

# capture



**SONY**

CAMCORDER TRAINING GUIDE 2006

**HANDYCAM®**



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# relive

the memory

DCR-DVD105  
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DCR-DVD305  
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## Relive the memory

Capture captivating professional-caliber home video that will entertain your family and friends for years to come. Perfect for playback in the home video environment, DVD Handycam® Camcorders provide video with stunning clarity on DVD-R/RW and DVD+RW media<sup>1</sup> which is easy to copy and share. From still images to movies, relive your memories with realism and detail with Sony's DVD Handycam® Camcorders.

- ◆ **Dolby Digital 5.1ch Surround Sound**
- ◆ **Visual Index Screen**
- ◆ **USB 2.0 connectivity<sup>2</sup>**

1. Use of Sony DVD-R/RW/RW Media recommended. For third party media, confirm compatibility with manufacturer.  
2. Not all products with USB 2.0 connector may communicate with each other due to chipset variations.



# cherish

the feeling

HDR-FX1  
SEE PAGE 60



## Cherish the feeling

Chronicle a grandfather's reminiscences of his youth, capture the thrill of your daughter's soccer game, record the romance of your first vacation in Paris – no matter what you're recording, Sony's High Definition Camcorders help you shoot like a pro. Cherish all your memories with clear, High Definition video so vivid and realistic, it looks like it's 3-dimensional.

- ◆ High Definition Recording with MPEG2 compression
- ◆ 16:9 LCD screen and viewfinder
- ◆ Carl Zeiss® Vario-Sonnar® T\* Lens system





# compose

an adventure





## Compose an adventure

Record the adventure of an entire trip with the Handycam® Hard Disk Drive Camcorder. The large-capacity built-in 30GB Hard Disk can record up to seven hours and 20 minutes of video, which means you won't miss a moment of the action. The Hard Disk's shock absorber and 3G sensor help protect the camera from falls and shocks, ensuring those perfect action shots.

- ◆ 30GB of storage on Hard Disk Drive<sup>1</sup>
- ◆ Dolby Digital 5.1ch Surround Sound
- ◆ ImageMixer™ software for producing customizable DVDs

<sup>1</sup> A portion is used for data management.



# capture

the moment

**DCR-HC96**  
SEE PAGE 78



**DCR-HC36**  
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**DCR-HC26**  
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### Capture the moment

Transform an average Saturday afternoon football practice into a collage of color, action and sound with Sony's MiniDV Handycam® Camcorders. With image detail of up to 530 lines of resolution, you'll be sure to catch every movement with stunning vibrancy and color accuracy.

- ◆ Studio quality digital pictures
- ◆ CD quality digital sound
- ◆ Prosumer performance



# discover

your world





## Discover your world

Carry a world of spectacular video possibilities in your hand. Compact and portable, Digital8 Camcorders can be brought along for the ride, wherever you travel. Stash it in your backpack during a hike and capture the serenity of a mountaintop – later in the evening, enjoy studio-quality video in the comfort of your cabin, or share it with family and friends through the USB Streaming capabilities of the Digital8 Handycam® Camcorder.

- ◆ Built-in Video Light
- ◆ USB Streaming at up to 30 frames per second
- ◆ CD quality digital sound



# share

a vision



## Share a vision

Nurture your inner storyteller with Sony's line of compact and durable Hi8™ Camcorders. Record the sparkle of the sand, the murmur of the sea – create a story and capture the scene with clarity and precision on the Hi8's compact and affordable media. Along with their superior sound and picture quality, the durability of the Hi8 cassette tapes makes them a trustworthy guardian of all your once-in-a-lifetime memories.

- ◆ Up to 400 lines of resolution
- ◆ Compact cassettes, compact device
- ◆ Battery status display





# captivate

an audience

**GV-D800**  
SEE PAGE 96



**GV-D200**  
SEE PAGE 96



## Captivate an audience

Assemble scenes, incorporate audio and narrate your video – Sony's Video Walkman helps you perfect your video masterpieces before sharing them with friends and family. More than a just a video accessory, the Video Walkman is portable entertainment as well. Enjoy your video on the go – whether you're editing, recording or just sitting back and watching it.

- ◆ 4" Color LCD screen
- ◆ 12-Bit/16-bit recording for high quality audio
- ◆ i.LINK® DV interface





# what's hot in 2006

## what's hot in 2006

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ClearVid CMOS Sensor™ _____	19
Dual Record _____	24
Smooth Slow Record _____	26
Clear Photo LCD plus _____	27
Mode Switch _____	28
Hard Disk Drive _____	29
Memory Stick Duo™ _____	30

## SONY®

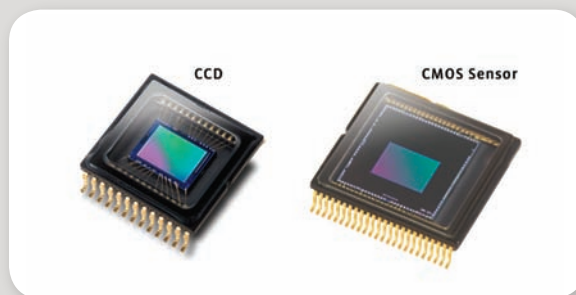
In 2006, consumers will discover better features in even more models from Sony. New technologies like CMOS Dual Record and Smooth Slow Record work in unison to deliver the perfect video picture, providing shots more alive and natural than ever. The Mode Switch function provides for intuitive operation; Memory Stick Duo™ and 30GB Hard Disk Drive, provide for more efficient, higher capacity memory. Whether they're used for home moviemaking or independent film production, Sony's 2006 Handycam® Camcorders will capture moments with vivid color and clarity.

### WHAT IS CMOS SENSOR?

The image sensor takes the role of converting light collected in the lens of a digital video camera into an electric signal. There are two types of sensors; CCD and CMOS Sensors.

CCD, a widely known image sensor, was developed at the beginning of the 1970s, and saw application in video cameras in the early 1980s. It is now often used in video cameras and digital still cameras.

CMOS Sensor's history is also long. After extensive research in the early 1990's, CMOS development was accelerated. The merits of CMOS Sensor are currently beginning to be revealed to their fullest extent in camera-equipped mobile phones, PDAs, as well as single-lens reflex cameras and other such products.



#### Photo diodes and amplifiers are aligned on CMOS Sensor.

- ♦ When light hits the photo diodes, the energy from that light creates electrons (an electric charge).
- ♦ The accumulated charge is converted to an electric signal, which is further increased by the amplifier, until it finally becomes a video signal.

Because the CMOS Sensor is developed based on the model of the general CMOS LSI process (used in computer CPUs and memory), it is ideal for low energy consumption and high charge accumulation, which allows for a more compact and efficient technology. The structure of the CMOS Sensor is similar to other CMOS LSI modules, which enable the development of a one-chip design. For example, by integrating the light-collecting part of the camera, the CMOS Sensor and LSI (such as a CPU and memory), it will be possible to create an image processing device on one chip.

In recent years CMOS Sensors have been used in cameras in a 'system-on-a-chip' capacity, with research and development underway for imaging devices with various functions. In recent years there has been a rapid improvement in the area of picture quality, with CMOS Sensor is also garnering attention as the future of image sensors.

### Advantages of CMOS Sensor

- ♦ **High-Speed Reading.** The CMOS Sensor structure allows for easy acquisition with a configuration where the pixel readout is output in a series, or an additional function is enabled that reduces the number of readout pixels. The CMOS Sensor is an image sensor that allows for faster reading of a greater amount of pixel information than ever before.
- ♦ **High Functionality.** Through the use of the CMOS logic circuit, the CMOS sensor can be driven through the input of a simple clock. In addition, special features—such as partial, skipped or random readout—can easily be enabled by building in the address bus and devising a readout method. Furthermore, the addition of pixels enables complicated functions like being able to reduce the number of readout pixels in order to read the signal of a portion of video faster, or partially executing simple signal processing. These sorts of high functionality, difficult features, previously available only on CCD, are now available on with the CMOS Sensor as well.

- ◆ **Smear-less.** Smear is a phenomenon where, when photographing bright objects, such as highly luminescent light sources, a bright vertical band of light appears on top of the bright object in the frame. Smear is an unnatural phenomenon and is not visible to the naked eye.

With CCD, if the amount of light (signal) that enters a diode exceeds a certain value, the accumulated light (charge) overflows vertically from the pixel causing a vertical line. This smear phenomenon does not occur with CMOS Sensor.



Example of smear (CCD)



Example of smear-less (CMOS Sensor)

- ◆ **Low Voltage/Low Power Consumption.** CCD, in principle, requires a large amount of drive voltage, between 15V and -7.5V, to transfer the charge; because of this large voltage swing to drive the device, it also consumes an extremely high amount of power.

In contrast, CMOS Sensors can run on about the same power source as CMOS LSI, and can be run on a single power source. This clearly demonstrates the superiority over CCD in terms of power consumption.

- ◆ **Versatility of Manufacturing Process.** CMOS Sensors are based on the manufacturing process of CMOS LSI; this makes it very easy to combine additional functions other than that of an image sensor on the same chip without changing any processes. For example, a system-on-chip that includes camera signal processing and image processing capabilities is also possible. It would be extremely difficult to design a CCD with this configuration and special processes.

Additionally, sharing the same process with CMOS LSI makes CMOS Sensor more suitable for low power consumption and increased circuit density, along with smaller size and lower production costs.

### Weak Points of CMOS Sensors in General

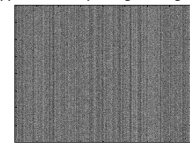
- ◆ **Fixed Pattern Noise.** CCD is a diode made for capturing images only, and was developed to place the greatest priority on picture quality. Over the years there has been a great amount of time spent on picture quality, miniaturization and a great

amount of care spent on pixel structure within the manufacturing process of CCD; serious efforts to improve picture quality with CMOS Sensor have only begun recently. It is because of this fact that CMOS Sensors have long been said to have poor picture quality.

The typical noise produced in a CMOS Sensor is 'Fixed Pattern Noise.' CMOS Sensors amplify the signal to every pixel separately, and when there is dispersion from the amplifier, Fixed Pattern Noise is generated. Additionally, 'Dark Current,' which occurs more on conventional CMOS Sensors than CCDs, is one of the principal causes of Fixed Pattern Noise. The notion that picture quality is poorer with CMOS Sensors than with CCDs is derived primarily from Fixed Pattern Noise. CMOS Sensor, despite its many merits, has not been used in products that demand high-quality pictures; the reason for this is the difficulty in mitigating Fixed Pattern Noise.



Warped Image due to Focal Plane Shutter



Example of Fixed Pattern Noise

- ◆ **Warping of Fast Moving Images (Focal Plane Shutter).** CCDs operate by allowing signal load to accumulate at the same time light hits the photo diodes (pixels). The entire image is then read simultaneously along the vertical C transfer route, which, in conjunction with the electronic shutter, allows images of fast moving objects to be captured at the same moment. However, as the pixels of CMOS Sensor output a signal, they also begin to accumulate a signal which has been transformed from light, and the accumulation period becomes skewed due to the scanning timing of the image. In summary, one of the demerits of CMOS Sensor is the warping of images of fast moving objects. Horizontal bands, which appear when photographing objects under light sources that fluctuate over time, such as non-inverter fluorescent lights, are also a cause of these timing differentiations.

The combined use of a mechanical shutter can alleviate this problem with still image photography.

The amount of warping that occurs when taking movies is determined by the speed of the moving object and the read frame rate, and, therefore, if CMOS Sensor has a high enough frame rate to take video, then the user should not notice this warping problem.

## Applications of CMOS Sensor

CMOS Sensors have many advantages that are not available with CCDs, but they have also been said to have lower picture quality than CCDs. Due to this fact, they were often used in portable electronic products with low power consumption, low cost and low resolution. However, in recent years as the picture quality of the CMOS Sensors have rapidly improved, they have also begun to be utilized in models that focus on high-quality pictures, such as the single-lens camera.

## Advantages of Sony CMOS Sensor

Sony has accumulated image sensor technology through many years of development of CCD technology. This CCD-acquired technology has been put to use in the development of CMOS Sensor; and, the previously stated disadvantages of the general CMOS Sensor have been greatly improved.

Sony has also accumulated camera signal processing technology through numerous years of developing business/personal camcorders. By applying this technology to CMOS Sensors, Sony has developed a signal processing algorithm that makes use of the CMOS Sensor's strong points.

The strength of Sony's CMOS Sensor is enhanced by the close involvement of the camera signal processing design team; from the time of development there is a coordinated effort to achieve optimal performance of the entire camera system, from the picture quality and image processing to power consumption and cost. This CMOS camcorder technology will also evolve to be used in the next generation of models.

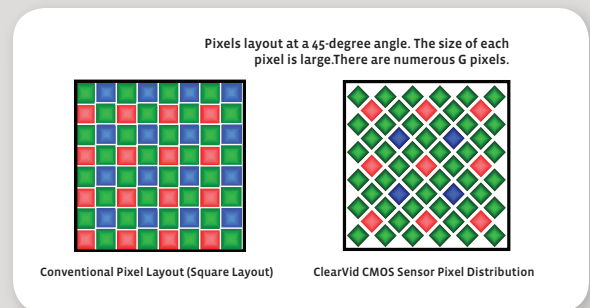
## Main Advantages of Sony CMOS Sensor

Sony CMOS Sensor, combined with Sony's originally-developed signal processing circuit, the Enhanced Imaging Processor (EIP), possesses the following advantages. These advantages have been maximized in the development of the first personal HD camcorder (HDR-HC1).

