

The big picture

The best widescreen televisions take you closer to the action but the worst will give you a nasty case of double vision

New technology flat-panel screens, the arrival of high-definition television and the rapidly approaching switch to digital signals have combined to transform the TV market in the space of just a couple of years. Over the next six pages, we cut through the hype to reveal which widescreen televisions are really worth buying – and which are best avoided.

Working flat out

Perhaps the biggest change you'll notice if you haven't been shopping for a new television for a while is the huge number of flat-panel screens now on offer. Prices are still relatively high but they continue to fall, ringing the death knell for traditional sets based on the good old cathode ray tube (CRT). Indeed, we found only two new conventional TVs to test for this report – and they're both made by the same manufacturer.

Even this old technology isn't standing still – both the CRT sets we tested are about 1.5cm slimmer than a typical conventional TV would be, and one model is even high-definition (HD) ready – something that was previously seen only in flat-panel TVs.

Sound and vision

Almost all the TVs we have tested are HD-ready, meaning they meet the minimum requirements for watching HDTV. All you need to complete the picture is a subscription to an HD package with Sky satellite or Telewest cable services, which are the only companies broadcasting in HD at the moment.

Most new TVs also come with Freeview tuners built in. So if you live in a suitable reception area you'll be all set for the switch from analogue to digital TV that kicks off in 2008.

But it isn't all good news. Many of the TVs we've tested have great potential for viewing HD programmes but the picture isn't so good for normal TV broadcasts (see 'Insider information', p48). Because only a few programmes on cable and satellite are currently being broadcast in HD, we think some buyers are going to be disappointed.

Our Best Buys, on the other hand, are great TVs whether you are watching normal or HD broadcasts. In fact, our Best Buy Panasonic is probably the finest example of new TV technology we've ever had the pleasure of watching.

Our Best Buys are great TVs, whether you are watching normal or high-definition broadcasts



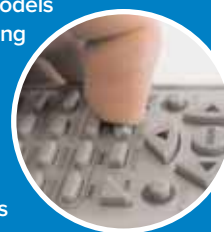
A peek behind the scenes at our TV testing laboratory

Screen reflections

Reflections on your TV screen, whether from a window during the day or artificial light after dark, can be irritating. When we're judging picture quality, our score takes into account the percentage of light reflected from the screen. CRT screens are made of glass and tend to be quite reflective, bouncing back 30 to 35 per cent of the light. LCD sets are more likely to have 'matt-finished' or treated glass and typically reflect about 25 per cent. In our test the two Sharp LCDs (8 and 16) reflected the least light.

Future TV testing

Rapid changes in TV technology mean our biannual test cycle can no longer keep pace with the deluge of new products. So from 2007 we will be increasing the number of TVs we test to around 120 a year – four times as many as in 2005. Not only will we be testing more models but we'll be doing it faster and more often than before. Our experts will be busy with continuous tests, covering everything from screen reflections to power usage. Keep an eye on our website, www.which.co.uk/tvs, for the monthly updates from next spring. Of course, we'll still be reporting regularly on TVs in the magazine as well.



Getting more channels for your money

Most new TVs now come with a Freeview digital tuner built in to them as standard. These are known as integrated digital TVs, or IDTVs. If you live in an area that offers Freeview reception (visit www.freeview.co.uk to check) this means you'll be able to receive more than 30 free digital TV channels and even listen to 20 digital radio stations through your telly.

On top of the extra channels, digital TV also allows you to access an

on-screen electronic programme guide (EPG), so you can plan your viewing for the week ahead. Many IDTVs let you configure the EPG to show only your favourite channels, and some models, like the Panasonic Best Buy, let you set up more than one 'favourite' EPG – handy in



a family household where CBeebies might be fighting with News 24 for prime viewing time.

Improvements to digital services are broadcast over the air and downloaded automatically by the Freeview receiver. You should check www.dtg.org.uk/retailer and the manufacturer's website regularly to see when updates are due.

If you're not in a Freeview area, Sky and Telewest offer alternative digital services.

**1 PLASMA**

71% Panasonic Viera TH-42PX600B

£2,200

This 42-inch Panasonic plasma stands head and shoulders above the competition. It's an HD-ready IDTV that is awash with great features and offers stunning pictures. The natural-looking high-definition pictures are the best we've seen to date, but picture detail, depth and colour are all very good when watching standard TV broadcasts, too. The eight-day EPG displays seven channels at a time.

