

TOP 10 DIGITAL CAMCORDERS

	Digital camcorders	Format	Image processor	CCD pixels		Optical zoom		Max aperture	
				Horizontal DV resolution	Digital zoom	Focal length	Manual focus ring		
1  PC ADVISOR BEST BUY	Panasonic NV-GS50 08705 357 357 www.panasonic.co.uk NEW	• £595 ex VAT • 1-year warranty • First review Aug 03	Mini-DV	1/6in CCD	800,000 pixels 500 lines	10x 500x	f/1.8 2.3-23mm no		
2  PC ADVISOR BEST BUY	Sony DCR-TRV33E 0870 511 1999 www.sony.co.uk NEW	• £680 ex VAT • 1-year warranty • First review Aug 03	Mini-DV	1/4.7in CCD	1.07Mp 500 lines	10x 120x	f/1.8 3.7-37mm no		
3  PC ADVISOR BEST BUY	Canon MV600i 08705 143 723 www.canon.co.uk NEW	• £468 ex VAT • 1-year warranty • First review Aug 03	Mini-DV	1/6in CCD	800,000 pixels 500 lines	18x 360x	f/1.6 2.8-50.4mm no		
4  PC ADVISOR BEST BUY	JVC GR-DX25EK 0870 330 5000 www.jvc.co.uk NEW	• £468 ex VAT • 1-year warranty • First review Aug 03	Mini-DV	1/6in CCD	800,000 pixels 520 lines	16x 700x	f/1.6 2.7-43.2mm no		
5  PC ADVISOR BEST BUY	Canon MV650i 08705 143 723 www.canon.co.uk NEW	• £554 ex VAT • 1-year warranty • First review Jul 03	Mini-DV	1/6in CCD	800,000 pixels 500 lines	22x 440x	f/1.6 2.8-61.6mm no		
6  PC ADVISOR BEST BUY	JVC GR-DV4000 0870 330 5000 www.jvc.co.uk NEW	• £850 ex VAT • 1-year warranty • First review Aug 03	Mini-DV	1/4in CCD	1.33Mp 540 lines	10x 300x	f/1.2 3.8-38mm yes		
7  PC ADVISOR BEST BUY	Canon MVX150i 08705 143 723 www.canon.co.uk NEW	• £765 ex VAT • 1-year warranty • First review Aug 03	Mini-DV	1/4in CCD	1.33Mp 500 lines	16x 320x	f/1.8 4-64mm yes		
8  PC ADVISOR BEST BUY	JVC GR-DVL767EK 0870 330 5000 www.jvc.co.uk LAST MONTH 1	• £680 ex VAT • 1-year warranty • First review Jul 02	Mini-DV	1/3.8 CCD	1.02Mp 530 lines	10x 500x	f/1.8 3.8-38mm no		
9  PC ADVISOR BEST BUY	Sony DCR-TRV18E 0870 511 1999 www.sony.co.uk LAST MONTH 2	• £454 ex VAT • 1-year warranty • First review Jul 02	Mini-DV	1/4in CCD	680,000 pixels 500 lines	10x 120x	f/1.7 3.3-33mm yes		
10  PC ADVISOR BEST BUY	Samsung VPD77i 0800 521 652 www.samsungelectronics.co.uk LAST MONTH 3	• £495 ex VAT • 1-year warranty • First review Jul 02	Mini-DV	1/4in CCD	800,000 pixels 500 lines	22x 500x	f/1.6 3.6-79.2mm no		



1 Panasonic NV-GS50



The camcorder world is a shining example of the pros of having one major format that all manufacturers stick to. There are other minor formats out there, but the majority of the market – including all of this month's new entries – is backing Mini-DV.

Mini-DV has a number of advantages. First, it's small compared to its analogue predecessors, allowing for more compact designs. Second, because it's digital, capturing and amending your footage on a PC is a breeze so there's no

excuse for boring friends and family with hours of unedited film. Tape prices are also reasonable and a tape you've recorded in one camera can be played back in another.