Advantages of Sony CMOS Sensor	Advantages of Output Picture Quality
1 Wider Dynamic Range (CMOS Sensor+EIP)	Images with rich gradation
2 Smear-less	High Quality Pictures
3 High Sensitivity/Low Noise	High Quality Pictures
4 High-Speed Reading (CMOS Sensor+EIP)	Enabled Recording of HD Images
5 Low Power Consumption	Contributes to Long Life and Miniaturization

## What Is a ClearVID CMOS Sensor™?

- 'ClearVid CMOS Sensor' is an entirely new and unique type of CMOS Sensor that uses new pixel distribution.
- This allows the recording of high-quality images with high-resolution and heightened sensitivity.
- The structural characteristics of conventional CCD and CMOS Sensors created problems in attaining both high resolution and high sensitivity. There were also restrictions with CCD Technology such as not being able to take high-resolution still images while recording video.
- By combining the ClearVid CMOS Sensor with NEW EIP, both high resolution and heightened sensitivity have been attained. In addition, still picture functionality has been improved along with more advanced still capture functionality.



## What Is the New Enhanced Imaging Processor?

- It is a signal processing circuit developed specifically for ClearVid CMOS Sensor.

The Enhanced Imaging Processor (EIP) was developed to process, at high speeds, large amounts of pixel data (information) received from the CMOS Sensor which then allows the recording of high definition images. Through the utilization of Sony's own high-quality picture algorithm, bright and dark areas of an image can be captured in a realistic and beautiful way.

The new EIP takes advantage of ClearVid CMOS Sensor and contains the following characteristics:

- An image signal processing algorithm that fits the pixel layout of ClearVid CMOS Sensor.
- New and improved technology to reproduce colors.
- High-speed signal processing circuit with a cutting edge 90 nm process and parallel processing.

By combining ClearVid CMOS Sensor and new EIP the following is now possible:

- ◆ Recording of high-quality movies and still images with high resolution and heightened sensitivity.
- ◆ New functions that were impossible with older systems.

### Advantages of ClearVID CMOS Sensor™

Sony CMOS Sensor, combined with Sony's originally-developed signal processing circuit, the Enhanced Imaging Processor (EIP), possess the following advantages.

These advantages have been maximized in the development of the first personal HD camcorder (HDR-HC1).

Merits of Conventional Sony CMOS Sensor	Merits of ClearVid CMOS Sensor
1 Wider Dynamic Range (CMOS Sensor+EIP)	1 Wider Dynamic Range (CMOS Sensor+EIP)
2 Smear-less	2 Smear-less
3 High Sensitivity/Low Noise	3 High Sensitivity/Low Noise through high resolution
4 High-Speed Reading (CMOS Sensor+EIP)	4 Advanced High-Speed Reading
5 Low Power Consumption	5 Low Power Consumption

### Main Advantage of ClearVID CMOS Sensor™: Pixel Fundamentals

- ◆ **Correlation of Pixel Area and Sensitivity.** Sensitivity is lowered in image sensors with pixels aligned in the same angle of view, because the amount of light-capturing area is decreased per pixel as the number of pixels increase. There is a trade-off between high resolution and sensitivity. Increasing the number of pixels to improve resolution leads to poorer quality in low-light pictures, while increasing the pixel area to raise sensitivity leads to lower resolution.
- ◆ **Correlation of G pixels and Resolution (for the 2006 Single-Board Model CMOS Sensor).** The human eye is naturally more sensitive to changes in brightness rather than color. Due to this, showing slight changes in brightness is more effective to heighten resolution. In addition to this, the space between green (explained as 'G' below) pixels is resolution.

1. To increase brightness, G pixels must be recognized with greater precision. In order to recognize G pixels with more precision, the number of G pixels must be increased.
2. Reduced space between G pixels leads to higher resolution.

The following formulae express standardized brightness

- SD format: brightness (Y) = 0.6 × G (green) + 0.3 × R (red) + 0.1 × B (blue)
- HD format: brightness (Y) = 0.7 × G (green) + 0.2 × R (red) + 0.1 × B (blue)

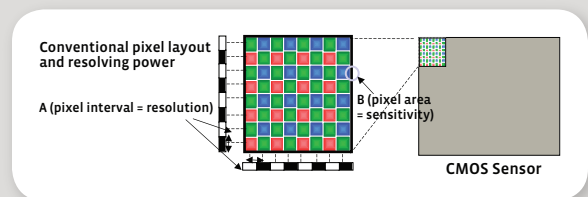
More (G) does not mean greener images. The value of G (green) expressed here is the value of reproducing brightness and does not directly refer to the amount of color reproduced among RGB. Color reproduction is the process of adding of RGB composition data and information from the surrounding pixels, with the further generation of RGB pixels and color composition that is lacking in each pixel. Although there may be more G, this does not lead to images with more green.

### Main Advantage of ClearVID CMOS Sensor™: Pixel Layout (Color Layout)

- ◆ **Conventional Pixel Color Layout (Bayer Layout).** The pixel color layout used in the conventional CMOS model is known as the Bayer Layout and is employed in the majority of primary color digital still cameras and camcorders.

This method repeats green, red and blue in a 2:1:1 ratio. This method was designed based on the principles that resolution relies largely on brightness, and that the space between G pixels is resolution.

- ◆ **Issues with Pixel Layout.** Compared with other image sensors of the same angle of view, sensitivity is lowered as the number of pixels increases. This is a result of a reduction of light-capturing area for each pixel. There is a trade-off between high resolution and sensitivity. Increasing the number of pixels to improve resolution leads to poorer quality in low-light pictures, while increasing the pixel area to raise sensitivity leads to lower resolution.



## ClearVID CMOS Sensor™ Pixel Layout (Color Layout)

A major characteristic of ClearVid CMOS Sensor developed by Sony is the unique pixel layout. Compared with other image sensors of equal image size and equal recording pixel numbers, ClearVid CMOS Sensor has:

- ◆ **Pixels distributed on a 45-degree angle, with the surface area of every pixel doubled.**

- ◆ **The ratio of green, red and blue has been set to 6:1:1. Red and blue pixels are surrounded by green (CMOS Sensor in 2006 single CMOS models).**

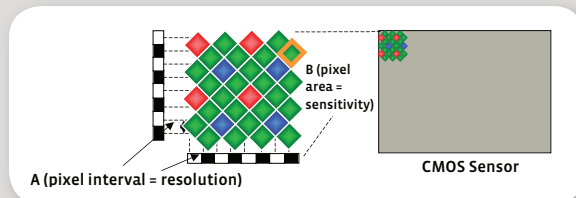
- ◆ **This distribution method has lead to the following:**

1) Sensitivity has been vastly improved by doubling the pixel area, and great improvements are anticipated in low-light image quality.

2) The number of green pixels has been increased and distributed more frequently, which leads to:

-The same characteristics as the Bayer Distribution (interval between G pixels is the same) in vertical and horizontal resolution (G pixel interval).

-Through increased distribution of recognition of G information, there can be greater recognition of brightness information.



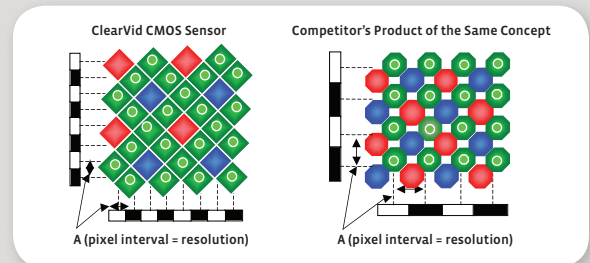
- ◆ ClearVid CMOS Sensor in the 2006 single board model has a hybrid pixel distribution that aims to attain both high resolution and heightened sensitivity.

## Main Advantage of ClearVID CMOS Sensor™: Pixel Layout (Color Layout in 2006 Single CMOS)

### Comparison with the Competitor's Concept Product

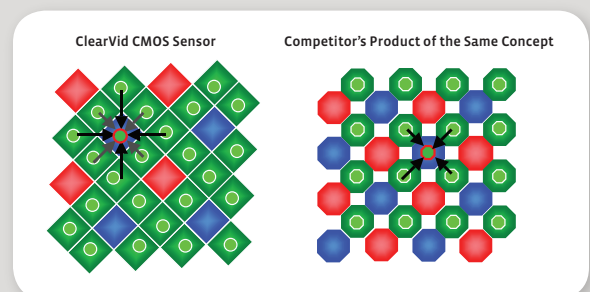
- ◆ A competitor's product has a pixel distribution concept similar to ClearVid CMOS Sensor. The pixel distribution of this product is also meant to attain high resolution and heightened sensitivity.

- ◆ But in comparison, the competitor's product (with the same image size and the same number of recording pixels) has the same pixel area but ClearVid CMOS Sensor has greater resolution through the placement and number of green pixels.
- ◆ The space between the G pixels in ClearVid CMOS Sensor (color layout in the 2006 single board model) is smaller compared with the competitor's product of the same concept. Therefore, ClearVid CMOS Sensor's resolution is higher



### Comparison with the Competitor's Concept Product

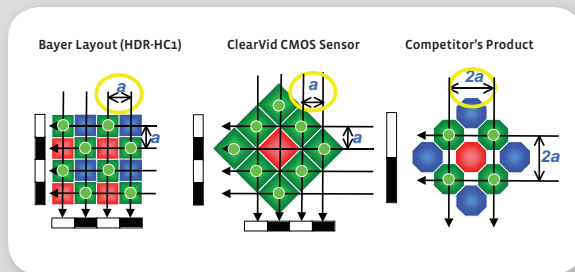
- ◆ With cameras that use a single board image sensor, the image sensor may not have all of the RGB information, and, therefore, uses the surrounding pixels to generate additional pixel information through signal processing (interpolation), which creates color information (addition of RGB, the three primary colors). The interpolation generation method of green pixels can be considered particularly important to contributing to resolution.
- ◆ With the new CMOS Sensor, pixels are surrounded on all sides by eight green pixels, and this allows for adequate generation of interpolation of the photographed object in EIP using all information. In contrast, a competitor's product of the same concept distribution allows for the use of information from only four pixels positioned diagonally, thus demonstrating that the new CMOS Sensor is suitable for increased precision interpolation processing. This is especially apparent with detailed vertical or horizontal objects.



### Main Advantage of ClearVID CMOS Sensor™: Summary of Pixel Layout (Color Layout in 2006 Single CMOS Model)

When image size and the number of recording pixels are the same:

- ♦ Vertical and horizontal resolution in the Bayer Distribution is approximate to ClearVid CMOS Sensor but greater than the competitor's model of the same concept,
- ♦ Sensitivity of a single pixel\* in ClearVid CMOS Sensor is approximate to the competitor's model of the same concept but greater than the Bayer Distribution.  
(\*Excluding differences in sensitivity due to pixel structure)



Thus through a combination of the strong points of other methods, the hybrid style of ClearVid CMOS Sensor becomes apparent.

### New Functions of ClearVID CMOS Sensor™

The following functions are available through a combination of ClearVid CMOS Sensor and the Enhanced Imaging Processor:

- ♦ **4.0 Megapixel Still Picture Recording (from 2 Megapixel Imager)**
- ♦ **Simultaneous Capture of Movies and High-Resolution Still Images (Dual Recording)**
- ♦ **High-Speed Movie Recording (Smooth Slow Recording)**

### 4.0 Megapixel Still Picture Recording

With Sony's new and original EIP (new image signal processing algorithm), which is ideal for the ClearVid CMOS Sensors, high-precision still images can be taken with the density of effective pixels (2.0 Megapixel) doubled (4.0 Megapixel).

### SIMULTANEOUS CAPTURE OF MOVIES AND HIGH-RESOLUTION STILL IMAGES: DUAL RECORDING

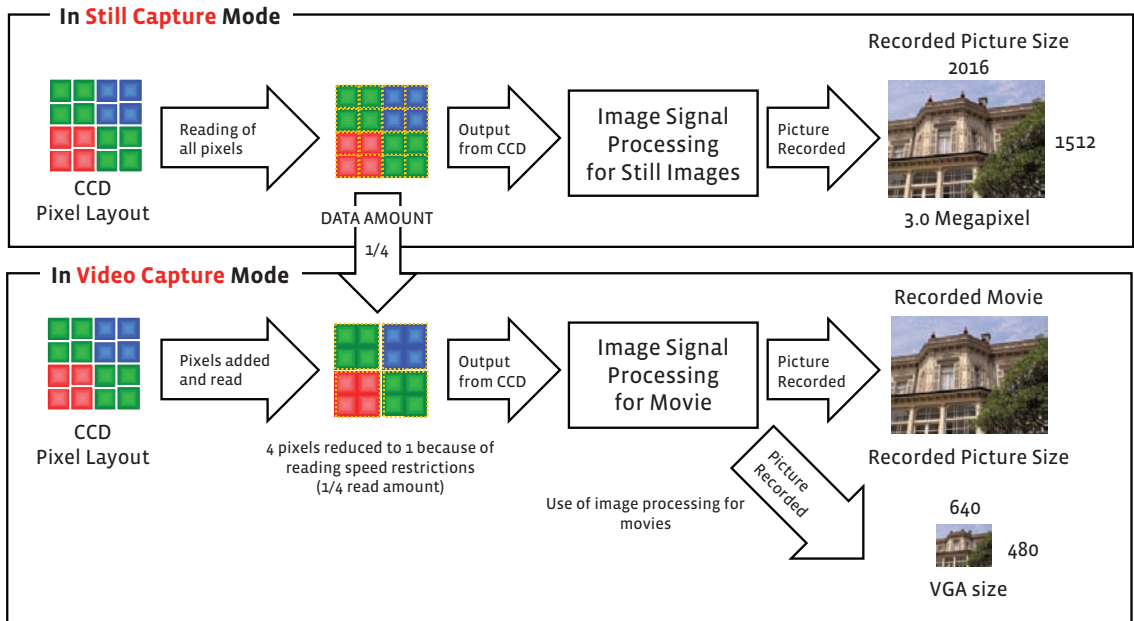
Due to restrictions in the reading speed of CCDs, the read pixel numbers differ in video capturing mode and still capture mode. In still capture mode, time is spent reading all the pixels which allows for the recording of still images. In video capturing mode, pixels are added due to CCD reading speed restrictions and the data amount read is reduced to that of picture taking mode.

