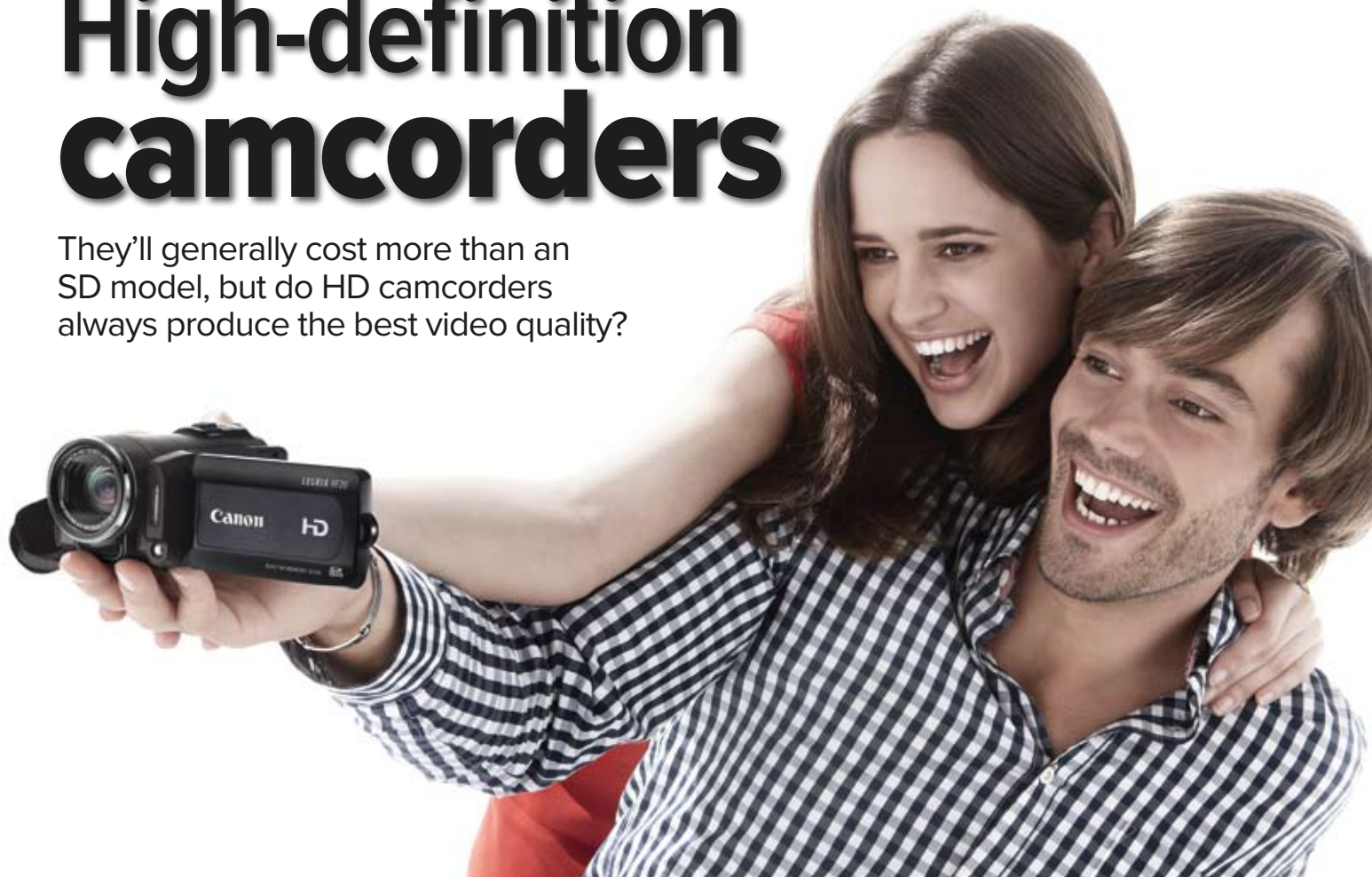


High-definition camcorders

They'll generally cost more than an SD model, but do HD camcorders always produce the best video quality?



Buying a high-definition (HD) camcorder for someone this Christmas? Make sure that you spend your money wisely. In our latest digital camcorder tests, we found that several HD camcorders didn't perform as well as expected – some models scored lower than the best standard-definition camcorders we tested (see the table, p52, for more details).

