

## How we test



**Our television testers are no couch potatoes**

### Picture and sound

We rate picture and sound quality by combining technical tests with expert assessments. TVs that get top marks are great for watching films, viewing photos or playing games, and sound good across a range of musical styles and voices.

### Power consumption

To measure TVs' energy efficiency, we assess the amount of power they use in standard 4:3 and 16:9 (widescreen) modes and during stand-by. TVs which guzzle power are marked down overall – for example, the JVC LT-20DA6SK (11) uses almost three times as much power as the JVC LT-15B60SJ (12).

### Ease of use

A good picture and clear sound are priorities, but a TV has to be simple to use, too. As well as putting TVs through rigorous technical tests our scientists play around with the controls and check special features. They rate how easy it is to use on-screen menus and remote controls and to program functions, and whether instruction manuals are clear. Our Best Buys are a doddle to use, even for the biggest technophobe.

# Small but not so beautiful

Small LCD TVs are more popular than ever, but the picture still fails to match up to that on traditional sets

Sales of small liquid crystal display (LCD) TVs are predicted to outstrip all other types of TV this year. Prices are falling and they're popular as a portable second set. But developments in larger widescreen TVs haven't quite filtered down yet.

Only three of the 15 models we tested have built-in digital tuners, which is a worry, as the analogue signal will start to be switched off in less than two years. And most sets have only one Scart

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socket, so you won't be able to link them directly to both a set-top box and a DVD recorder. Only one of the TVs we tested was true widescreen (an aspect ratio of 16:9), so digital broadcasts can look slightly squashed or stretched.

Most importantly, the picture and sound are often poor. Only one of the 15 sets we tested is good enough to be a Best Buy. But we've also picked some options worth considering for a boat or caravan, a child's bedroom or a home office.

## What you should look for

### PC INPUT

If you want to hook your computer up to the TV to play games or to view pictures, look for VGA (analogue) or DVI (digital) computer inputs. Most small LCD models have VGA inputs



### ASPECT RATIO

The aspect ratio is the shape of the screen (width: height). Most digital TV pictures are in widescreen format, which has an aspect ratio of 16:9. TVs with an aspect ratio of 4:3 can still display widescreen pictures if you change the settings on your digital tuner or set-top box. But on screens with an aspect ratio of 15:9 or 14:9, widescreen pictures will appear squashed or stretched



### DC OPERATION

TVs with 12V DC operation can run off a battery like those used in caravans, boats or cars, so they're ideal for taking on holiday





## 61% Humax LGB-17DTTV £340

The best small LCD in our test is this 17-inch Humax. Like all the other TVs we tested, its picture quality is not up to its larger counterparts, but our expert panel described it as having 'good sharpness and resolution'. The stereo speakers provide a decent sound and it's easy to use. It has a built-in digital tuner with a seven-day electronic programme guide. You can connect it to a DVD player through its Scart socket, and its remote control is large and practical. The stand can be tilted easily or, if you buy a suitable bracket, you can mount it on a wall instead. It also has a VGA input for linking to a computer, a headphone socket and an optical digital audio output for connecting to an amplifier.

The Humax is available online. **WE LIKE** Its comfy handle means it's easy to carry about.

**Available Online** Tuners Integrated digital/analogue  
**Resolution** 1280x768 **Weight** 7.8kg **Sockets** One Scart (RGB), VGA, headphones, optical audio **Sound** Nicam stereo **Handle** Yes



### MEMBER BENEFIT

## FREE website access

### 70 more televisions online

For longer descriptions of all the models featured here as well as larger widescreen televisions, both conventional and flat-panel, visit our exclusive member-only website at [www.which.co.uk/tvs](http://www.which.co.uk/tvs)

## How to buy

When you're out shopping for a new TV, have a close look at the pictures being broadcast in the shop. Here are some things to look out for

■ **BROKEN PIXELS** Some LCD TVs suffer from broken pixels. This is when one or more pixels are always on or off. A permanently lit pixel looks like a bright speck on the screen, while a defective pixel remains unlit and looks like a black speck.

■ **SMEARING** Some LCD TVs struggle to process fast-moving scenes like those in action

movies or football matches. This can result in blurred or smeared images, which leave a ghostly trail behind.

■ **JUDDERING** Another common problem with LCD TVs is that they can sometimes produce jerky images or juddering effects. When the TV isn't able to process moving pictures smoothly, they appear to jump from frame to frame.

■ **BLACK LEVEL ENHANCEMENT** On LCD TVs it can be difficult to distinguish between different degrees of blackness. Some TVs have a control that allows you to enhance these differences to improve image quality – this could be useful when watching films with lots of dark scenes (we use *The Matrix Reloaded* in our tests).

## Which should you choose?



### Best for children

**SHARP LC-20SH1E £319**

If your kids are pestering you for a TV for their bedroom, the Sharp (3) is an ideal Christmas present. You can make sure they can't watch something they shouldn't by using a Pin to lock individual channels. It also has a sleep timer to turn it off so they don't accidentally leave it on all night.



### Best for home office

**LG 15LC1BR £229** Most of the TVs we tested can be used with computers, but we liked the LG (4) best. It has a VGA (analogue) input to link to your computer and displays clear text and images when viewing DVDs and when playing games.



### Best for holidays

**HUMAX LGB-17DTTV £340 ONLINE** Some of the LCD TVs we've tested can be run off a battery like those used in caravans or boats. They include our Best Buy Humax (1). This model has a carrying handle and weighs just 7.8kg so it's easy to transport, too.