Because of this, the size of still images taken while in video capture mode is reduced to VGA size. Also, the image signal processing used is the same as for taking movies, which prevents adequate picture quality for still images.

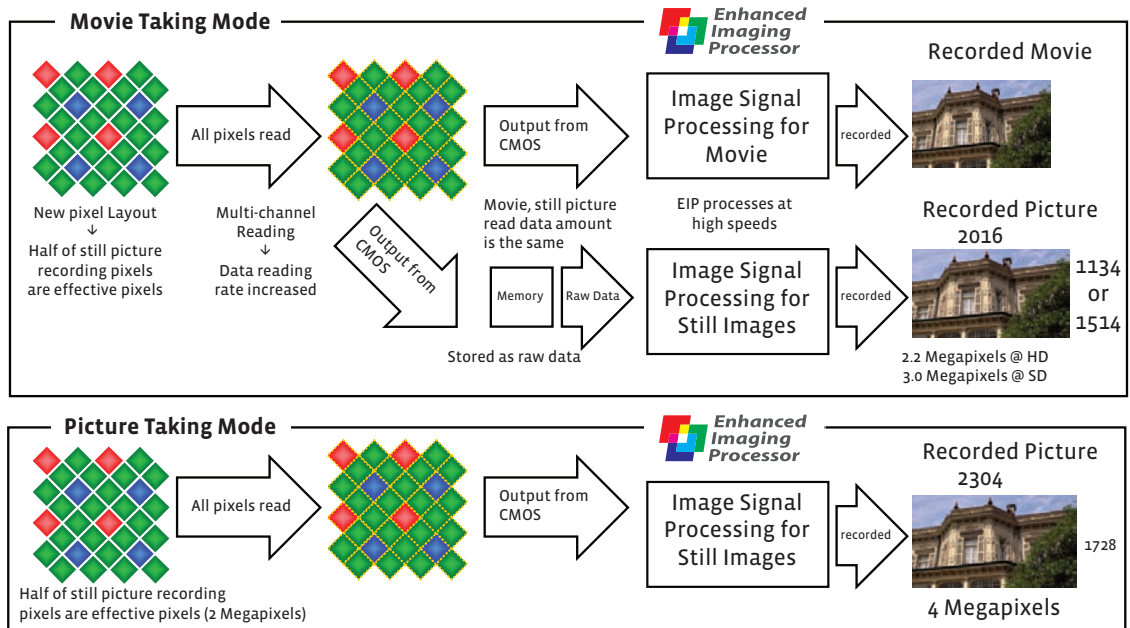
By combining the ClearVid CMOS Sensor and the new EIP, the read data amount from the CMOS Sensor can be suppressed because still images can be recorded with effective pixel numbers (2.0 Megapixel) at double density (4.0 Megapixel). Further, by improving the read data rate through multi-channel reading, a characteristic of the CMOS Sensor, high-speed reading of all pixels with high amounts of data is available in both video capture mode and still capture mode. Through this method of processing large amounts of data at high speed, it has become possible to take movies and high-quality still images simultaneously.

Additionally, the still picture captured while recording video is stored in the internal memory as raw data. When the user has finished recording video, image signal processing for still images is carried out, which allows high-quality still images to be recorded at the same time as movies.

**Conventional Primary Color CCD System**



**ClearVid CMOS Sensor™ + New Enhanced Imaging Processor System (EIP)**



A camcorder model with the ClearVid CMOS Sensor™ can capture still images in video capture mode, and can take high-pixel and high-quality images through the sensor's high-speed reading of large amounts of data and the high-speed signal processing technology with the new EIP.

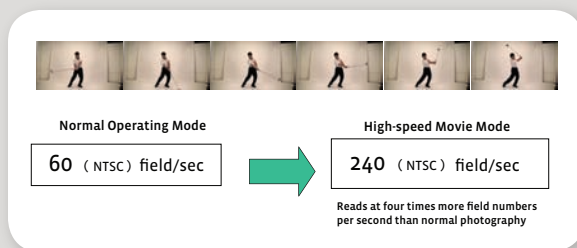
When video capture is complete, captured images are converted to raw data and are then processed as still images. The still images are generated and then stored to either a memory stick or DVD.

**Restrictions**

- ◆ When capturing a still image during video capture mode, the user cannot take another movie until the captured still images are recorded to either Memory Stick or to DVD Media.
- ◆ A maximum of three still images can be taken while in movie taking mode.

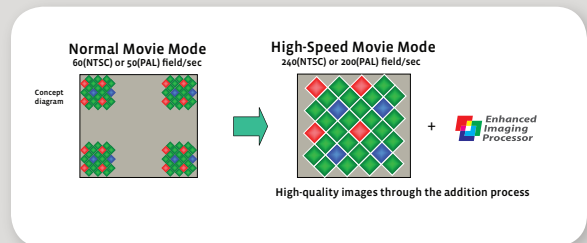
**HIGH-SPEED MOVIE RECORDING:  
SMOOTH SLOW RECORDING (240fps)**

- ◆ The high-speed reading of the ClearVid CMOS Sensor and the high-speed signal processing technology of the new EIP enable high-speed photography previously unavailable for conventional personal video cameras.
- ◆ Quick motions like those in sports or the flapping of a bird's wings that cannot be seen by the naked eye can now be recorded and played back in smooth slow motion images.



**Mechanism for Recording High-Quality Slow Motion Images**

- ◆ The total output pixel numbers are reduced through a 'subtraction process' of a suitable amount of pixels, and frame rate is increased by the number of pixels that have been reduced as one field is read at high speed.
- ◆ The process to reduce the pixel numbers does not 'thin out' pixels, but reduces them through an 'addition process' which outputs smoother and more sensitive images.
- ◆ The information read at high speed from ClearVid CMOS Sensor is processed at high speed by the EIP.



**Smooth Slow Recording Feature Specifications**

- ◆ In high-speed movie recording mode, the field rate is four times (240field/s@NTSC) that of the normal movie recording field rate (60field/s@NTSC), and 12 seconds of slow motion images are captured for every 3 seconds of normal images and then recorded to a tape or DVD.
- ◆ Two types of high-speed movie recording timing can be selected:
  - Pre-capture trigger: approximately three sec.
  - Post-capture trigger: approximately three sec.
- ◆ No sound is recorded while taking movies in high-speed movie recording mode.

## CLEAR PHOTO LCD PLUS

The Clear Photo LCD Plus further improves the visibility of previous LCDs, enabling more detailed and colorful photography of objects in dark or bright places.

This means it is easier to clearly confirm the photographic subject, compose the photo, and focus when shooting outdoors; during playback, a sharper image is displayed.



## Features of Different LCDs

- ♦ **Regular LCD (Transparent).** Narrower viewing angle and less outside visibility compared with the Hybrid LCD / Clear Photo LCD Plus.
- ♦ **Hybrid LCD (Hybrid).** Less resolution compared with the Clear Photo LCD Plus, but good visibility in bright places.
- ♦ **Clear Photo LCD (High Resolution).** Good visibility in bright places, and high resolution (over 200K dots).
- ♦ **Clear Photo LCD Plus (High Resolution, Wide Color Range, High Contrast).** Good visibility in bright places, high resolution (over 200K dots), plus better color reproduction. Higher contrast color, sharp black and crisp edge.

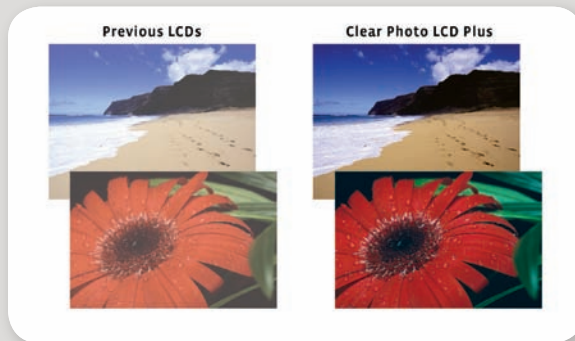
## Comparison Between Different LCDs

	Transparent	Hybrid LCD	Clear Photo LCD *	Clear Photo LCD Plus *
<b>Models</b>	Installed in the D8 and Hi8 models. Installed in some DV and DVD models.	Installed in a large number of DV, DVD and HDV models.	Not installed in any Handycam models. Installed in Cybershot models.	DVD505/E, DVD905E, 3/E, HC
<b>LCD dots</b>	Depends on the model.	Depends on the model.	Over 200K dots	Over 200K dots
<b>Color reproduction</b>	Not good	Not good	Good	Good
<b>Contrast</b>	Good	Not good	Not good	Good
<b>Visibility outdoor</b>	Bad	Good	Good <i>(in the case of Hybrid type)</i>	Good <i>(in the case of Hybrid type)</i>
<b>AR coating</b>	N/A	Depends on the model.	Yes	Yes
<b>Wide viewing angle</b>	Not good	Good	Good	Good

\* There are 2 types of LCD in Clear Photo LCD and Clear Photo LCD Plus, "Transparent type" and "hybrid type." Clear Photo LCD Plus, which is equipped with DVD505/E, 905/E, and HC3, is "hybrid type."

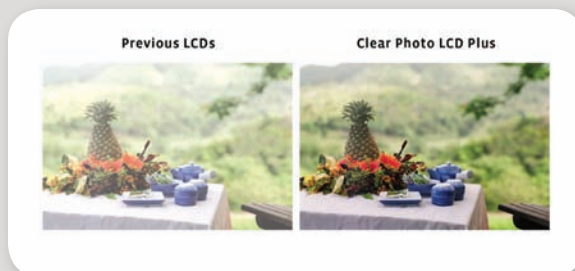
### Features of the Clear Photo LCD Plus

- ◆ Color expression range (color range) is about 1.6 times of previous models. The 3 primary video colors—red, blue and green—are colorfully expressed.



By enlarging the color reproduction area, the Clear Photo LCD Plus can express colors like vivid reds, deeper greens and clearer blue skies.

- ◆ The contrast is about 1.6 times, compared with previous hybrid LCDs. Black is displayed crisper and sharper.



Because the contrast is higher, black becomes crisper, so sharp photos which have higher contrast and brighter colors can be taken.

### BUILT-IN LARGE-CAPACITY 30GB HARD DISK DRIVE

The DCR-SR100 has built-in a large-capacity 30GB hard disk drive. This enables long time recording up to about 7 hours 20 minutes (HQ mode), it is the equivalent to about 7 pieces of 12cm DVDs. Plenty of movie and photo can be recorded without worrying about the capacity.

- ◆ The recording format is MPEG2, which is the same as DVD Handycam®.
- ◆ There are three recording modes available: HQ (High Quality), SP (Standard Play), and LP (Long Play).
- ◆ DVD Handycam® Camcorders use the VBR (variable bit rate) format to automatically control the bit rate (the volume of recording data in a given time segment) according to the scene being recorded: fast moving scenes are recorded at a higher bit rate while a slower bit rate is to record scenes with less movement.
- ◆ Special application software, “ImageMixer™ for Hard Disk Drive Camcorder” is supplied with DCR-SR100 for easily making DVDs or backing up the data.

### ImageMixer™ for Hard Disk Drive Camcorder

- ◆ The “ImageMixer for Hard Disk Drive Camcorder” PC software that is supplied with DCR-SR100 is easy to use even for entry level users, without any difficult operation.

#### What the supplied software can do:

- ◆ **One Touch DVD Burn.** By connecting the Handycam® to a PC and pushing the button for this function, DVD dubbing can be carried out without any complicated operations.
- ◆ **Easy PC Back-up.** Backup the Hard Disk Drive data of Handycam® on a PC easily. The difference is detected, and a back-up is made of only the data not yet backed up.
- ◆ **Simple editing and DVD production.** The data transferred from the Handycam® can be edited and a DVD made using a menu.
- ◆ **Making a DVD from a playlist.** Using a playlist which is made with the Handycam®, a DVD with a DVD menu list can be easily created.

## MODE SWITCH PROCEDURE CHANGES

### Reasons for Mode Switch Procedure Changes

- ◆ To improve the immediacy of the playback function which is one of the DVD's features.
- ◆ Due to changes in the mode switch procedure, it will be easier to view/edit movies and photos and change the modes shot by all the DVD models released in 2006.

### Mode Switch Background

With the mode switch system of existing models (3-toggle system), it took time to switch modes because the camera was operated in such a procedure as "Shoot Movie", "Shoot Photo" and "Play/Edit."

Therefore, in order to execute a more immediate mode switch, a "Play/Edit" button was added independently in addition to the mode switch button of "Movie/Photo."



## Mode Switch Procedure Changes

- ◆ **Addition of a "Play/Edit" button.** We've separated the "Play/Edit" mode from the existing 3-toggle system in order to make it possible to switch "Shoot/Movie" and "Shoot/Photo" modes quickly, and added a "Play/Edit" button to view what you shot immediately.
- ◆ **While adding a "Play/Edit" button, we've changed the mode switch procedure, too.** For the user's convenience, we've changed the procedure from the existing vertical operation to a horizontal operation, which is easy to use even with one hand.
- ◆ **Non-display of power-on animation for the "Play/Edit" mode.** We've made the animation non-displayed when switched to the "Play/Edit" mode. This enables immediate display of the index without having to wait for the animation to appear. When you switch to the "Movie/Photo" mode, the following animations are displayed as before.