A bit of fan noise may be audible when the volume is low but this doesn't detract from the dynamic stereo speakers' well-balanced sound. The Panasonic is available from Currys and John Lewis.

WE LIKE The memory card slot lets you view photos from a digital camera on the TV screen.

WHICH?
BEST BUY

Cheapest store Currys **Tuners** Integrated digital and analogue **Resolution** 1024x768 **Sockets** Three Scart (two RGB), two HDMI, S-Video, video, headphones, stereo audio, SD/MMC/Mini SD memory card slot **Scart link** Yes **Weight** 55.68kg

**2 LCD**

61% Sony Bravia KDL-V32A12U

£1,400

This 32-inch digital and HD-ready LCD Sony is an older model from the Bravia range, still available online.

Its picture quality sets it above many of its competitors and impressed our viewing panel in both standard and high-definition modes – it's consistently good, making it a pleasure to watch. The sound isn't bad either, although our listeners thought it lacked bass.

On the downside, the eight-day EPG is a little over-complicated, but this won't bother you if you use Sky or Telewest. The tiny buttons on the remote control can be fiddly to use.

WORTH KNOWING Like the other Best Buys it features a Scart link. This allows you to control compatible recording equipment via your EPG – much like a personal video recorder.

WHICH?
BEST BUY

Available Online **Tuners** Integrated digital and analogue **Resolution** 1366x768 **Sockets** Three Scart (all RGB), HDMI, video, headphones, stereo audio **Scart link** Yes **Weight** 22.4kg

**3 LCD**

60% Sony Bravia KDL-40S2010

£1,500

Another Best Buy from the popular Sony Bravia range, this HD-ready LCD comes with a Freeview box built in and a sizeable 40-inch screen. For picture quality it's our favourite larger-screened LCD, and was particularly impressive when watching in HD, but sound quality is not the best. It's straightforward to use and has a simply laid-out remote control, plus easy-to-access and well-labelled connections. The eight-day EPG displays 12 channels and it's simple to set up your favourites. The Sony is available from Comet and Woolworths.

WORTH KNOWING The TV has a 'Light Sensor' feature that, when selected, automatically changes the picture settings according to the ambient light in the room.

WHICH?
BEST BUY

Cheapest store Comet **Tuners** Integrated digital and analogue **Resolution** 1366x768 **Sockets** Two Scart (both RGB), HDMI, video, headphones, stereo audio, computer VGA **Scart link** Yes **Weight** 26.86kg

The 42-inch Panasonic stands head and shoulders above the competition

MEMBER BENEFIT

Win a Best Buy plasma television

Be the envy of your friends with our Best Buy television. We're offering a 42-inch Panasonic Viera TH-42PX600B plasma IDTV worth £2,200

TO ENTER, SIMPLY ANSWER THE FOLLOWING QUESTION:

From 2007 how many TVs will *Which?* be testing each year?

a) 30 **b)** 75 **c)** 120

To enter our Best Buy competition online, go to www.which.co.uk/bestbuycompetition or send your entry on a postcard to 'Best Buy October 06', *Which?*, PO Box 44, Hertford X, SG14 1SH. Include your name, address and postcode, daytime phone number and *Which?* membership

number (found on your *Which?* membership card as your user name).

Entries received by 31 October 2006 will be entered into the competition. Usual rules apply – go to www.which.co.uk/bestbuycompetition to see a full set of rules or see *Which?*, July 2006, p49.

Worth
£2,220


What you should look for

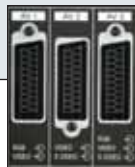
HDMI

If you're interested in HD this is the high-capacity input for high-definition video and audio signals. Two HDMI sockets mean you could plug in both an HD set-top box and an HD DVD player



SCART WITH RGB

Scarts connect equipment like DVD players and VCRs to your TV. For the best picture, look for Scarts that support the high-standard RGB signal



VIDEO OR S-VIDEO INPUT

This lets you plug other AV equipment, such as camcorders and games consoles, directly into your TV



POSITION OF SOCKETS

Sockets on the underside of the TV screen can make them awkward to access – but it's the best position if you want to mount your TV on the wall



Insider information

It's the ultimate contradiction: stylish flat-panel TVs look great and have the price tags to match, yet they rarely have the everyday picture quality to equal conventional CRTs of yesteryear. Our TV expert Mike Briggs explains why

Compared with conventional CRT TVs, flat-screen plasma and LCD displays boast much higher resolutions. They're typically capable of displaying 768 horizontal lines, making them great for displaying HDTV signals, which are made up of at least 720 lines.