Panasonic isn't new to the digital camcorder market and its experience at creating high-quality models is evident in the NV-GS50. This Best Buy device may be compact and lightweight, but that doesn't mean it lacks in features. It's easy to use, comfortable to hold and is ready to record in just 1.3 seconds – so you won't miss that all-important shot.

	LCD display	FireWire in	Side-loading or bottom-loading tape	Multimedia card	Dimensions (wxdxh)
	USB	FireWire out			Weight
	2.5in	yes	side-loading	8MB Secure Digital	57x110x73mm
	yes	yes			435g
	2.5in	yes	bottom-loading	8MB Memory Stick	71x112x90mm
	yes	yes			630g
	2.5in	yes	bottom-loading	no	58x147x103mm
	no	yes			520g
	2.5in	no	bottom-loading	no	55x96x102mm
	yes	yes			440g
	2.5in	yes	bottom-loading	8MB Secure Digital	58x147x103mm
	yes	yes			520g
	3.5in	yes	bottom-loading	8MB Secure Digital	75x186x91mm
	yes	yes			660g
	3.5in	yes	bottom-loading	8MB Secure Digital	65x186x92mm
	yes	yes			625g
	2.5in	yes	side-loading	8MB Multimedia Card	70x170x85mm
	yes	yes			567g
	2.5in	yes	side-loading	8MB Memory Stick	76x162x93mm
	yes	yes			705g
	2.5in	yes	side-loading	8MB Secure Digital	75x155x90mm
	yes	yes			590g



2 Sony DCR-TRV33E



While bigger than the Panasonic, Sony's DCR-TRV33E is by no means a bulky device. Sony has obviously put a lot of thought into making this model and it shows – it is extremely easy to use and incredibly responsive.

There's no need to hunt for buttons on the DCR-TRV33E – its 2.5in touch-sensitive screen allows you to tap in the required options. The 10x optical zoom is fast and the autofocus is quick to react too. If you must have a digital zoom, there's the option of a 120x setting, although thankfully you can lock it down to a more reasonable 20x.

The Sony is quick to react to light changes and works well in dim conditions. You can even switch to night mode for a *Blair Witch*-style effect. It's a novel addition but one that's unlikely to be used much in the long term.

The image stabiliser works well, eliminating jerky shots while shooting without a tripod. But the Sony's bottom-loading tape mechanism means that, if you do use a tripod, you'll need to take the camera off it to change tapes – a real pain if you're halfway through a shot. This model has a 1.07Mp (megapixel) CCD so you can take high-resolution still photos and there's an 8MB Memory Stick on which to store them. As well as USB connectivity, there's FireWire-in and out.

At £680 the Sony loses out on value for money, but if you've got the cash to spend and you want a compact and capable camera then the DCR TRV-33E is certainly a contender.

3 Canon MV600i



The Canon MV600i is a stripped-down version of the fifth-placed MV650i – all the essentials are here but you miss out on the extras like an SD (Secure Digital) card slot and USB connectivity. However, you do save almost £100 in the process.

The Panasonic's 10x optical zoom is responsive, the autofocus keeps up so you shouldn't be left with any blurring, while the image stabiliser ensures your images aren't too jerky. There's the option to boost the zoom digitally to 500x, although it's unlikely to be that much use in practice. The 20x digital zoom is a much more sensible option although, as with all digital zooms, you still lose quality.

The NV-GS50 is quick to respond to changes in light, so you don't end up with a few seconds of white or black as

the camera adjusts, and it's also quiet in operation so your recording won't be spoilt by a loud whirring.

There's an SD (Secure Digital) card slot on which you can store any still photos and it offers FireWire-in and out in addition to USB connectivity. The NV-GS50 also features a side-loading tape mechanism, allowing you to change tapes while using a tripod without having to reframe your shots.