## MEMORY STICK DUO™ FOR THE DVD HANDYCAM

### Conventional Problems

- ◆ Since movies and still images are recorded on one disc, shooting many still images causes shortage of movie recording time.
- ◆ USB cable must be connected in order to scan still images before finalizing the disc.
- ◆ Most on-demand printing services at DPS stores do not handle DVDs.

### Advantages of Built-in Memory Stick Duo™ Slot

- ◆ Allocating all the space for movie recording time
- ◆ Still images are stored on the Memory Stick Duo, so that the entire disk capacity can be used for movie recording.
- ◆ Improving playback and edit functions for still images.
- ◆ Still images can be scanned with various types of devices that are compatible with Memory Stick Duo.
- ◆ Easy printing.

Most on-demand printing services handle printing through Memory Stick Duo.

### Advantages of Installing The Memory Stick Duo™ Slot

- ◆ **Allocating all the space for movie recording time.** Movies and still images are recorded on the same DVD disc as conventional DVD Handycam. Therefore, shooting many still images results in less video shooting capacity. To solve this problem, storing still images on the Memory Stick Duo will allow the entire capacity of the disc to be recorded for movie files.
- ◆ **Improving play and edit functions for still images.** Storing still images on the Memory Stick Duo makes it easier to handle still image files.

### When storing still images on the DVD disc

- ◆ To scan the still images before finalizing, USB cable must be connected to the Handycam.
- ◆ To scan still images onto a device without a DVD drive, USB cable must be connected to the Handycam.

### Advantages of storing still images on the Memory Stick Duo™

- ◆ Memory Stick Duo is easy to eject from the DVD Handycam.
- ◆ Still images can be scanned onto devices without a DVD drive if the devices are compatible with Memory Stick Duo.
- ◆ Makes it possible to scan, playback and edit easily with many devices that is compatible with Memory Stick Duo.
- ◆ Easy Printing. The majority of multimedia kiosks in convenience stores and DPS stores do not handle DVD discs. Memory Stick Duo is widely accepted at printing outlets, allowing for easy access to printing.

### Specifications for the Memory Stick Duo™

-The destination for storing still images can be selected on the menu screen. (The default value is set to Memory Stick Duo.)



-Still images can be copied between the DVD disc and the Memory Stick Duo.



Copy still images from DVD to Memory Stick Duo. Copy still images from Memory Stick Duo to DVD.

-Movies cannot be recorded on the Memory Stick Duo.

Media	Memory Stick® Media			Memory Stick PRO™ Media				
	32 MB	64 MB	128 MB	256 MB	512 MB	1GB	2GB	4GB
Representative Shot Storage*								
JPEG Standard								
2304 x 1728 (4 MP)	30	60	121	216	440	898	1841	3638
1920 x 1800 (2 MP; 16:9 Wide)	61	123	246	446	907	1852	3798	7596
1280 x 960 (1 MP)	93	187	376	649	1320	2694	5524	10915
640 x 480 (VGA)	491	985	1975	3571	7261	14821	30385	60036
JPEG Fine								
2304 x 1728 (4 MP)	16	32	65	119	242	494	1012	2001
1920 x 1800 (2 MP; 16:9 Wide)	33	66	133	238	484	988	2025	4050
1280 x 960 (1 MP)	50	101	202	357	726	1482	3038	6003
640 x 480 (VGA)	196	394	790	1428	2904	5928	12154	24014
MPEG Movie								
MPEG Movie Video Mail**	22:42	45:39	1:31:33	2:51:21	5:47:05	11:44:22	24:18:25	48:01:40
MPEG Movie EX**	5:52	11:48	23:39	42:47	1:27:01	N/A	N/A	N/A
Due to FAT32 Limitations, maximum size for a single MPEG Movie file is approximately 2GB.								

\* Actual storage varies by camera. \*\* MPEG Movie Capacity in Hours:Minutes:Seconds. Actual storage varies by camera.  
 † Time will vary according to images recorded.  
 Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is: 8=7.5, 16=15, 32=30, 64=61, 128=123, 256=220, 512=460, 1GB=940, 2GB=1.85GB.

## FEATURES & BENEFITS

Alphabetized Camcorder Technology



# features & benefits

## features & benefits

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**As the leader in camcorder technology, Sony is continually in pursuit of the perfect video picture. The 2006 lineup of Handycam® Camcorders provides more of what you've come to expect from Sony: features that break new ground in camcorder technology, with benefits that appeal to everyone, from the budding videographer to the experienced prosumer. Read below to discover recent advances in Sony camcorder technology, and how they benefit you and your customers.**

# alphabetized camcorder technology and features & benefits

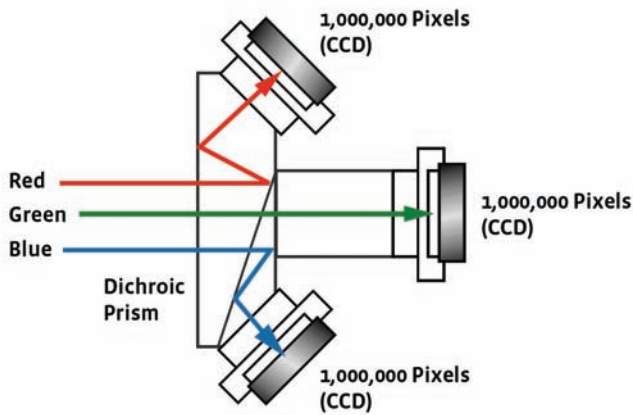
## 3 CCD CHIPS WITH DICHOIC PRISM

HDD DVD **HDV DV** D8 Hi8 VW

**F** 3 CCD Chips with Dichroic Prism

**B** Professional quality video

The prism separates the red, green and blue color components through diffraction and reflection. This provides excellent color fidelity and improved signal-to-noise ratio, with no color smear or bleeding.



✓ **Did You Know?**

A 3-CCD camcorder utilizes three independent image sensors; one for the red, one for green and one for the blue portions of the image—providing better color reproduction than a single CCD camcorder.

## ACTIVE 3D MENU SYSTEM

HDD **DVD** HDV **DV** D8 Hi8 VW

**F** Active 3D Menu System

**B** The Active 3D Menu System allows the customer to visually see which menu system they are in using a uniquely designed rotating menu.

Utilizing BITMAP technology we now have the ability to actively control how the menu system is displayed, making operation simple. By using the BITMAP technology we are now able to create many more displays, icons and languages than previously available.

## ACTIVE INTERFACE SHOE

HDD **DVD** HDV **DV** D8 Hi8 VW

**F** Active Interface Shoe

**B** The camcorder automatically turns the accessory off and on and also provides power to the accessory, making the use of Intelligent Accessories very easy.

All you have to do is mount the Intelligent Accessory into the Active Interface Shoe and let the camera do the rest. Information is transferred from the accessory to the camcorder, and the camcorder distinguishes the type of accessory being used.

# FEATURES & BENEFITS

Key: HDD-Hard Disk Drive DVD-DVD HDV-High Definition Video DV-MiniDV D8-Digital8 Hi8-Hi8 VW-Video Walkman

## ANALOG-TO-DIGITAL CONVERTERS

HDD DVD HDV DV D8 Hi8 VW

### F Analog-to-Digital Converters

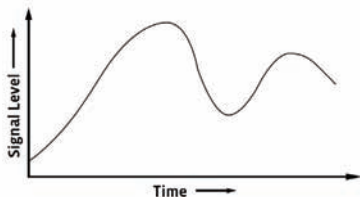
**B** When the footage is converted to digital, it will last longer and copy/edit digitally with no loss of quality.

A/D Converters allow for the archival capability in a digital format with the ease of editing through software that will make your memories even more special.

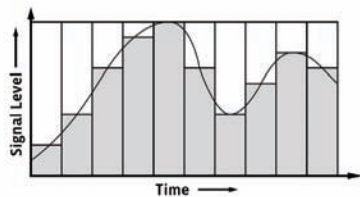
The A/D Conversion consists of a three-step process. The three steps are as follows (see graphic below):

1. Sampling – This is the first of the three steps. The analog signal coming in is converted to a sampling frequency by dividing it vertically into intervals.
2. Quantization – The signal is then further reduced to bits, by dividing it horizontally.
3. Binary Notation – Each signal that has now been reduced is assigned a binary number, a 1 or a 0.

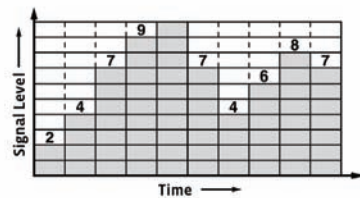
Sampling – Original Signal (Analog Signal)



Sampling



Quantization



## CARL ZEISS® VARIO-SONNAR® T\* LENS

HDD DVD HDV DV D8 Hi8 VW

### F Carl Zeiss® Vario-Sonnar® T\* Lens

**B** Professional quality optics with precision ground glass and better multi-coatings allow more light to reach the CCD with less flaring and glare.

Carl Zeiss is recognized as the world's authority in precision lens manufacturing, and Sony is proud to be the only manufacturer that offers Carl Zeiss lenses on select models of the consumer line of MiniDV and all DVD, HDV and Hard Disk Drive camcorders. Adding the T\* lens (select models) greatly reduces unwanted reflections in the camera lens. The result is vivid image brilliance, true-to-life colors, and increased contrast with perfect rendition of subtle tones.

#### ✓ Did You Know?

Carl Zeiss® optics are used in surgical microscopes, the field of astronomy and cinema lenses, to name a few. Anywhere high quality, high precision lenses are required, you can find Carl Zeiss—including Sony Handycam® Camcorders!

## CARL ZEISS® VARIO-TESSAR® LENS

HDD DVD HDV DV D8 Hi8 VW

### F Carl Zeiss® Vario-Tessar® Lens

**B** Professional quality optics with precision ground glass and better multi-coatings allow more light to reach the CCD with less flaring and glare.

With the sizes of camcorders becoming smaller there was a necessity for Carl Zeiss to produce smaller lenses. Carl Zeiss Vario-Tessar lens refers to the smaller, more compact version of the widely known Vario-Sonnar® lens; however, it keeps the same quality and clarity of image found on the larger lens construction.

**Dual Record**

HDD DVD HDV DV D8 Hi8 VW

**F** Dual Record

**B** Simultaneous capture of movies and high-resolution still images.

By combining the ClearVid CMOS Sensor and the new EIP, the read data amount from the CMOS Sensor can be suppressed because still images can be recorded with effective pixel numbers (2.0 Megapixel) at double density (4.0 Megapixel). Further, by improving the read data rate through multi-channel reading, a characteristic of the CMOS Sensor, high-speed reading of all pixels with high amounts of data is available in both video capture mode and still capture mode. Through this method of processing large amounts of data at high speed, it has become possible to take movies and high-quality still images simultaneously.

Additionally, the still picture captured while recording video is stored in the internal memory as raw data. When the user has finished recording video, image signal processing for still images is carried out, which allows high-quality still images to be recorded at the same time as movies.

✓ **Did you know?**

Dual record technology allows the HDR-HC1 Handycam® Station to record 1Megapixel still images. Also, MiniDV® Camcorders are now capable of recording VGA images.

HDD DVD HDV DV D8 Hi8 VW

**F** Handycam® Station

**B** To keep your camcorder charged and “ready-to-go” whenever you are.

Select Handycam Camcorders come supplied with a Handycam Station for quick and easy connection between the camcorder and TV/VCR for easy viewing, or a computer for video and still image transfer and editing.

**i.LINK® (IEEE1394)\* INTERFACE**

HDD DVD HDV DV D8 Hi8 VW

**F** i.LINK® (IEEE1394)\* Interface

**B** Allows for digital transfer from the Handycam® Camcorder to the PC.

The i.LINK (IEEE1394) Interface is an industry standard digital interface, featured on all Digital8®, MiniDV, and HDV1080i Digital Handycam camcorders and Video Walkman™ decks. This makes it easy to connect your Digital Handycam camcorder to a variety of video and computer products.

\* All products with an IEEE1394 connector may not communicate with each other.



✓ **Sales Tip**

All Digital8®, MiniDV and HDV Handycam Camcorders have an i.LINK® (IEEE1394) DV/HDV Interface connection that allows quick and easy connection to a computer for high-speed transfer, without signal loss. i.LINK is also bi-directional, allowing control of the camcorder from the computer, making editing much easier.

# FEATURES & BENEFITS

Key: HDD-Hard Disk Drive DVD-DVD HDV-High Definition Video DV-MiniDV D8-Digital8 Hi8-Hi8 VW-Video Walkman

## MEMORY MIX EFFECTS

HDD DVD HDV **DV** D8 Hi8 VW

### F Memory Mix Effects

### B Memory Mix allows you to mix your live video with images stored on Memory Stick® Media.

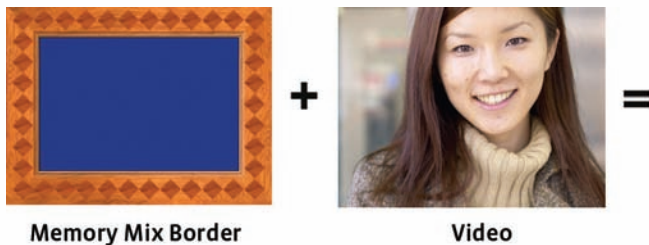
Four different modes allow your creativity to run wild.

**Memory Luminance** substitutes the live camera image for the high luminance (brightness) portion of the image, an especially creative way to add titles to your video.

**Camera Chroma Key** allows you to make special effects the same way the professional studios do. Your subject is shot against a blue background, and then a still image from the Memory Stick media is substituted for the blue background. Make it look like your subject is underwater, on the moon, wherever—it's up to you.

**Memory Chroma Key** replaces the blue portion of the image on the Memory Stick® Media with your live image.

**Memory Overlap** has the ability to fade from a still image on Memory Stick® media to live video. A nice subtle effect, which is a good alternative for the traditional fader.