However, a standard TV signal (the one most of us watch most of the time) is still made up of only 576 visible horizontal lines.

Cheaper conventional 50Hz CRT screens are well suited for displaying this amount of information. However, flat-panels have to make up for the mismatch between the lines broadcast (576) and the number of lines they're capable of displaying (768). They fill up all those spare

lines by 'Up-scaling', or adding extra lines or pixels. This requires digital processing software with fancy-sounding names like 'Pixel Plus' or 'Dynapix'.

Unfortunately, unless it's spot-on, Up-scaling can lead to unpleasant side effects such as 'smearing' (a ghost-like effect) or juddering on moving images. We've seen these problems on far too many new-technology TVs that we've tested lately.

If only they hadn't stopped making and stocking CRT TVs before getting LCD and plasma systems right....



'Up-scaling can lead to unpleasant side effects such as "smearing" and juddering'

How to buy

Some useful tips to bear in mind when making that expensive TV purchase

■ **PICTURE QUALITY** Check the source of the picture you are watching in the TV showroom – TVs in stores often screen HD pictures to make a good impression. This will give you an idea of how good HD can be but is certainly not representative of the picture quality you'll get via a standard broadcast signal or DVD. Something plugged into the HDMI socket at the back of the telly is a dead giveaway that you are being shown high-definition images.

■ **SCART SOCKETS** While you're round the back of the set, check for the number of Scart sockets. Three is better than two (see 'Get the best from your new television', opposite) but check whether they support the superior RGB signal (they are usually marked).

■ **ALLOW FOR EXTRAS** Budget for the extras. Most of the flat-panel TVs in the table can be wall mounted, but none comes supplied with the necessary brackets. Universal wall-mounting kits can cost anything up to £300 extra, but your new TV's guarantee may cover only brackets bought directly from the TV manufacturer.

MEMBER BENEFIT

FREE website access

70 televisions tested online

Which? members have free access to www.which.co.uk/tvs, which gives more details of these widescreen televisions as well as on all previously tested models that are still available.

Get the best from your new television

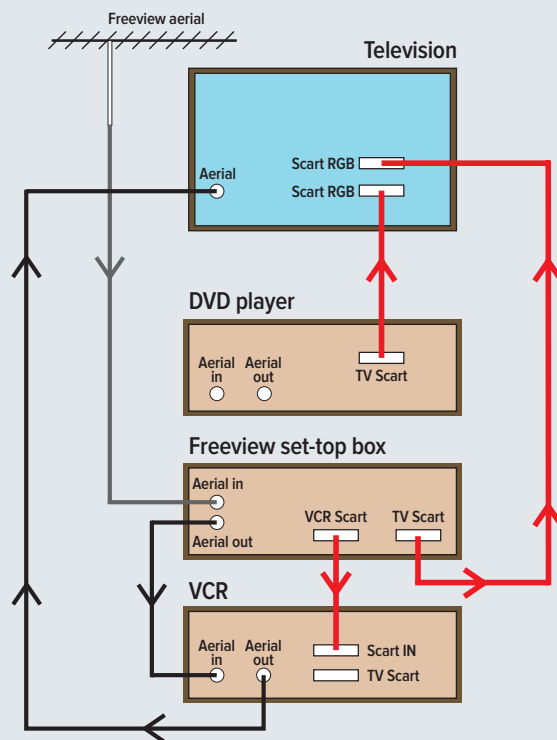
The hotchpotch of plugs, wires, sockets and boxes found beneath the modern telly can fox the most dedicated AV enthusiast. Our guide will help you clear up the clutter

IDTVs are increasingly popular, but if you own an analogue TV and a Freeview box, the diagram shows the best way to link them up with the common mix of VCR and DVD player.