Although not the cheapest model in the chart, the Panasonic offers good value for money and is a worthy winner.



At £468 the MV600i is a great model for beginners. It offers a powerful 18x optical zoom which can be extended to 360x digitally (there's an option to limit it to 72x). It's reasonably sized, although if you're after something dinky to carry around with you then it's not ideal. In terms of picture quality, the colours were muted though still respectable but the transition handling from dark to light was slow.

Despite being at the lower end of the price scale, Canon hasn't forgotten to include the all-important FireWire-in as well as FireWire-out option, so you won't have any problems transferring edited footage back to the camera digitally.

The MV600i is a robust camcorder ideal for the first-time buyer. If you're just starting out or aren't bothered about extras like still-picture capture and USB connectivity then it offers the essentials at a great entry-level price.

4 JVC GR-DX25EK

Like the MV600i, the small and lightweight JVC GR-DX25EK concentrates on camcorder functionality rather than added extras. The zoom stretches to 16x optical, with digital magic used to bump it up to a maximum of 700x. Like most camcorders, you're unlikely to find the maximum digital zoom



useable, although you can limit it to 40x as long as you don't mind the loss of quality.

The image stabiliser didn't seem as robust as on other contenders but it's still a useful extra. The GR-DX25EK was quick to react to changes in light so moving from inside to outdoors won't prove a problem with this model.

There's no memory card for still picture capture, which is justifiable at this price point as the main function of a camcorder is to capture moving images. Less justifiable, however, is the lack of a FireWire-in option. If you want to do any video editing, which is likely to be top of your list if you've got a PC, then you can't digitally transfer your edited footage back to tape once you're finished.



5 Canon MV650i

Canon's MV650i is the big brother of the MV600i – hence their striking resemblance. In addition to stretching the optical zoom to 22x, the MV650i improves on the MV600i with an SD (Secure Digital) slot, USB connectivity and still picture capabilities.

This fully featured offering may not fit into the super-small category, but it's ideal for general use. The quality of recorded footage was good but it can be slow to focus, especially when you zoom in, and at the maximum zoom it refused to focus at all. No fiddling with the settings managed to rectify this. There's FireWire-in and out as well as USB connectivity, so you won't be short of options when it comes to hooking it up to your PC.

6 JVC GR-DV4000

As its size and price tag reveal, this JVC model is more of a semi-professional device. It has a 1.33Mp (megapixel) rating, which is



high for a camcorder, and even includes a built-in flash that is tucked neatly away behind the lens. There's no need to remember to set the flash as it will pop up automatically when it deems necessary. You're still obviously going to get better stills from a digital camera, but this unit is a step in the right direction if you only want to carry one device around with you.

The GR-DV4000 is easy to use despite its many configuration options and there's a neat one-line display on the back of the LCD screen so you can easily see how much footage you've shot without opening it. When you do want to watch it, however, the large 3.5in screen is useful for reviewing your footage to full effect. At £850, though, it is the most expensive model in the chart.

7 Canon MVX150i

Like the sixth-placed JVC, Canon's MVX150i also has a professional feel to it. It offers a 1.33Mp (megapixel) rating but, unlike the GR-DV4000, it doesn't include a built-in flash. You're therefore limited to taking stills where there's enough background lighting. Images can be stored on the supplied SD (Secure Digital) card.

There's a 16x optical zoom that can be digitally increased to 320x. Recorded footage was good quality, but the MVX150i was slow to react to changes in light conditions – for £765 we expected better.

Like the GR-DV4000, there's no side-loading tape mechanism which is a pain if you're using it with



a tripod and need to change tapes. The LCD panel stretches to 3.5in, giving a good display to frame your shots or review your footage. FireWire-in and out are catered for, along with USB connectivity.