Memory Mix Effect

## MEMORY STICK® AND MEMORY STICK DUO™ MEDIA

HDD **DVD** HDV **DV** D8 Hi8 **VW**

### F Memory Stick® and Memory Stick Duo™ Media

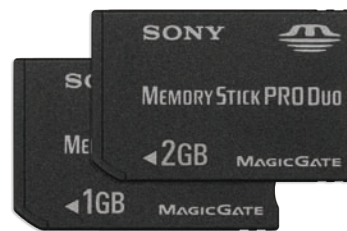
### B A compact durable and compatible way to store and transfer digital data such as digital still images.

Memory Stick media is a compact, durable way to store and manage your still images and MPEG1 video. Memory Stick media is usable in over 50 million devices worldwide, making it convenient as well as flexible in its uses. A special 10 pin recessed connector ensures high reliability in connection with devices, helping to prevent transfer problems and errors.

### Memory Stick PRO™ and Memory Stick Pro Duo™ Media\*

Memory Stick PRO™ media is a high volume storage media available in 256MB, 512MB, 1GB, and 2GB capacities; Memory Stick PRO Duo™ Media is available in 256MB, 512MB, 1GB, and 2GB capacities. A portion of the memory is used for data management functions. Actual available memory is: 256MB=220MB, 512MB=460MB, 1GB=940MB, 2GB=1.85GB. It enables the storage of digital still images, MPEG1 movies and other data for quick, convenient transfer to PC's and other Memory Stick PRO devices.

\*Memory Stick PRO media features vary by and are dependent upon the design of the host hardware devices.



### ✓ Sales Tip

Record still images or MPEG movies to the Memory Stick® media directly from the tape by setting the mode of the camcorder to VCR mode. When the Camcorder is in the VCR mode, press the Memory button to record a still image from the tape to Memory Stick media or press the Record button to record a MPEG video to Memory Stick media.

**MPEG2 DATA COMPRESSION**

HDD DVD HDV DV D8 Hi8 VW

**F** MPEG2 Data Compression

**B** Up to one hour of video at up to 520 or 530 lines of resolution can be stored on the ultra-compact cassette.

Gives the best combination of high compression and high quality in a small volume 3" (8cm) DVD. In addition, you can record up to one hour of HDV 1080 video on a MiniDV cassette. Due to the compression, MPEG2 encoded files require about half the space of DV files.

**MPEG MOVIE MODE**

HDD DVD HDV DV D8 Hi8 VW

**F** MPEG Movie Mode

**B** Records compressed video at 320x240 or 160x112 (selectable), depending on the model, resolution to the Memory Stick® Media. In addition, you can also convert pre-recorded video from your tape, to compressed video and save it to the Memory Stick media as an MPEG movie.

**MPEG Movie EX:** An EXTended movie mode which allows for over 85 minutes of continuous MPEG video (160x120). You are no longer limited to 15 or 60 seconds clips.

**MPEG Movie Mode:** Allows you to record either in 15 second segments (320x240 resolution, or 60 second segments (160x112).

Using MPEG EX movie mode you can record up to 85 minutes of non-stop video on just one 128GB Memory Stick® Media, or over 11 hours on just one 1GB Memory Stick PRO™ Media.

✓ **Sales Tip**

Playing back images stored on the Memory Stick media involves no more than simply switching to Memory, and pressing Memory Play or MPEG Play. Now you can easily review the images on the Memory Stick media and delete any unwanted ones; freeing up space for more pictures.

**NEUTRAL DENSITY FILTER (ND FILTER)**

HDD DVD HDV DV D8 Hi8 VW

**F** Neutral Density Filter (ND Filter)

**B** Record clear images even under bright lighting conditions.

A built in Neutral Density filter on the DCR-VX2100 and HDR-FX1 helps to reduce excessive light, so that images, even those recorded in extremely bright situations are clear and properly exposed.



Without Neutral Density Filter



With Neutral Density Filter

**SUPER NIGHTSHOT® PLUS 0 LUX SYSTEM**

HDD DVD HDV DV D8 Hi8 VW

**F** Super NightShot® Plus 0 Lux System\*

**B** The NightShot Plus infrared system envelopes your subject in an infrared light which is visible to the Handycam® Camcorder. This gives you a clear image, up to 10 feet away, even in total darkness, with better color reproduction and less "greenish" tint than in previous versions of NightShot® Technology.

Using the optional HVL-IRC NightShot Extender light, you can increase your range up to 100 feet, perfect for wildlife. (Images below are simulated)



Without NightShot Plus



With NightShot Plus

## FEATURES & BENEFITS

Key: HDD-Hard Disk Drive DVD-DVD HDV-High Definition Video DV-MiniDV D8-Digital8 Hi8-Hi8 VW-Video Walkman

### PROGRAM AUTO EXPOSURE

HDD DVD HDV DV D8 Hi8 VW

#### F Program Auto Exposure

**B** Makes getting a properly exposed picture as simple as point and shoot. Up to six modes that automatically adjust the exposure, shutter speed and aperture are available for a wide range of everyday situations.

#### The six Program AE Modes available are:



**1. Portrait Mode** – Gives portraits and still life subjects a “photo studio” look by softening up the background focus, so your subject stays in focus, without blending into the background.



**2. Sports Lesson Mode** – Allows the camera to choose the fastest shutter speed possible (variable from 1/250 to 1/4000 second, depending on available light) to capture fast action, such as a golf swing, without blurring.



**3. Spotlight Mode** – Prevents over saturation, or “flaring” of the subject when lit by very strong lighting, such as that found on an auditorium stage.



**4. Sunset/Moon Mode** – Recreates the true colors of a subject, when the subject is also a light source, such as a sunrise, sunset, fireworks or neon lights.



**5. Beach and Ski Mode** – Helps to compensate for glare, and overexposure when shooting in an environment where the light will be reflected back at the camera and subject.



**6. Landscape Mode** – Allows the camera to focus for subjects in the distance, prevents the camera from focusing on subjects close to the camera. Useful when trying to take pictures through a window, a window screen, a chain link fence, anywhere where there is a physical object between the camera and the subject.

#### ✓Sales Tip

The backlight button is a quick one touch solution for taking pictures into a light source such as a window or the sun. If your subject is standing with their back to the light source, press the backlight button. The scene will immediately brighten, exposing your subject, and giving detail.

### PROGRESSIVE SHUTTER SYSTEM

HDD DVD HDV DV D8 Hi8 VW

#### F Progressive Shutter System

**B** Your still pictures will be sharp and clear with excellent definition without the “jagged edges” and “stair stepping” effects that are typically found in interlaced still images.

A mechanical shutter system that provides progressive scan performance while utilizing the NTSC standard interlace scanning system. (Images below are simulated)



Interlaced (left) vs. Progressive Shutter (right)

#### ✓Did You Know?

All Sony Megapixel Handycam® Camcorders use a Progressive Shutter System for crisp, clean still image capture. By capturing the image progressively, flickering and blurring are effectively eliminated, especially on fast moving subjects.

### STAMINA POWER MANAGEMENT SYSTEM

HDD DVD HDV DV D8 Hi8 VW

#### F Stamina Power Management System

**B** Reduced power consumption on all Handycam® camcorders results in significantly longer battery life.

#### ✓Did You Know?

Only Sony's InfoLithium® batteries give you a time reading on the approximate amount of life left on your battery. When talking about battery life with a customer, mention Sony's InfoLithium® battery system with AccuPower™ Meter System.

**SUPER NIGHTSHOT® WITH COLOR SLOW SHUTTER MODE**

HDD DVD HDV DV D8 Hi8 VW

**F** Super NightShot with Color Slow Shutter Mode

**B** Allows video to be recorded in color as they were originally intended to be viewed, thus allowing a more accurate video quality.

The shutter speed is automatically slowed down between 1/4 – 1/15 seconds, allowing more infrared light to enter the camcorder lens, resulting in higher contrast and image quality.

**✓Did You Know?**

The Color Slow Shutter mode allows a full color picture in a low-light situation. Try It! Turn on Color Slow Shutter and then place your hand close to the lens to cut down on light entering the lens—look at how natural and bright the image is.

**(SUPER) STEADYSHOT® PICTURE STABILIZATION**

HDD DVD HDV DV D8 Hi8 VW

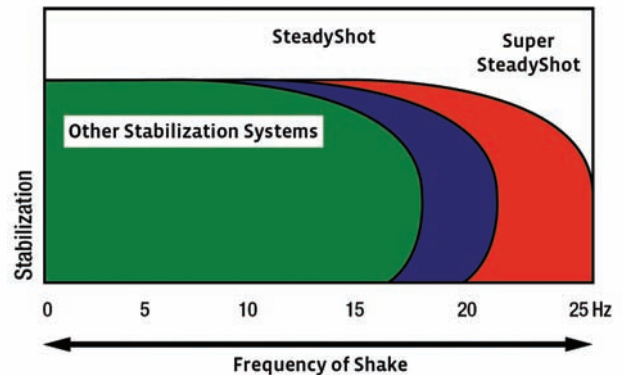
**F** (Super) SteadyShot® Picture Stabilization

**B** Camcorder “jitter” and “shake” are minimized without any change to the size of quality of the image even while zooming, shooting moving objects or in low light situations. Super SteadyShot corrects an even higher frequency of shake and vibration for smoother images.

Utilizes horizontal and vertical motion sensors located in the lens assembly area that detect and compensate for high frequency camcorder motion (like what you might experience in a moving vehicle).

**✓Did You Know?**

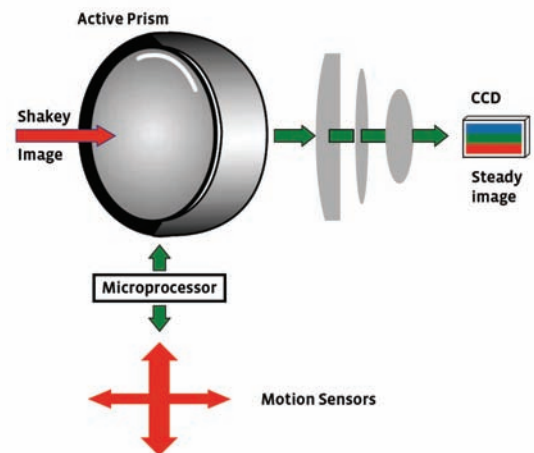
Sony’s Super SteadyShot Picture Stabilization technology uses both horizontal and vertical motion sensors in conjunction with an oversized CCD to detect and compensate for camera shake.



**SteadyShot HyperPrecision Chip:** The HyperPrecision SteadyShot system uses an oversized CCD chip with up to 3,310K pixels. Only 330K pixels are required to deliver excellent picture quality, although Sony uses up to 2048K pixels (depending upon model). The extra pixels on the chip compensate for both horizontal and vertical motion of the camcorder, different from digital image stabilization systems. HyperPrecision SteadyShot system minimizes camcorder shake, without degrading the picture quality.

**Super SteadyShot – Optical Active Prism:** This system utilizes two lenses which compensate for horizontal and vertical movement of the camera, not the subject. The two lenses are bonded together with a small bellow, with a transparent plasma filling the area in between. The result is that the two lenses move based on the information provided by the motion sensors, the lenses simply refocus the image on the CCD, thereby minimizing the “jitters” created by the camera motion.

**Active Prism Super SteadyShot**

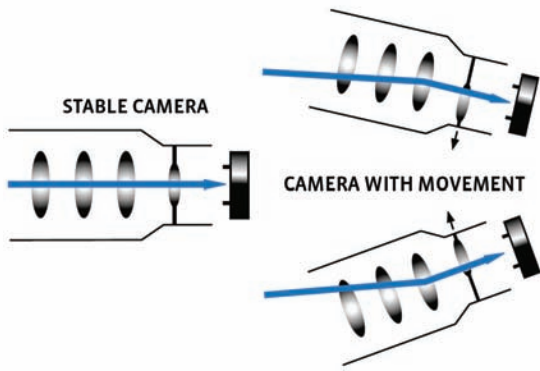


# FEATURES & BENEFITS

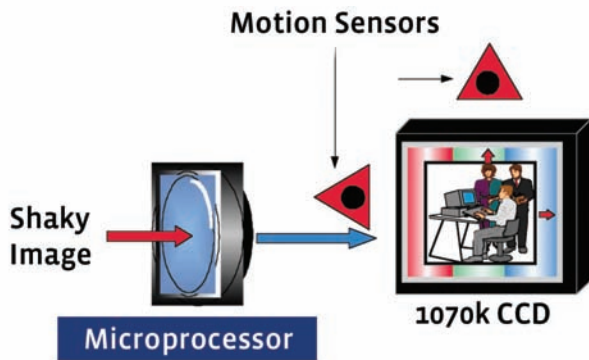
Key: HDD-Hard Disk Drive DVD-DVD HDV-High Definition Video DV-MiniDV D8-Digital8 Hi8-Hi8 VW-Video Walkman

## (SUPER) STEADYSHOT® PICTURE STABILIZATION (cont.)

Floating Lens Super SteadyShot System



**Super SteadyShot - Optical Floating Lens:** Unlike competing camcorders, which adjust for and can be fooled by subject movement, the Super SteadyShot Optical Stabilization System uses motion sensor and Floating Lens to compensate for unwanted camera movement. This bends the incoming light to minimize unwanted camera shake without image degradation.



**HyperPrecision CCD Super SteadyShot**

## VISUAL INDEX SCREEN

HDD DVD HDV DV D8 Hi8 VW

### F Visual Index Screen

**B** Allows the customers who are viewing their video and or still images on the DVD Camcorder to easily access the thumbnail image quickly.

By allowing you to view the thumbnail images of video and still images (depending upon which folder you are in) the Visual Index Screen gives you quick, easy and instant access to your memories.