However, the best HD camcorders do outshine SD models – our seven Best Buys create sharp, colourful videos that look great on an SDTV set and even

better on an HDTV. The downside is that they're expensive, with the exception of the Samsung HMX-H100P, which is excellent value at just £319.

If you're certain that you want to invest in an HD model, take a look at our money-saving tips, right. It is possible to track down a bargain, even if you've got your eye on the best-quality models.

To get the most out of a digital camcorder it's essential to have a PC or laptop. This will help you to edit your movies before uploading them to the internet or burning them to a DVD.

Which.co.uk Buying a camcorder

If you want to buy a camcorder but are unsure where to start, our guide at www.which.co.uk/camcorderadvice can help. It contains plenty of tips on choosing a digital camcorder that suits your needs and budget.

Buying tips

How to save money when buying a digital camcorder

which? **MONEY SAVER**

■ Some camcorders are expensive because they have large internal hard drives. Consider a cheaper camcorder that records to memory card – we found the Canon HF200 for almost £150 less than the virtually identical Canon HF20.

■ You'll find deals on new and refurbished Canon camcorders at <http://stores.shop.ebay.co.uk/Canon-Outlet>. As these

are sold at auction rather than for a set price, you can make some major savings by bidding. Argos runs an eBay clearance store at <http://stores.shop.ebay.co.uk/Clearance-Bargains>.

■ When new camcorders are launched (in spring and before Christmas), the older versions they're replacing usually go down in price – a great time to snap up a bargain.



HIGH DEFINITION

Sony HDR-XR520 £927

Which? test score **85%**Brand reliability **95%**

PROS The XR520 has a huge 240GB hard drive – enough memory for around 29 hours of video at the highest quality setting. Video quality is exceptional, and you can also take good-quality photos. The image stabiliser (which reduces the effects of shaky hands) works very well.

CONS It isn't cheap, and it's not light. With the battery in place and the wrist strap attached, the camcorder weighs more than half a kilo.

Full review www.which.co.uk/SonyHDRXR520

We found it cheapest Online (Pixmania)

Also available Currys, Jessops, John Lewis, PC World



HIGH DEFINITION

Canon HF S100 £725

Which? test score **82%**Brand reliability **95%**

PROS Overall, the Canon HF S100 produces excellent HD videos – they're extremely sharp, and subtle differences between colours are clearly visible. The autofocus is fast and dependable, there's a x10 zoom, and the image stabiliser is excellent.

CONS We noticed a small amount of graininess in videos taken in a dimly lit room. It doesn't have an internal hard drive (which is surprising, given the price) or a viewfinder.

Full review www.which.co.uk/CanonHFS100

We found it cheapest Online (Amazon)

Also available Argos, Currys, Jessops, PC World



HIGH DEFINITION

Canon HF20 £655

Which? test score **80%**Brand reliability **95%**

PROS Image quality is superb. It has a good range of features, including an effective image stabiliser, 32GB of built-in flash memory (enough for around three hours of high-quality footage) and a x15 zoom, which is generous for an HD camcorder.

CONS Taking still pictures can be a little frustrating, as the shutter speed is quite slow. The LCD screen is tricky to view in bright sunlight, and there's no viewfinder.

Full review www.which.co.uk/CanonHF20

We found it cheapest Online (Pixmania)

Also available Argos, Currys, Jessops, PC World

The Canon HF20 has a x15 zoom – generous for an HD camcorder



HIGH DEFINITION

Canon HF200 £508

Which? test score **80%**Brand reliability **95%**

PROS This camcorder is cheaper than the Canon HF20 as it lacks an internal memory, recording to SD or SDHC memory card instead. Other than that, it's identical. Videos are sharp and detailed, and sound quality is generally good.

CONS You'll have to buy a memory card. There's no viewfinder – it can be tricky to keep your hand steady while zooming and looking at the screen.

Full review www.which.co.uk/CanonHF200

We found it cheapest Online (Camerabox)

Also available Argos, Jessops, Currys, PC World



HIGH DEFINITION

JVC GZ-X900 £669

Which? test score **77%**Brand reliability **92%**

PROS At 299g, the X900 is far lighter than most HD camcorders. The quality of sound captured on the internal mic is great. Videos look stunning – colours, shadows and highlights are faithfully reproduced.

