display with greater accuracy. For example, we look at several matrix test patterns to ascertain how good a model is at producing a uniform display all over the screen. The test images generated exaggerate the effects, making it easier to assess the quality. Other test screens allow us to assess ghosting or streaking, moiré problems, colour intensity levels and colour misregistration.

The final stage is playing some DVDs through the screen and assessing the picture, sound and so on.

connection on their graphics card should take advantage of the superior picture quality offered by this digital-to-digital connection.

It would be hard to have bad image quality with the specifications that grace the FlexScan 722i. The maximum resolution of 1,280x1,024 is average for this display size but the impressive 250 candelas and 400:1 contrast ratio ensure good



visibility in a light room. The 0.2805mm dot pitch was a bit of a let-down and we found the text lacked sharpness. However, the intense colour output and an OSD (onscreen display) that gave control over hue, saturation and gain made up for this.

7 CTX PV700

This ex-Best Buy slips down to seventh place as many other entries now offer better value for money. However, the PV700's image quality remains impressive for a budget model.

The CTX has an optimal resolution of 1,280x1,024 at 60Hz and a 0.264mm dot pitch. The 120-degree viewing angle means it's hard for more than one person to get a good look at the screen but that individual has a treat in store – this model offers a display comparable to flat-panels twice the price. We sometimes wonder how CTX manages to push such amazing picture quality from these average specifications.

The PV700 copes well with sharp text and the colour reproduction on DVD playback is accurate. The casing is plain and there are no extras like a USB hub or speakers but it does have a portrait mode.

When we first reviewed the PV700 it came out in a market where most 17in models cost £500 so it really impressed. Since then, however, there has only been a slight price drop. While it's still a good buy it's not quite the bargain it once was.

8 NEC 1700V

This 17in model from NEC lacks a decent feature base and extras, while sporting a higher price tag than other competitors with the same display size. As a result it can't compete in terms of value for money but it produces some of the best images we've seen on a 17in model.

With its 1,280x1,024 resolution and 0.26mm dot pitch, the 1700V yields impressive visual quality. The text display is deep and sharp while



Buying advice

Flat-panel display prices have dropped significantly over the past year but these devices are still much more expensive than conventional CRT (cathode ray tube) equivalents and the arguments continue over which technology gives the best image quality.

If you want to invest in a bigger screen then this is still a very expensive option – it's not unusual for a 21in flat-panel to cost the same or even more than a Power PC. Be prepared to pay around £1,000 for a screen above 21in. Drop down to 18in and you can pick up a great model around the £500-£600 mark.

If size isn't so much of an issue then prices for smaller screens are much more reasonable. Last year it would be impossible to pick up a flat-panel for under £300 but CTX has shown you can still get a good-quality, reasonably priced 15in model.

Always try to get a DVI (digital visual interface) connection on your flat-panel as it's better than an analogue one. Unlike CRTs, flat-panels are digital so if you use an analogue connection it has to convert the signal from digital to analogue and then back to digital, which introduces the possibility of interference. To take advantage of DVI, though, you'll need this type of interface on your graphics card.

If you really want to cut down on clutter then look for a model with lots of extras such as speakers, microphones or a USB hub.

Maximum resolution depends on the size of the flat-panel: a 15in model should be capable of 1,024x768; a 17-18.1in model should reach 1,280x1,024; while a 20in model should achieve 1,600x1,200. Whatever size the display, try and get a 0.26mm dot pitch or lower, 300 candelas or higher, a 350:1 or higher contrast ratio and at least a 150-degree viewing angle.

Up to five dead pixels are permissible under ISO 13406-2 in a Class 2 flat-panel. The only exception to this in our chart is the CTX S530, a Class 1 panel guaranteed free of dead pixels for 101 days.

colour is excellent. There's no pixellation and DVD playback is exceptional. Having said that, we were disappointed by the paltry viewing angle and it also lacks the benefits of a digital connection.

9 LG Flatron L1810B

Down but not quite out is the L1810B from LG – an attractive 18.1in flat-panel display at a price that beats many 17in models. Inevitably there are sacrifices, although for the most part they are fairly minor.

LG has also economised on specifications. The 0.2805mm pixel pitch, for example, is higher than we would like, while the 350:1 contrast ratio doesn't compete with some of the 17in models.

Like many flat-panels, the Flatron prefers higher resolutions so, although the image will be clean at 1,024x768 and the maximum mode of 1,280x1,024 (with a refresh rate of 75Hz), results are fuzzy at 800x600.

For the price, the LG's picture is surprisingly good – graphics are clean with vivid colour. Text, too, is

acceptable although not quite as finely focused as it could have been.



10 Philips 150P3A

Philips has turned out some great consumer electronics goods over the years, but the 15in 150P3A flat-panel isn't one of them. To be fair, it is affordable, looks good and has well positioned speakers in its base. But Philips seems to have forgotten about attention to image quality. The autocalibration button under the screen didn't improve the quality, DVD playback was grainy and nothing changes the bleached and washed-out colours.

Strangely, the Philips has better specifications than our Recommended CTX S530 but it can't come close in terms of picture quality output. Text is clear enough but this can't save the Philips from last place.



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