### ✓ Did You Know?

The same thumbnail images are also included and shown on your home DVD player when the disc has been finalized making just as easy to access your memories.



dvd



DCR-DVD505  
SEE PAGE 52



## SONY®

Since the introduction of Sony's first DVD Handycam® Camcorder in 2003, the growth of the DVD line has been incredible. In 2006, between more models with 5.1ch surround sound, a new visual index screen, and the ease of creating, burning and sharing DVD video with family and friends, these camcorders are sure to be must buy items!



### The History

The DVD format was introduced in 1996, and today DVD is accepted worldwide - in use with a wide range of products. One of the biggest advantages is it will play in the Home Video environment. Simply by taking a 3" (8cm) DVD-R/RW or +RW disc and recording up to an hour of video is easy and fun. With the fourth generation of DVD Handycam® Camcorders we make it even easier to use and enjoy.

### High Fidelity Audio

The Sony DVD Camcorders use Dolby® AC-3® (2-channel stereo) audio recording. With this high-quality audio recording you receive high-quality sound for lifelike realism.

In 2006, even more models feature Dolby Digital 5.1ch Surround Sound recording (5.1 channel capable microphone supplied in the box with DCR-DVD305, and built in on the DCR-DVD405 and DCR-DVD505). In addition, the Center Channel Microphone capability of the DCR-DVD405/505 models has been enhanced with the addition of the optional wireless Bluetooth® Microphone (ECM-HW1). Record subjects up to 100 feet away in crystal clear sound for a cinematic viewing—and listening—experience.

### Fast Search & Access

DVD offers many advantages over videocassette tape systems, including fast search and access to scenes by selecting thumbnail images (found on the Visual Index screen). DVD camcorders automatically create thumbnail images during the recording and finalization process; these images can be used for instant access to the scene you want. Thumbnail images are viewable whether you use your DVD Handycam camcorder to playback or using your Home DVD player/DVD-ROM drive on your PC computer.

### USB 2.0 Connectivity

With the DVD Handycam camcorders utilizing a high-speed USB 2.0 connection you now have the transfer rate of up to 22.16 Mbps\*.

### Picture Package™ Software

A recently developed, special DVD handycam version of the easy to use Picture Package software lets the user create music videos and custom slide shows with audio tracks, create a Video CD, stores images on a CD-R, and organize their still images and video onto their computer. In addition, you can create your own customized DVD and burn it directly back to the DVD Camcorder for easy sharing with family and friends.

### Movies & Still Images

With DVD, a single media can record both movies and still images. Still images are recorded on the DVD-R/RW or DVD+RW media—as well as Memory Stick Duo™ Media on select models—as JPEG files. The Sony DVD Handycam® Camcorders allow you to play an automatic, continuous “slide show” of your still images on your TV screen. Both movies and still images can be recorded on the same DVD-R/RW and +RW discs!

- **Memory Stick Duo Slot.** With the new Memory Stick Duo slot available on select models, you can now choose where to store your still images. Storing still images on the Memory Stick Duo will keep the entire capacity of the DVD disc free for movie files. The destination for storing still images can be selected from the DVD Handycam® Camcorder's menu screen (the default setting is set to Memory Stick Duo). Should you later decide that you want your still images burned to DVD, you can copy the images between the DVD disc and the Memory Stick Duo, all inside the camcorder.
- **Visual Index Screen.** Enjoy the ease of scrolling through your still images and video with the Visual Index Screen. The Visual Index has been installed as a function to quickly check and replay recorded content. Unlike tapes, which force you to fast-forward and rewind to find a specific scene, the Visual Index function displays thumbnail images of movie and still images you have recorded.

While viewing the Visual Index Screen, toggle the zoom control. This allows you to choose between viewing six or 12 chapters. Additionally, video previewing is easy in the Visual Index screen; see a portion (three seconds) of a chapter before you select it. After showing the three second capture of the first chapter, it will play the second, third, fourth, and so on, until playback of the short previews is complete.

\* Your PC must also support USB 2.0 (high-speed USB) in order to transfer at a rate of 22.16 Mbps. Maximum transmission speed will vary depending on the PC model which you are using. Not all products with USB connectors may communicate with each other due to chipset variations.  
1. Not all products with a USB 2.0 connector may communicate with each other due to chipset variations.



The DCR-DVD105 records on DVD-R/-RW/+RW formats for simple playback and sharing on other compatible DVD Media. The Color Viewfinder and Easy Handycam Button make for easy monitoring and operation.

## features

### 1/6" Advanced HAD™ CCD Imager, 680K Pixels Gross

1/6" Advanced HAD™ (Hole Accumulation Diode) CCD with 340K (effective) pixels provides stunning detail and clarity with exceptional video (up to 500 lines of horizontal resolution) and still image performance.

### 20X Optical/800X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Tessar® Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones.

### DVD Format Video Recording<sup>2</sup>

The DVD recording format delivers digital picture and sound quality comparable to that of MiniDV, but on DVD. Playback of the DVDs couldn't be simpler. After finalizing the disc in the camcorder, the disc can play back in most DVD Players, computers and even PlayStation® 2 video game consoles.

### DVD-R/RW and +RW Compatible<sup>4</sup>

The DCR-DVD105 is compatible with a variety of DVD formats allowing the easy use and simplicity found in DVD Media. With DVD+RW media there is not a need to finalize the disc (minimum recording required). Simply remove the disc and insert the media into a compatible DVD Player.

### SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### 2.5" Touch Panel SwivelScreen™ LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback.

### InfoLithium® Battery with AccuPower™ Meter System

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subjected to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### Stamina® Battery Power Management System<sup>1</sup>

Using the optional NP-FP90 InfoLithium® Battery, the DCR-DVD105 can continuously record for up to 8 hours on a single full charge, providing extra long battery life.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the touch panel. Manual focusing also allows the user to control the focus in difficult situation where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### Super NightShot® Plus Infrared System

With Sony's Super NightShot Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 20 feet away using the built-in infrared system, but without the overall monochrome color common with earlier low-light recording systems.

### Picture Effects

Get creative when recording or playing back your videos with Sony's Picture Effect Modes. Effects available in camera mode: Mosaic, Monotone, Sepia and Pastel. Effects available in Playback mode: Monotone and Sepia.

### Fader Effects

Enhance your personal videos by adding professional looking fader effects. Choose from Black, White, Overlap and Wipe.

### Program AE (Auto Exposure) Modes

Program AE modes make recording easy even when filming in challenging situations. Choose from Portrait, Beach & Ski, Sports Lesson, Landscape, Spotlight, Sunset & Moon.

### Battery Information

At the touch of a button, battery information is displayed on the LCD screen when charging and when the camcorder is turned off. The display will show how much the battery is charged, in 10% increments and the recordable time left when using the LCD screen or in the viewfinder.

### Additional Features

- Easy Handycam Button
- Fader Effects



## specifications

**Imaging Device:** 1/6" CCD  
**Pixel Gross:** 680K  
**Recording Media:** 8cm DVD  
 (DVD-R/DVD-RW/ DVD+RW)  
**Recording and Playback Times:** HQ: 20min.,  
 SP: 30min., LP 60 min.  
**Video Actual:** 340K Pixels  
**Still Actual:** 340K Pixels  
**USB Streaming:** N/A  
**SteadyShot® Image Stabilization:** Yes  
 (Super; Electronic)  
**Accessory Shoe:** N/A  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** N/A  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 5 Lux (0 Lux with  
 Super NightShot® Plus Infrared System)  
**Low Light Capability:** Super NightShot® Plus  
**Analog Audio/Video Input(s):** N/A  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** N/A  
**Digital Audio/Video Output(s):** N/A  
**USB Port(s):** N/A  
**i.LINK® Interface:** N/A  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** N/A  
**Remote Jack:** N/A  
**S-Video Input(s):** N/A

**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.5" (123K) Pixels SwivelScreen™ LCD Display  
**Lens Type:** Carl Zeiss® Vario-Tessar®  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 44-440mm  
**Aperture:** f1.8-f3.1  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 25mm  
**Focal Distance:** 2.3-46mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** N/A  
**Shutter Speed:** Auto, 1/4-1/4000 (AE Mode)  
**Optical Zoom:** 20X  
**Digital Zoom:** 800X  
**Power Consumption:** 2.4W/2.7W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™  
 Meter System (NP-FP50)  
**Power Requirements:** 7.2V (battery pack);  
 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft®  
 Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** Nero Express 6  
**Video Recording System:** DVD Video/  
 DVD-VR/DVD+RW Video  
**Video Signal System:** NTSC color, EIA  
**Analog-to-Digital Converter:** N/A  
**Weight:** 1 lb. 1 oz (470g) with Disc and Battery  
**Measurements:** 2 1/5" x 3 7/15" x 5 1/13"  
 (56 x 88 x 129mm)

## supplied accessories

Power Adapter/In-Camera Charger (AC-L25)  
 InfoLithium® Rechargeable Battery (NP-FP50)  
 Stereo AV Cable  
 Lens Cap  
 Nero Express 6 (3" conversion Software)  
 LCD Cleaning Cloth

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

DVD Camcorder Starter Kit (ACC-DVDP2)  
 High Capacity InfoLithium® Batteries (NP-FP50/71/90)  
 Travel Charger (BC-TRP)  
 Carrying Case (LCS-VA30)  
 Carrying Case (LCM-HCG)  
 A/V Cable with S-Video (VMC-30FS)  
 Filter Kit (VF-25CPKXS)  
 Wide Angle Lens (VCL-0625X)  
 High Grade Wide Angle Lens (VCL-HG0725X)  
 Telephoto Lens (VCL-2025S)  
 High-Grade Telephoto Lens (VCL-HG2025)  
 Infrared Light (HVL-IRM)  
 Lightweight Tripod (VCT-R640)  
 Pocket Tripod (VCT-TK1)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>1</sup>

Battery <sup>2</sup> (fully Charged)	Continuous Record Time VF/LCD On	Continuous Playback Time LCD On/Off
NP-FP50	115/100 min	105/120 min
NP-FP70	240/215 min	225/255 min
NP-FP71	290/255 min	270/300 min
NP-FP90	435/385 min	400/455 min

### Still Image Mode<sup>3</sup> Fine/Standard Picture Quality

Resolution	DVD-R Video Mode	DVD-RW Video Mode	DVD-RW/+RW VR Mode	DVD+RW Video Mode
640 x 480 (VGA)	5100/8100	5400/8600	5400/8600	2950/3800

1. Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.  
 2. Playback on all home DVD players, computers, DVD drives, and PlayStation® 2 consoles cannot be guaranteed. Some players, drives, and video game consoles lack the ability to read due to the optical reflection standard of DVD-R/RW disks and/or due to encoding incompatibilities. Refer to the specifications of your playback equipment for additional compatibility information.  
 3. Image size and files size may vary based upon the type and complexity of the image recorded.  
 4. Use of Sony DVD-R/RW/RW Media recommended. For third party media, confirm compatibility with manufacturer.  
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 Features and specifications subject to change without notice. Non-metric weights and measures are approximate.  
 Screen images simulated.  
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[www.sony.com/dn](http://www.sony.com/dn)



The DCR-DVD205 not only gives you Megapixel performance for your video and Digital stills on a 3" DVD, but also packs a ton of features into a compact design. A 2.7" wide (16:9) SwivelScreen™ Touch Panel puts control at your fingertips, while the Easy Handycam Button "locks out" the advanced features to make operating the camcorder easy and less intimidating.

## features

### 1.0 Megapixel Advanced HAD™ CCD Imager; 1070K Gross

1/5.5" Advanced HAD™ (Hole Accumulation Diode) CCD imager with 690K effective video pixels provides excellent detail and clarity, for exceptional digital video (up to 520 lines of resolution) and still image performance. Realize great looking digital still images with 1,000K effective pixels.



### DVD Format Video Recording<sup>2</sup>

The DVD recording format delivers digital picture and sound quality comparable to that of MiniDV, but on DVD. Playback of the DVDs couldn't be simpler. After finalizing the disc in the camcorder, the disc can play back in most DVD Players, computers and even PlayStation® 2 video game consoles.

### DVD-R/RW and +RW Compatible<sup>4</sup>

The DCR-DVD205 is compatible with a variety of DVD formats allowing the easy of use and simplicity found in DVD Media. With DVD+RW media there is not a need to finalize the disc (minimum recording required). Simply remove the disc and insert the media into a compatible DVD Player.



### 12X Optical/800X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Tessar® Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones.

### 2.7" Wide Touch Panel SwivelScreen™ Hybrid LCD Display (123K Pixels)

The 2.7" Wide (16:9) LCD screen provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback, and the widescreen format makes shooting in 16:9 mode and composing shots even easier.

### SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### On Screen Zoom and Record Buttons

For addition control of the camcorder, the DCR-DVD205 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the touch panel. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### InfoLithium® Battery with AccuPower™ Meter System<sup>1</sup>

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subject to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### Super NightShot® Plus Infrared System

With Sony's Super NightShot Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 20 feet away using the built-in infrared system, but without the overall monochrome color common with earlier low-light recording systems.

### Stamina® Battery Power Management System<sup>1</sup>

Using the optional NP-FP90 InfoLithium® Battery, the DCR-DVD205 can continuously record for up to 8 hours on a single full charge, providing extra long battery life.

### Picture Effects

Get creative when recording or playing back your videos with Sony's Picture Effect Modes. Effects available in Camera mode: Mosaic, Monotone, Sepia and Pastel. Effects available in Playback mode: Monotone and Sepia.

### Fader Effects

Enhance your personal videos by adding professional looking fader effects. Choose from Black, Overlap, White and Wipe.

### Conversion Software

Nero Express 6 software is included for easy duplication and conversion from 3" DVD Media to 5 1/4" DVD Media.