This set-up allows you to record digital TV with your VCR – but you won't be able to record one channel while watching another. To do that, you need two digital tuners – the simplest way of achieving this is to buy a twin-tuner personal video recorder (see *Which?*, September, p60).

The TV in the diagram has two RGB Scart sockets, but if yours has only one, connect it to the DVD player for the best results.

See www.which.co.uk/tvs for more advice on connecting other combinations.



A fairly common set-up – DVD player, Freeview box and VCR

Budget buy

Want a decent widescreen TV for £600? It can be done

The Sharp LC-32P70E (8) is a 32-inch LCD TV with a fairly reasonable £600 price tag from PC World. That's £400 less than the lower-scoring Sharp Aquos LC32GA9E (16).

The warm and colourful picture of the LC-32P70E came close to winning a four-star rating in our tests. The screen resolution is lower than the other flat panels on test, giving the picture its softer edge but losing the TV HD-ready status. However, an HDMI socket makes it HD-compatible and picture quality is comparable to most HD-ready sets.

The digital EPG and 'Now and Next' functions didn't work properly in our test but Sharp has promised an over-the-air software update to fix the bugs.

The only models you can buy for £500 or less are traditional CRT TVs, but the two Samsung models we tested were mediocre.

Screen burn

Logos can damage your TV

Screen-burn can occur on plasma TVs when a high-contrast image such as a logo is displayed at a fixed position on a screen for a long period of time. Many broadcasters are toning down the brightness of their logos to reduce the risk, but we're carrying out some extra tests to look into the issue and will report on this later in the year.



More tests

If the screen sizes and price tags of the TVs in this test are a little large for you, we're testing small-screen TVs at the moment, including ten new 26-inch LCD models. They're all HD-ready and cost less than £1,000. Results for these models, including the Panasonic Viera TX-26LXD60 and Sony Bravia KDL-26S2010, will be online at www.which.co.uk/tvs in November.

We're also testing 15-, 17- and 20-inch LCD and CRT portables, including some with built-in DVD players. Brands include Philips and Hitachi, as well as lesser-known names such as DM Tech and Proline. Results will be online later this month – and we'll have a full report in the magazine next month.

Green buy

Enjoy Pop Idol without punishing the planet

If nightmare energy bills and the threat of global warming keep you awake at night, steer clear of plasma TVs. On average they use more than twice the power of 32-inch LCD screens and 2.5 times as much as conventional 32-inch widescreens. In fact, if everyone switched their main set to plasma rather than smaller-screened CRT sets we'd need 1,400 new wind turbines to keep them running.

The most energy-efficient TV in our tests was the Philips 32PF7521D/10 (15), above. It costs around £12 a year and consumes



just over 81 watts of power when on. Compare that with a typical 42-inch plasma screen – it'll cost around three times as much a year and use another 170 watts of power.

The Best Buy 40-inch Sony LCD (3) is one of the better choices if you're determined to enjoy the big-screen experience. It consumes about 100 watts less than a similar-sized plasma set.

Don't Buy

Oh dear. We've never been huge fans of rear-projection technology and this horrible set from Sagem (28) is a timely reminder of why. The weak and washed-out picture, poor viewing angles and rainbow effect on dark scenes are hallmarks of the technology at its worst.

All the same problems bedevil the HD picture, too, but if anything the dire sound quality is even worse. The whistling fan will occasionally drown out the hum and buzz of the speakers but if you actually want to listen to anything in peace, you can



forget it. The awful instruction manual is the icing on a badly made cake.

VERDICT 'Fatiguing' and 'painful', according to our experts. You have been warned.

New technology update

HDTV

To watch high-quality high-definition TV you usually need two things: a subscription to HD broadcasts from either Sky or Telewest and an HD-ready TV to watch them on.

HD-ready means that the TV has the minimum screen resolution and digital inputs to display both types of HDTV signal: 720p or 1080i. Even better broadcasts

(called 1080p) and TVs with higher screen resolutions are promising even better pictures in the future. But such broadcasts are likely to be some way off. See *Which?*, August, p68 for more.