CONS Battery life is below average – we found the X900 lasts for just 78 minutes on a full charge. The x5 optical zoom is modest – most HD camcorders have zooms of x10 or above.

Full review www.which.co.uk/JVCGZX900

We found it cheapest Online (Pixmania)

Also available Comet, Currys, PC World



HIGH DEFINITION

Samsung HMX-H100P £319

Which? test score **75%**Brand reliability **96%**

PROS This compact camcorder is a bargain – its video quality really impressed our testers. It has a x10 zoom, and the autofocus and image stabiliser are very effective. It weighs just 389g, so it's easy to carry and won't strain your arm.

CONS Sound quality is less impressive – and unfortunately you can't improve it by attaching an external mic. We think the still photo mode is disappointing.

Full review www.which.co.uk/SamsungHMXH100P

We found it cheapest Online (Pixmania)

Also available Online, independents



HIGH DEFINITION

Panasonic HDC-HS20 £467

Which? test score 72%

Brand reliability 96%

PROS With the HDC-HS20 you have the option to record to the internal hard drive or a memory card. The 80GB hard drive can store more than 10 hours of footage at the highest quality setting. The camcorder fits into your hand easily and weighs just 411g. Videos are captured with crisp, satisfying detail – you can even see subtle distinctions between colours. The image stabiliser is very effective.

CONS We found that the camcorder's autofocus system struggles a little with panning shots at wide angles – for example, when you're panning across a landscape. Unfortunately, sound quality is nothing special, and you can't add an external mic to improve it. Battery life is below average, and there's no viewfinder.

Full review www.which.co.uk/PanasonicHDC-HS20

We found it cheapest Online (Pixmania)
Also available Comet, Currys, Jessops, John Lewis, PC World

Standard definition

Canon FS22 £410

Which? test score 69%

Brand reliability 95%

PROS The Canon FS22 has 32GB of flash memory – that's large enough to store more than seven hours of footage at the highest quality setting. Overall video quality is good – pictures are more detailed and colours are more accurate than on most SD camcorders. This model has an impressive x37 optical zoom lens and a good electronic image stabiliser.

CONS The FS22 doesn't have a viewfinder to help you compose your shots. We also found that the still photo mode is poor – there's an obvious shutter delay when you're taking a



photo. Video quality is good, but it can't match the ultra-sharp quality of a Best Buy HD camcorder. If you have an HD television it may be worth considering one of the cheaper HD Best Buys, such as the Panasonic HDC-HS20 (above).

Full review www.which.co.uk/CanonFS22

We found it cheapest Online (Pixmania)
Also available Argos, Currys, Jessops, PC World

MODEL	PRICE	SIZE (h x w x d) (cm)	WEIGHT (g)	RECORDING FORMAT	HARD DISK SIZE (GB)	FLASH MEMORY (GB)	HDD/FLASH RECORDING TIME (MINS)	OPTICAL ZOOM	VIDEO LAMP
HIGH DEFINITION									
SONY HDR-XR520	927	7.5x8.5x14	589	HDD/MC	240		1750	12	
CANON HF S100	725	7x8x13.5	495	MC				10	✓
CANON HF20	655	6x8x12.5	396	MC/FL		32	175	15	✓
CANON HF200	508	6x8x12.5	395	MC				15	✓
JVC GZ-X900	669	7x4.5x12.5	299	MC				5	
SAMSUNG HMX-H100P	319	6.5x8x13	389	MC				10	
PANASONIC HDC-HS20	467	7.5x8x13.5	411	HDD/MC	80		630	16	✓
JVC GZ-HD320	475	7x5.5x12	366	HDD/MC	120		660	20	✓
CANON HV40	775	8.5x10x14	607	Mini-DV				10	✓
SANYO Xacti VPC-FH1	395	6x7.5x11.5	321	MC				10	
PANASONIC HDC-TM300	781	7.5x8x14	440	MC/FL		32	240	12	
SANYO Xacti VPC-WH1	238	6.5x7x12	368	MC				30	
SANYO Xacti VPC-CG10	163	11.5x4.5x9.5	192	MC				5	
SANYO Xacti VPC-CA9	228	12.5x4.5x9	253	MC				5	
STANDARD DEFINITION									
CANON FS22	410	5x6.5x12.5	281	MC/FL		32	440	37	✓
CANON FS200	225	5x6.5x12.5	279	MC				37	✓
JVC GZ-MG840	515	7x5.5x12	345	HDD/MC	60		860	32	✓
SAMSUNG SMX-F34	223	6.5x7x12.5	320	MC/FL		16	380	34	
SAMSUNG VP-DX200	129	9x7x12.5	402	DVD				34	
SAMSUNG VP-D391	110	9.5x7.5x12	420	Mini-DV				34	