8 JVC GR-DVL767EK

The long yet compact JVC GR-DVL767EK is comfortable to use, with its zoom and record controls within easy reach. It has a side-loading tape mechanism, so that you can replace tapes easily when shooting on a tripod, and an articulated viewfinder. Less impressive is the tiny 2.5in LCD which is lacking in detail, and the lens that doesn't have a manual focus ring.



This 1.02Mp (megapixel) camcorder can capture high-quality still photos that can be stored on a separate 8MB MMC (Multimedia Card). Video quality is also good for a single-chip camcorder – colours are rich and footage bright whether shooting indoors or out. The autoexposure also copes well with transitions from low to bright light. The optical zoom offers a maximum of 10x and there's a 500x digital zoom. Connectivity is good, with both FireWire-in and out available.

9 Sony DCR-TRV18E

The sleek, stripped-down DCR-TRV18E is comfortable to handle, with zoom and record controls within easy reach of a thumb and forefinger. It also has a side-loading tape mechanism and manual focus ring situated on the lens.

The Sony features a 10x optical zoom, but don't be put off by the 120x digital zoom. This figure is lower than the other entries, and it may not be capable of such great magnification, but the DCR doesn't produce fuzzy images when pushed to the limit. The 680,000 pixel CCD is the lowest in the chart so if you



want to capture still photos then the Sony isn't an ideal purchase. When it comes to moving images, though, pictures are rich in colour whether shot indoors or out, and have a sharp level of detail.

10 Samsung VPD77I

Samsung's VPD77I is a compact and ergonomic unit with a well-placed side-loading tape mechanism and controls that are comfortable and easy to operate. However the 2.5in fold-out LCD screen lacks clarity and detail.

The 800,000 pixel image processor is capable of capturing high-quality stills. Our tests showed the 22x optical zoom is impressive, although when using the 500x

digital zoom in our tests the moving picture became fuzzy.

The autofocus is also rather poor, taking far too long to adjust to changes when the camera is pointed at different objects. In addition, the digital image stabiliser proved inferior when we tried to use it to clean up shaky camera work.

Connectivity is up to scratch, though, with support for USB in addition to FireWire-in and out.

At £495, the Samsung is a versatile camcorder. It offers plenty of features to enhance your filming, as well as value for money.

Unfortunately, we weren't impressed by its image quality or technical performance.



Buying advice

Buying a camcorder can be a bewildering process as the manufacturers revel in jargon. Here we list some guidelines for those about to take the plunge into the DV (digital video) world.

- **Megapixels Resolution** figures tend to be much lower than with a digital camera and camcorders offering 1Mp are still in the minority. This is because the main purpose of a video camera is to capture movie footage, not stills.
- **Video resolution** This is given as the number of horizontal and vertical lines of colour that make up the picture on your TV screen, although many cameras don't advertise these figures. The vertical resolution for DV cameras is usually 540 lines – the theoretical limit for the PAL video format. The horizontal resolution will vary between models, but the higher the number of lines the better the video quality is likely to be.
- **Still photos** Image quality is not as easy to gauge as with digital stills cameras. When a manufacturer slaps '800,000 pixel CCD' on the side of the box, this refers only to the resolution of still pictures, not video. Just as digital still cameras don't create the best video footage, camcorders don't take the best photos. Despite the efforts of manufactures to add still photo capabilities, your best bet for good-quality shots remains the digital camera. The quality's getting better, but it's still best to regard any photo facilities as just an extra feature.
- **Editing** You also need to consider what you are going to do with your footage once you've finished filming. Since it's all stored digitally, editing it on a PC is a natural extension. With fast processor speeds and capacious hard drives, most new PCs should be able to manipulate video without any problem.
- **Storage** If you do decide to edit video on your PC, it's best to invest in a DV camera that has FireWire-in and FireWire-out connections. All models feature FireWire-out so you can transfer your video to the PC, but not all host FireWire-in which enables you to record any edited footage back on to tape. Since the data is stored digitally, you can transfer material to and from your PC without any loss of picture or sound quality.