### Additional Features

- Battery Information
- Program AE (Auto Exposure) Modes
- Easy Handycam Button

## specifications

**Imaging Device:** 1/5.5" CCD  
**Pixel Gross:** 1070K  
**Recording Media:** 8cm DVD (DVD-R/DVD-RW/ DVD+RW)  
**Recording and Playback Times:** HQ: 20 min.,  
 SP: 30 min., LP 60 min.  
**Video Actual:** 690K Pixels (4:3), 670K (16:9)  
**Still Actual:** 1000K Pixels (4:3), 750K (16:9)  
**USB Streaming:** N/A  
**SteadyShot® Image Stabilization:** Yes  
 (Super; Electronic)  
**Accessory Shoe:** N/A  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** N/A  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 7 Lux (0 Lux with Super  
 NightShot® Plus Infrared System)  
**Low Light Capability:** Super NightShot® Plus  
**Analog Audio/Video Input(s):** N/A  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** N/A  
**Digital Audio/Video Output(s):** N/A  
**USB Port(s):** N/A  
**i.LINK® Interface:** N/A  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** N/A  
**Remote Jack:** N/A  
**S-Video Input(s):** N/A  
**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.7" (123K Pixels) Wide (16:9) Touch Panel  
 SwivelScreen™ Hybrid LCD Display  
**Lens Type:** Carl Zeiss® Vario-Tessar®

**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 46-628.5mm (16:9 Camera Mode),  
 48-576mm (4:3 Camera Mode), 43.6-523.2mm  
 (16:9 Memory Mode), 40-480mm (4:3 Memory Mode)  
**Aperture:** f1.8-f2.5  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 25mm  
**Focal Distance:** 3.0-36mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/4-1/4000 (AE Mode)  
**Optical Zoom:** 12X  
**Digital Zoom:** 800X  
**Power Consumption:** 3.0W/3.4W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™  
 Meter System (NP-FP50)  
**Power Requirements:** 7.2V (battery pack);  
 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft®  
 Windows® 2000 Professional, XP Home, XP  
 Professional  
**Supplied Software:** Nero Express 6  
**Video Recording System:** DVD Video/ DVD-VR/  
 DVD+RW Video  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** N/A  
**Weight:** 1 lb. 1 oz (470g) with Disc and Battery  
**Measurements:** 2 1/5" x 3 7/15" x 5 1/13"  
 (56mm x 88mm x 129mm)

## supplied accessories

Power Adapter/In-Camera Charger (AC-L25)  
 InfoLithium® Rechargeable Battery (NP-FP50)  
 Stereo A/V Cable  
 Lens Cap  
 Nero Express 6 (3" conversion Software)  
 Cleaning Cloth

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

DVD Camcorder Starter Kit (ACC-DVDP2)  
 High Capacity InfoLithium™ Batteries (NP-FP50/ 71/90)  
 Travel Charger (BC-TRP)  
 Carrying Case (LCM-HCG)  
 Carrying Case (LCS-VA30)  
 Wide Angle Lens (VCL-0625X)  
 High Grade Wide Angle Lens (VCL-HG0725X)  
 Telephoto Lens (VCL-2025S)  
 High-Grade Telephoto Lens (VCL-HG2025)  
 Filter Kit (VF-25CPKXS)  
 A/V Cable with S-Video (VMC-30FS)  
 Infrared Light (HVL-IRM)  
 Pocket Tripod (VCT-MTK)  
 Lightweight Tripod (VCT-R640)  
 SportsPack (SPK-HCB)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>1</sup>

Battery <sup>1</sup> (fully Charged)	Continuous Record Time VF/LCD/LCD Backlight OFF	Continuous Playback Time LCD On/Off
NP-FP50	90/80/85 min	85/100 min
NP-FP70	190/170/185 min	185/215 min
NP-FP71	230/200/220 min	220/255 min
NP-FP90	345/300/335 min	335/385 min

### Still Image Mode<sup>3</sup> Fine/Standard Picture Quality

Resolution	DVD-R Video Mode	DVD-RW Video Mode	DVD-RW/+RW VR Mode	DVD+RW Video Mode
1152 x 864	2150/4100	2250/4300	2250/4300	1650/2600
1152 x 684 (16:9)	2750/5100	2850/5400	2900/5400	1950/2950
640 x 480 (VGA)	5100/8100	5400/8600	5400/8600	2950/3800

<sup>1</sup> Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.

<sup>2</sup> Playback on all home DVD players, computers, DVD drives, and PlayStation® 2 consoles cannot be guaranteed. Some players drives, and video game consoles lack the ability to read due to the optical reflection standard of DVD+RW disks and/or due to encoding incompatibilities. Refer to the specifications of your playback equipment for additional compatibility information.

<sup>3</sup> Image size and files size may vary based upon the type and complexity of the image recorded.

<sup>4</sup> Use of Sony DVD-R/ RW/ RW Media recommended. For third party media, confirm compatibility with manufacturer. Reproduction in whole or in part without written permission is prohibited. All rights reserved Sony, AccuPower, Advanced HAD, Handycam, i.LINK, InfoLithium, like no other, Memory Stick, the Memory Stick logo, Memory Stick Duo, Memory Stick PRO Duo, NightShot, Picture Package, Remote Commander, SteadyShot, SwivelScreen, and worryfreedigital are trademarks of Sony. Carl Zeiss and Vario-Sonnar are trademarks of Carl Zeiss. PictBridge is a trademark of CIPA. Microsoft and Windows are registered trademarks of Microsoft Corporation. Macintosh is a registered trademark of Apple Computer, Inc. All other trademarks are property of their respective owners.

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[www.sony.com/dn](http://www.sony.com/dn)



Shoot 1.0 Megapixel Digital stills and SURROUND SOUND video with the DCR-DVD305 through the professional quality Carl Zeiss® Vario-Tessar® Lens. Plus, you can easily transfer images and video footage to your computer for printing, emailing and sharing with both USB 2.0 interface<sup>2</sup> and Memory Stick Duo™ capability.

## features

### 1.0 Megapixel Advanced HAD™ CCD Imager

1/5.5" Advanced HAD™ (Hole Accumulation Diode) CCD imager with 690K effective video pixels provides excellent detail and clarity, for exceptional digital video (up to 520 lines of resolution) and still image performance. Realize great looking digital still images with 1,000K effective pixels.

### Advanced HAD™ CCD Technology

Enhanced CCD design allow more light to reach the imager which reduces video noise to improve signal-to-noise ratio by up to 6dB (2x better than a standard CCD). Particularly effective when shooting in dark situations.

### DVD Format Video Recording<sup>2</sup>

The DVD recording format delivers digital picture and sound quality comparable to that of MiniDV, but on DVD. Playback of the DVDs couldn't be simpler. After finalizing the disc in the camera, the disc plays back in compatible DVD Players, computers and even PlayStation® 2 video game consoles.

### DVD-R/RW and + RW Compatible<sup>4</sup>

The DCR-DVD305 is compatible with a variety of DVD formats allowing the ease of use and simplicity found in DVD Media. With DVD+RW media there is not a need to finalize the disc (minimum recording required). Simply remove the disc and insert the media into a compatible DVD Player.

### 12X Optical/800X Digital Zoom

The optical zoom helps to bring the action up close from far away. In addition, the digital zoom interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Tessar® Lens

Carl Zeiss lens have an advanced optical multi-layer coating offering less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation, and perfect renditions of subtle tones.

### Dolby Digital® 5.1ch Recording

The DCR-DVD305 is supplied with a Dolby Digital 5.1ch Microphone. By recording in 5.1 channel surround sound you can experience your home movies with active sounds coming from all directions. Enjoy your personal home movies the way you experienced them while recording.

### 2.7" Hybrid SwivelScreen™ LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The 123K pixel LCD rotates up to 270-degrees for multiple viewing angles, providing sharp, detailed images for monitoring or playback. The Hybrid LCD Screen provides accurate viewing in sunlight or bright light, virtually eliminating the "wash-out" common with traditional LCD screens.

### Digital Still Memory Mode with Memory Stick Duo™ Media<sup>6</sup>

Capture still images up to 1152x864 resolution, directly onto Memory Stick Duo™ Media for easy transfer to PCs for emailing, printing or sharing with other compatible Memory Stick™ devices.

### Visual Index Screen

Shows thumbnail images of movies and still images when playing back on your camcorder or DVD player, making scene selection easier.

### Analog Inputs

Record any analog NTSC source to digital video via the analog inputs. Perfect for archiving analog tape recordings. This recorded video can then be edited on your computer.

### Color Viewfinder

Provides a clear, color view of subjects and makes spotting and/or following subjects easier.

### Super SteadyShot® Picture Stabilization System

An advanced version of Sony's SteadyShot® system that controls an even higher range of shake and vibration frequencies, to achieve an even higher level of smoothness without degradation of video like some other image stabilization systems.

### Active Interface Shoe

Conveniently gives you the option of adding accessories such as lights, flashes and microphones to the camera, which can communicate with the camera and also draw power from the camera.

### USB 2.0 Interface

USB 2.0 interface provides an easy way to connect your DVD Digital Handycam camcorder to computers for fast transfer of video and still images to your computer for editing. The camcorder can also be used as an external DVD burner, convenient for making copies of your DVDs or burning edited movies.

### Additional Features

- ◆ InfoLithium® Battery with AccuPower™ Meter System<sup>1</sup>
- ◆ Super NightShot® Plus Infrared System
- ◆ Progressive Shutter System
- ◆ Program AE (Auto Exposure) Modes
- ◆ Fader Effects
- ◆ Picture Effects



## specifications

**Imaging Device:** 1/5.5" CCD  
**Pixel Gross:** 1070K  
**Recording Media:** 8cm DVD (DVD-R/DVDRW/ DVD+RW)  
**Recording and Playback Times:** HQ: 20 min., SP: 30 min., LP 60 min.  
**Video Actual:** 690K Pixels (4:3), 670K (16:9)  
**Still Actual:** 1000K Pixels (4:3), 750K (16:9)  
**USB Streaming:** N/A  
**SteadyShot® Image Stabilization:** Yes (Super; Electronic)  
**Accessory Shoe:** N/A  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** Tested to support up to 2GB media capacity; does not support high speed transfer function; does not support Access Control security function.  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 7 Lux (0 Lux with Super NightShot® Plus Infrared System)  
**Low Light Capability:** Super NightShot® Plus  
**Analog Audio/Video Input(s):** Yes (Multi A/V)  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** USB 2.0  
**Digital Audio/Video Output(s):** USB 2.0  
**USB Port(s):** Yes (2.0 compliant)  
**i.LINK® Interface:** N/A  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** Yes (thru Active Interface Shoe)  
**Remote Jack:** Yes (Mini Plug)  
**S-Video Input(s):** N/A  
**S-Video Output(s):** Yes (optional accessory)

**LCD:** 2.7" (123K Pixels) Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display  
**Lens Type:** Carl Zeiss® Vario-Tessar®  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 46-628.5mm (16:9 Camera Mode), 48-576mm (4:3 Camera Mode), 43.6-523.2mm (16:9 Memory Mode), 40-480mm (4:3 Memory Mode)  
**Aperture:** f1.8-f2.5  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 25mm  
**Focal Distance:** 3.0-36mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/4-1/4000 (AE Mode)  
**Optical Zoom:** 12X  
**Digital Zoom:** 800X  
**Power Consumption:** 3.0W/3.4W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP50)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** Nero Express 6 and Picture Package™ Software ver. 1.8  
**Video Recording System:** DVD-Video/ DVD-VR/ DVD+RW Video  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** Yes  
**Weight:** 1 lb. 1 oz (470g) with Disc and Battery  
**Measurements:** 2 1/5" x 3 7/15" x 5 1/13" (56mm x 88mm x 129mm)

## supplied accessories

Power Adapter/In-Camera Charger (AC-L25)  
 InfoLithium® Rechargeable Battery (NP-FP50)  
 Stereo AV Cable  
 Lens Cap  
 Picture Package™ Software ver. 1.8 and Nero Express 6 (3" conversion Software)  
 LCD Cleaning Cloth  
 Dolby Digital 5.1ch Microphone (ECM-L200)

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

DVD Camcorder Starter Kit (ACC-DVDP2)  
 High Capacity InfoLithium® Batteries (NP-FP50/71/90)  
 Travel Charger (BC-TRP)  
 Carrying Case (LCS-VA30)  
 Carrying Case (LCM-HCG)  
 A/V Cable with S-Video (VMC-30FS)  
 Filter Kit (VF-25CPKXS)  
 Wide Angle Lens (VCL-0625X)  
 High Grade Wide Angle Lens (VCL-HG0725X)  
 Telephoto Lens (VCL-2025S)  
 High-Grade Telephoto Lens (VCL-HG2025)  
 Infrared Light (HVL-IRM)  
 Lightweight Tripod (VCT-R640)  
 Pocket Tripod (VCT-TK1)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>1</sup>

Battery <sup>1</sup> (fully Charged)	Continuous Record Time VF/LCD/LCD Backlight OFF	Continuous Playback Time LCD On/Off
NP-FP50	90/75/85 min	80/95 min
NP-FP70	185/160/180 min	175/200 min
NP-FP71	220/190/215 min	205/235 min
NP-FP90	335/285/320 min	310/355 min

<sup>1</sup> Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.  
<sup>2</sup> Playback on all home DVD players, computer DVD drives, and PlayStation® 2 consoles cannot be guaranteed. Some players, drives, and video game consoles lack the ability to read due to the optical reflection standard of DVD-R/RW discs and/or due to encoding incompatibilities. Refer to the specifications of your playback equipment for additional compatibility information.

<sup>3</sup> Not all products with a USB 2.0 connector may communicate with each other due to chipset variations.