HD-ILA

If you want a really big screen and a 42-inch plasma isn't quite grand enough, a rear-projection DLP (digital light

projection) TV is your obvious option. These work by bouncing light off millions of pivoting mirrors, but the picture can suffer from a 'rainbow' effect (see 'Don't Buy', above). The latest development comes from JVC (14) – it's a new type of rear-projection TV called HD-ILA and uses a technology called 'liquid crystal on silicon'.



Facts & Scores

More information from our television tests

In the mood

The Philips Ambilight system features lamps mounted at the rear of the TV that change colour (and ostensibly your mood!) depending on the programme you watch.

Four-day week

Most IDTVs can access an electronic programme guide of seven days or more. Disappointingly, these models from Philips give details only four days ahead, while the Philips 32PF9631 and 42PF9631 didn't implement the EPG at all in our tests.

Top-up TV

All the IDTVs except the Sagem have a common interface (CI) port. This allows a separately-bought module to be fitted and a Top-up TV card to be inserted, giving you access to 11 extra channels for £8 a month.

MODEL

- 1 **PANASONIC** Viera TH-42PX600B
- 2 **SONY** Bravia KDL-V32A12U
- 3 **SONY** Bravia KDL-40S2010
- 4 **PHILIPS** Cineos 42PF9631D/10
- 5 **HITACHI** 42PD9700U
- 6 **PANASONIC** Viera TH-42PX60
- 7 **SONY** Bravia KDL40V2000
- 8 **SHARP** LC-32P70E
- 9 **SONY** Bravia KDL-32V2000
- 10 **PANASONIC** Viera TX-32LXD60
- 11 **PIONEER** PDP-436SXE
- 12 **SONY** Bravia KDL-32S2010
- 13 **TOSHIBA** Regza 32WL66
- 14 **JVC** HD-ILA HD-56ZR7J
- 15 **PHILIPS** 32PF7521D/10
- 16 **SHARP** Aquos LC32GA9E
- 17 **FUJITSU** P42HTA51ES
- 18 **JVC** Dynapix LT40DS7
- 19 **PHILIPS** 42PF5521D/10
- 20 **PHILIPS** 32PF5521D/10
- 21 **TOSHIBA** Regza 32WLT66
- 22 **JVC** Dynapix LT32DX7
- 23 **PHILIPS** Cineos 32PF9631D/10
- 24 **SAMSUNG** LE40R74B
- 25 **GOODMANS** LD3250HD
- 26 **SAMSUNG** WS-32Z408D
- 27 **SAMSUNG** WS32Z409T
- 28 **SAGEM** Axiom HD-D45F

a HD compatible b Has DVI socket

MEMBER BENEFIT

Great savings on Best Buy TVs

Save up to 25 per cent on Best Buy televisions. Until 30 November Hughes Direct is



offering *Which?* members great discounts on the Best Buy Panasonic and Sony Bravia (40-inch model) widescreen televisions featured in this report.

See p79 of this issue for further details of this offer.

USING THE TABLE

We tested bestselling and new models from leading brands. The more stars the better.

Specification

Price For Best Buys we give the cheapest widely available high-street price as we went to press. Prices for other models are a guide to what you can expect to pay. For models that are available online

only, prices are in *italics*. **Screen** Diagonal measurement of the TV screen in inches.

Features

Scarts The number of sockets available to connect extra audio-video equipment to your TV. **HDMI** The number of high-definition media inputs available to connect HD equipment to your TV. **Audio out** A dedicated socket for connecting your TV