## Facts & scores

### Tantalising titbits from our television testers

#### Power use

The Humax LGB-17DTTV uses quite a lot of power, even when left on standby. When you're not using it for a long period of time, turn it off completely.

#### Broken pixels

We noticed defective pixels when viewing the Philips 15PF5121/01, the Wharfedale LCD1710AF and the Goodmans GLCD15DVB2.

#### Picture in picture

The Wharfedale LCD1710AF and the JVC LT-20DA6SK both have a 'picture-in-picture' feature with sound in PC mode, so you can watch TV while it's linked to your computer.

## Contacts

**Daewoo** 0870 100 2525  
www.daewoo-electronics.co.uk

**Goodmans** 023 9239 1000  
www.goodmans.co.uk

**Humax** 0870 247 8800  
www.humaxdigital.co.uk

**JVC** 0870 330 5001  
www.jvc.co.uk

**LG** 0870 873 5454  
www.lge.co.uk

**Mikomi (Argos)** 0870 600 8784  
www.argos.co.uk

**Philips** 0845 601 0354  
www.philips.co.uk

**Sharp** 0800 262958  
www.sharp.co.uk

**Toshiba** 0870 442 4424  
www.toshiba.co.uk

**Wharfedale** 0845 458 0011  
www.wharfedale.co.uk

## Don't Buy

Goodmans has told us that its GLCD15DVB2 (15) is on the way out – which is just as well. Its picture quality is shockingly bad. The colours are unnatural – expert comments include ‘very green’ and ‘pink tint’ – and the TV we tested suffered from broken pixels (see ‘How to buy’, opposite). Its sound has lots of distortion: one expert called it ‘unlistenable’.

Rather than having a built-

in digital tuner, you get a separate Freeview box, which slots into the base of the TV so it looks like one unit. But the TV has no Scart socket to link up to the Freeview box, and the electronic programme guide works only four days ahead.

To round it off, digital broadcasts don't fit properly on the screen because its aspect ratio is 4:3 (see ‘What you should look for’, p55).



Don't bother with the Goodmans GLCD15DVB2

	MODEL	SPECIFICATION				FEATURES				WHICH? TEST PERFORMANCE			SCORE %
		PRICE (£)	SIZE WXHXD (cm)	SCREEN (in)	ASPECT RATIO	SCARTS	AUDIO OUT	IDTV	HANDLE	PICTURE	SOUND	EASE OF USE	
1	<b>HUMAX LGB-17DTTV</b>	340	47x36x8	17	15:9	1		✓	✓	★★★	★★★★★	★★★★★	61
2	<b>LG 20LC1RB-ZG</b>	350	49x45x10	20	4:3	1			✓	★★★	★★★★★	★★★	55
3	<b>SHARP LC-20SH1E</b>	319	48x43x9	20	4:3	1	✓			★★★	★★★	★★★	54
4	<b>LG 15LC1BR</b>	229	38x36x8	15	4:3	1				★★★	★★★	★★★	52
5	<b>PHILIPS 20PF5121/01</b>	400	51x45x8	20	4:3	1				★★★	★★★	★★★	52
6	<b>PHILIPS 15PF5121/01</b>	349	38x34x6	15	4:3	1				★★★	★★★	★★★	51
7	<b>TOSHIBA 20VL63B</b>	349	49x44x9	20	4:3	2	✓			★★	★★	★★★★★	45
8	<b>WHARFEDALE LCD1710AF</b>	350	46x33x8	17	15:9	2	✓	✓		★★★	★★	★★	45
9	<b>MIKOMI LCD2008</b>	250	62x40x8	20	4:3	1	✓			★★	★★★★	★★	44
10	<b>DAEWOO DSL-17D3</b>	279	55x30x7	17	15:9	1			✓	★★★	★	★★★	43
11	<b>JVC LT-20DA6SK</b>	599	54x38x13	20	16:9	2	✓	✓	✓	★★★★	★	★★★	43
12	<b>JVC LT-15B60SJ</b>	302	49x31x7	15	4:3	1				★★	★★	★★★★	42
13	<b>TOSHIBA 15VL63B</b>	220	38x34x7	15	4:3	1	✓			★★	★	★★★★	39
14	<b>WHARFEDALE LCD1510A</b>	200	46x31x7	15	4:3	1	✓			★★	★	★★	35
15	<b>GOODMANS GLCD15DVB2</b>	250	37x34x18 <sup>a</sup>	15	4:3			see <sup>b</sup>		★	★	★★	24

<sup>a</sup> Includes stand, which is not removable <sup>b</sup> Comes with separate set-top box

### USING THE TABLE

We tested best-selling and new portable TVs from leading manufacturers. The more stars the better.

### Specification

**Price** For Best Buys we give the cheapest widely

available price as we went to press. Prices of models that are available online only are in *italics*.

**Screen** Diagonal measurement of the TV screen in inches.

**Aspect ratio** See ‘What you should look for’, p55.

### Features

**Scarts** The number of sockets available to connect extra audio-video equipment to your TV.

**Audio out** A dedicated socket for connecting your TV to a hi-fi to enhance its sound. **IDTV** Integrated digital TV with a built-in

Freeview digital tuner.

**Handle** A handle for carrying the TV around.

### Test performance

**Picture/Sound/ Ease of use** Ratings are based on technical measurements and expert user assessments.

### Score

This ignores price and is based on:

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