How we test

We don't just focus on video quality in our tests – sound gets a thorough evaluation, too

A camcorder that produces stunning visuals can sometimes be let down by poor sound. We therefore put camcorders through a rigorous series of audio tests. As well as assessing how well each camcorder records voices and music, we test the efficiency of built-in wind filters and whether sound is improved by adding an external microphone.



				WHICH? TEST PERFORMANCE								SCORE (%)
EXTERNAL MIC	HEADPHONE SOCKET	VIEWFINDER	EASE OF USE	FEATURES	BATTERY LIFE	STILL PHOTOS	SOUND QUALITY	IMAGE STABILISATION	AUTOFOCUSING	OVERALL VIDEO QUALITY		
✓	✓	✓	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★	★★★★★	85	
✓			★★★★	★★★★	★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★	82	
✓			★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★★	80	
✓			★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★★	80	
			★★★	★★★	★★	★★★★	★★★★	★★★★★	★★★★	★★★★★	77	
			★★★	★★★	★★★★	★★	★★★	★★★★★	★★★★	★★★★★	75	
			★★★	★★★★	★★	★★★★	★★★	★★★★	★★★	★★★★	72	
			★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★★	67	
✓		✓	★★★	★★★★	★★★★★	★★★★	★★	★★★★	★★★★	★★★★	65	
			★★★	★★★	★★★★	★★★	★★	★★	★★★★	★★★★	64	
✓	✓	✓	★★★	★★★★	★★★★	★★★★	★★	★★★★★	★★★★	★★★★	60	
			★★★	★★	★★★★★	★★	★★★	★★	★★	★★	53	
			★★★	★★	★★	★★★	★★★	★★★	★★	★★	49	
			★★★	★★	★★	★★★	★★	★★	★★	★★	45	
✓			★★★	★★★	★★★★★	★★	★★★★	★★★★★	★★★★	★★★★	69	
✓			★★★	★★	★★★★★	★★★	★★★★	★★	★★★★	★★★	61	
			★★★	★★★	★★★★	★★★	★★★	★	★★★★	★★	56	
			★★★	★★	★★★★★	★★	★★	★	★★★★	★★	45	
			★★★	★★	★★	n/a	★★★	★	★★	★★	37	
			★★★	★★	★★★	n/a	★★	★★★	★★	★★	36	

USING THE TABLE

The more stars the better.

Specification

Price For Best Buys we give the lowest widely available high-street or online price as we go to press. See p27 for full details. **Weight** Includes memory card, disc or Mini-DV, battery and hand strap. **Recording format** HDD = hard disk drive. MC = memory card. FL = Flash. **Optical zoom** The higher the number, the closer you can zoom

in. A '10x' means 10-times magnification. **Video lamp** Provides additional light when the scene is dark.

External mic Whether you can attach a separate microphone for better sound quality. **Viewfinder** Whether the camera has an eyepiece viewfinder as well as an LCD screen.

Test performance

Ease of use Expert views on each camcorder's portability, recording, playback, LCD screen, viewfinder and manual.

Features How useful each model's features are.

Battery life Recording time on a single charge.

Still photos Image quality, shutter delay and start-up time of still photo function.

Sound quality

Performance of each camcorder's built-in microphone. **Image stabilisation** Reduces the effect of hand shake.

Autofocusing Reliability and speed of autofocusing system, tested in various light conditions. **Overall video quality** Tested in a

variety of light conditions, including daylight, dim light and artificial light.

Score

Scores for HD and standard models are directly comparable. They ignore price and are based on:

Image quality	40%
Ease of use	20%
Overall sound quality	15%
Features	10%
Still photos	10%
Battery life	5%

Contacts

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