SPECIFICATION				FEATURES					WHICH? TEST PERFORMANCE				SCORE %
PRICE (£)	TYPE	SIZE (cm) WXHxD	SCREEN (in)	SCARTS	HDMI	AUDIO OUT	HD READY	IDTV	PICTURE	HD PICTURE	SOUND	EASE OF USE	
2,200	Plasma	108x69x14	42	3	2	✓	✓	✓	★★★★★	★★★★★	★★★★★	★★★★	71
1,400	LCD	82x55x11	32	3	1	✓	✓	✓	★★★★★	★★★★★	★★★★	★★★★	61
1,500	LCD	99x70x11	40	2	1	✓	✓	✓	★★★★★	★★★★★	★★★★	★★★★	60
1,850	Plasma	114x80x13	42	2	2	✓	✓	✓	★★★★	★★★★	★★★★★	★★★★	59
1,800	Plasma	114x65x12	42	3	2	✓	✓	✓	★★★★	★★★★	★★★★★	★★★	58
1,800	Plasma	102x69x9	42	3	2	✓	✓	✓	★★★★★	★★★★★	★★	★★★★	58
1,900	LCD	99x66x12	40	2	1	✓	✓	✓	★★★★	★★★★★	★★★★	★★★★	58
600	LCD	81x58x11	32	2	1	✓	see ^a	✓	★★★★	★★★★★	★★★★★	★★	55
1,300	LCD	80x54x10	32	2	1	✓	✓	✓	★★★★	★★★★★	★★★★	★★★★	54
900	LCD	81x56x12	32	2	2	✓	✓	✓	★★★★	★★★★★	★★	★★★★	53
2,000	Plasma	108x69x13	43	3	1	✓	✓	✓	★★★★	★★★★★	★★	★★★★★	53
1,000	LCD	80x54x10	32	2	1	✓	✓	✓	★★★★	★★★★★	★★★★	★★★★	53
800	LCD	81x56x12	32	2	2	✓	✓		★★★★	★★★★★	★★★★	★★★★	53
2,000	HD-ILA	132x96x44	56	3	1	✓	✓		★★★★	★★★★★	★★★★★	★★★★	51
900	LCD	94x52x12	32	2	2		✓	✓	★★★★	★★★★★	★★	★★★★	51
1,000	LCD	81x59x11	32	2	1	✓	✓		★★★★	★★★★	★★★★★	★★★★	51
1,500	Plasma	120x63x11	42	2	1		✓		★★★★	★★★★	★★★★★	★★	50
1,600	LCD	100x67x13	40	2	2	✓	✓	✓	★★★★	★★★★★	★★	★★	49
1,500	Plasma	124x67 x14	42	2	2		✓	✓	★★★★	★★	★★	★★★★	49
750	LCD	93x51x12	32	2	2		✓	✓	★★★★	★★★★★	★★	★★★★	49
1,000	LCD	80x56x11	32	2	2	✓	✓	✓	★★★★	★★★★★	★★★★	★★	49
1,200	LCD	81x55x14	32	2	2	✓	✓	✓	★★★★	★★★★★	★★★★	★★	48
1,100	LCD	94x52x12	32	2	2	✓	✓	✓	★★★★	★★★★	★★	★★★★	48
1,400	LCD	100x65x9	40	2	1	✓	✓	✓	★★★★	★★★★	★★★★	★★★★	48
600	LCD	80x56x11	32	3	see ^b	✓	✓		★★★★	★★	★★★★	★★	46
450	CRT	91x56x44	32	2				✓	★★★★	n/a	★★	★★★★	46
500	CRT	91x57x42	32	2	1	✓	✓		★★	★★	★★★★	★★★★	44
1,250	DLP	106x80x36	45	3	1	✓	✓	✓	★★	★★★★	★	★★	34

to a hi-fi to enhance its sound. **HD ready A** ✓ means the TV has the minimum screen resolution and digital inputs to receive and process high-definition broadcasts. **IDTV A** ✓ means the TV has a Freeview tuner built in.

Test performance

Picture/HD picture/ Sound/ Ease of use Ratings for

picture and sound quality plus ease of use are based on technical measurements and our expert users' views.

Score

Picture quality	40%
Sound quality	20%
Ease of use	20%
Features	10%
Power use	5%
IDTV functions/ Teletext	5%

Contacts

Fujitsu
020 8731 3466
www.fujitsu-general.co.uk

Goodmans
0870 542 5425
www.comet.co.uk

Hitachi
01628 6433000
www.hitachi.co.uk

JVC
0870 330 5000
www.jvc.co.uk

Panasonic
0870 535 7357
www.panasonic.co.uk

Philips
0870 601 0354
www.philips.co.uk

Pioneer
01753 789500
www.pioneer.co.uk

Sagem
01932 572900
www.sagem.co.uk

Samsung
0870 242 0303
www.samsung.com/uk/

Sharp
0800 262 958
www.sharp.co.uk

Sony
0870 511 1999
www.sony.co.uk

Toshiba
0870 442 4424
www.toshiba.co.uk