<sup>4</sup> Recording time may vary depending upon the types of images and amount of movement you are shooting.

<sup>5</sup> Use of Sony DVD-R/RW Media recommended. For third party media, confirm compatibility with manufacturer.

<sup>6</sup> Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is: 8=7.5, 16=15, 32=30, 64=61, 128=123, 256=220, 512=460, 1GB=940, 2GB=1.85GB.

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Features and specifications subject to change without notice. Non-metric weights and measures are approximate.

Screen images simulated.

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### Still Image Mode<sup>3</sup> Fine/Standard Picture Quality

DVD Media <sup>5</sup>	1152 x 864	1152 x 648 (16:9)	640 x 480 (VGA)
DVD-R	2150/4100	2750/5100	5100/8100
DVD-RW/Video	2250/4300	2850/5400	5400/8600
DVD-RW/+RW VR Mode	2250/4300	2900/5400	5400/8600
DVD+RW/Video	1650/2600	1950/2950	2950/3800
<b>Memory Stick Duo™ Media<sup>6</sup></b>			
8MB	15/37	20/48	50/120
16MB	30/74	40/96	96/240
32MB	61/150	81/190	190/485
64MB	120/300	160/390	390/980
128MB	245/600	325/780	780/1970
<b>Memory Stick PRO Duo™ Media<sup>6</sup></b>			
256MB	445/1000	590/1400	1400/3550
512MB	900/2050	1200/2850	2850/7200
1GB	1800/4200	2450/5900	5900/14500

Please visit the Dealer Network for more information at [www.sony.com/dn](http://www.sony.com/dn)



Experience true power and vivid detail while recording and reliving your stills and videos with the 3.0 Megapixel Imager and 30mm Carl Zeiss® Vario-Sonnar® T\* Lens. The DCR-DVD405 also lets you relive your home movies just as they happened in Dolby Digital 5.1ch SURROUND SOUND.

## features

### 3.3 Megapixel (Gross) Advanced HAD™ CCD Imager

1/3" Advanced HAD™ (Hole Accumulation Diode) CCD with 2048K (effective) pixels provides stunning detail and clarity with exceptional video (up to 530 lines of horizontal resolution) and still image performance. The Megapixel technology enhances your digital videos and digital still (3048K) photography performance.

### DVD Format Video Recording<sup>2</sup>

The DVD recording format delivers digital picture and sound quality comparable to that of MiniDV, but on DVD. Playback of the DVDs couldn't be simpler. After finalizing the disc in the camcorder, the disc can play back in most DVD Players, computers and even PlayStation® 2 video game consoles.

### DVD-R/RW and +RW Compatible<sup>6</sup>

The DCR-DVD405 is compatible with a variety of DVD formats allowing the ease of use and simplicity found in DVD Media. With DVD RW media there is not a need to finalize the disc (minimum recording required). Simply remove the disc and insert the media into a compatible DVD Player.

### 10X Optical/120 Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition, the Digital Zoom interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Sonnar® T\* Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones. The additional T\* coating on the lens further reduces unwanted glare and flare.

### Dolby Digital 5.1ch Recording

The DCR-DVD405 will record in Dolby Digital 5.1ch surround sound with a built-in microphone. By recording in 5.1 channel surround sound you can now experience your home movies with active sounds coming from all directions. Enjoy your personal home movies the way you experienced them while recording.

### 2.7" Wide Touch Panel SwivelScreen™ Hybrid LCD Display (123K Pixels)

The 2.7" Wide (16:9) LCD screen provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback, and the widescreen format makes shooting in 16:9 mode and composing shots even easier.

### Digital Still Memory Mode with Memory Stick Duo™ Media<sup>5</sup>

Capture still images up to 2016x1512 resolution, directly onto Memory Stick Duo™ Media for easy transfer to PCs for emailing, printing or sharing with other compatible Memory Stick™ devices.

### Super SteadyShot® Picture Stabilization System

An advanced version of Sony's SteadyShot® system that controls an even higher range of shake and vibration frequencies, to achieve an even higher level of smoothness without degradation of video like some other image stabilization systems.

### On Screen Zoom and Record Buttons

For additional control of the camcorder, the DCR-DVD405 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### USB 2.0 Interface<sup>4</sup>

USB 2.0 interface provides an easy way to connect your DVD Handycam Camcorder to the computer for fast transfer of video and still images to your computer for editing. The camcorder can also be used as an external DVD burner, convenient for making copies of your DVDs or burning edited movies.

### One Touch Wide Angle Shooting

Easily switch between 4:3 and 16:9 aspect ratios for shooting, with just the touch of a button.

### Progressive Shutter System

A mechanical shutter system that provides progressive scan performance while utilizing an interlaced scanning system. Digital still images will be sharp and clear with excellent definition.

### Active Interface Shoe

Provides a location directly on the camcorder to which to add optional accessories while providing power and two way communication to those accessories.

### Additional Features

- Super NightShot® Infrared System
- Manual Focus
- Program AE (Auto Exposure) Modes
- Picture Effects
- Battery Information
- Easy Handycam Button
- Picture Package™ Software
- Fader Effects
- InfoLithium® Battery with AccuPower™ Meter System<sup>1</sup>



## specifications

**Imaging Device:** 1/3" CCD  
**Pixel Gross:** 3310K  
**Recording Media:** 8cm DVD (DVD-R/DVDRW/DVD+RW)  
**Recording and Playback Times:** HQ: 20 min., SP: 30 min., LP 60 min.  
**Video Actual:** 2048K Pixels (4:3), 2060K (16:9)  
**Still Actual:** 3048K Pixels (4:3), 2290K (16:9)  
**USB Streaming:** N/A  
**SteadyShot® Image Stabilization:** Yes (Super/Electronic)  
**Accessory Shoe:** Active Interface Shoe  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** Tested to support up to 2GB media capacity; does not support high speed transfer function; does not support Access Control security function.  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 5 Lux (0 Lux with Super NightShot® Infrared System)  
**Low Light Capability:** Super NightShot®  
**Analog Audio/Video Input(s):** Yes (Multi A/V)  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via USB)  
**Digital Audio/Video Output(s):** Yes (via USB)  
**USB Port(s):** Yes (2.0 compliant)  
**i.LINK® Interface:** N/A  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** Yes (thru Active Interface Shoe)  
**Remote Jack:** Yes (Mini Plug)  
**S-Video Input(s):** Yes

**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.7" (123K Pixels) Wide (16:9) Touch Panel  
**SwivelScreen™ Hybrid LCD Display**  
**Lens Type:** Carl Zeiss® Vario-Sonnar® T\*  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in 5.1 Channel)  
**35mm Equivalent:** 42.8-495mm (16:9 Camera Mode), 45-450mm (4:3 Camera Mode), 40.6-406mm (16:9 Memory Mode), 37-370mm (4:3 Memory Mode)  
**Aperture:** f1.8-f2.9  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 30mm  
**Focal Distance:** 5.1-51mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/4-1/4000 (AE Mode)  
**Optical Zoom:** 10X  
**Digital Zoom:** 120X  
**Power Consumption:** 4.2W/4.6W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP60)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** Nero Express 6 and Picture Package™ Software ver. 1.8  
**Video Recording System:** DVD-R/DVD-RW/DVD+RW  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** Yes (Signal Convert)  
**Weight:** 1 lb. 4 oz (570g) with Disc and Battery  
**Measurements:** 2 3/5" x 3 6/11" x 5 5/8" (66 x 90 x 143mm)

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## supplied accessories

Power Adapter/In-Camera Charger (AC-L200)  
 InfoLithium® Rechargeable Battery (NP-FP60)  
 Remote Commander Remote Control (RMT-835)  
 A/V Cable (Stereo)  
 Picture Package™ Software ver. 1.8 and Nero Express 6 (3" conversion Software)  
 USB Cable  
 Cleaning Cloth

## optional accessories

DVD Starter Kit (ACC-DVDP2)  
 Rechargeable InfoLithium® Batteries (NP-FP50/FP71/FP90), Travel Charger (BC-TRP)  
 AC Charger & Power Supply (AC-VQP10)  
 Filter Kit (VF-30CPKXS), Wide Angle Lens (VCL-0630X)  
 High Grade Wide Angle Lens (VCL-HG0730X)  
 Tele Conversion Lens (VCL-2030X)  
 High Grade Tele Conversion Lens (VCL-HG2030)  
 Video Light (HVL-HL1), Video Light & Flash (HVL-HFL1)  
 Tripod (VCT-R640), Pocket Tripod (VCT-MTK)  
 Soft Case (LCM-HCF), Carrying Case (LCS-VA30)  
 Wireless Bluetooth™ Microphone with Center Channel Capability (ECM-HW1)  
 Stereo Microphone (ECM-HST1)  
 A/V Cable with S-Video (VMC-30F5)  
 Sports Pack (SPK-HCB)

### Battery Life<sup>1</sup>

Battery <sup>2</sup> (Fully Charged)	Continuous Record Time VF/LCD/LCD Bcklt OFF/VF+LCD	Continuous Playback Time LCD On/Off
NP-FP50	60/50/55/50 min	90/110 min
NP-FP60	95/85/90/85 min	110/120 min
NP-FP70	135/120/125/115 min	200/235 min
NP-FP71	160/145/155/140 min	235/280 min
NP-FP90	245/220/235/215 min	345/415 min

1. Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.  
 2. Playback on all home DVD players, computers, DVD drives, and PlayStation® 2 consoles cannot be guaranteed. Some players, drives, and video game consoles lack the ability to read due to the optical reflection standard of DVD-R/RW disks and/or due to encoding incompatibilities. Refer to the specifications of your playback equipment for additional compatibility information.  
 3. Image size and file size may vary based upon the type and complexity of the image recorded.

4. Not all products with USB 2.0 connector may communicate with each other due to chipset variations.  
 5. Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is 8/75, 16/135, 32/230, 64/461, 128/823, 256/1220, 512/460, 1GB/940, 2GB/1.85GB.  
 6. Use of Sony DVD-R/RW/RW Media recommended. For third party media, confirm compatibility with manufacturer. Reproduction in whole or in part without written permission is prohibited. All rights reserved. Sony, AccuPower, Advanced HAD, Handycam, i.LINK, InfoLithium, like no other, Memory Stick, the Memory Stick logo, Memory Stick Duo, Memory Stick PRO Duo, NightShot, Picture Package, Remote Commander, SteadyShot, SwivelScreen, and worry-free digital are trademarks of Sony. Carl Zeiss and Vario-Sonnar are trademarks of Carl Zeiss. PictBridge is a trademark of CIPA. Microsoft and Windows are registered trademarks of Microsoft Corporation. Macintosh is a registered trademark of Apple Computer, Inc. All other trademarks are property of their respective owners.  
 Features and specifications subject to change without notice. Non-metric weights and measures are approximate. Screen images simulated.  
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### Still Image Mode<sup>3</sup> Fine/Standard Picture Quality

DVD Media <sup>6</sup>	2016 x 1512 3.0 MP	2016 x 1134 2.3MP (16:9)	2016 x 1512 1.9MP	640 X 480 VGA
DVD-R	810/1750	1050/2250	1250/2550	5100/8100
DVD-RW/Video	850/1850	1100/2400	1300/2700	5400/8600
DVD-RW/+RW VR Mode	850/1850	1100/2400	1300/2700	5400/8600
DVD+RW/Video	740/1450	930/1750	1050/1850	2950/3800

Memory Stick Duo™ Media <sup>5</sup>	5/12	6/16	8/18	50/120
8MB	5/12	6/16	8/18	50/120
16MB	10/24	13/32	16/37	96/240
32MB	20/48	27/65	32/75	190/485
64MB	40/98	54/130	65/150	390/980
128MB	82/195	105/260	130/300	780/1970

Memory Stick PRO Duo™ Media <sup>5</sup>	145/355	195/470	235/540	1400/3550
256MB	145/355	195/470	235/540	1400/3550
512MB	300/720	400/960	480/1100	2850/7200
1GB	610/1450	820/1950	980/2250	5900/14500
2GB	1250/3000	1650/4000	2000/4650	12000/30000

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Capture 4.0 Megapixel stills, a wide-angle view and superior color reproduction with the CMOS Image Sensor on the DCR-DVD505 Handycam camcorder. You'll enjoy crisp and clear monitoring and playback on the expansive 3.5" Wide Clear Photo LCD plus Display. And your home movies will be brought to life with 5.1ch SURROUND SOUND recording.

## features

### 2.1 Megapixel (Gross) ClearVid CMOS Sensor™

1/3" ClearVID™ CMOS Sensor with 1910K (effective) pixels provides stunning detail and clarity with exceptional video (up to 530 lines of horizontal resolution) and still image performance. The Megapixel technology enhances your digital videos and digital still (3980K) photography performance.



### DVD Format Video Recording²

The DVD recording format delivers digital picture and sound quality comparable to that of MiniDV, but on DVD. Playback of the DVDs couldn't be simpler. After finalizing the disc in the camcorder, the disc can play back in most DVD Players, computers and even PlayStation® 2 video game consoles.

### DVD-R/RW and +RW Compatible⁶

The DCR-DVD505 is compatible with a variety of DVD formats allowing the ease of use and simplicity found in DVD Media. With DVD+RW media there is not a need to finalize the disc (minimum recording required). Simply remove the disc and insert the media into a compatible DVD Player.



### 10X Optical/120X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition, the Digital Zoom interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Sonnar® T\* Lens

Carl Zeiss lenses have an advanced optical multi-layer coating for increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones. The additional T\* coating on the lens further reduces unwanted glare and flare.

### Dolby Digital 5.1ch Recording

The DCR-DVD505 will record in Dolby Digital 5.1ch surround sound with a built-in microphone. By recording in 5.1 channel surround sound you can now experience your home movies with active sounds coming from all directions. Enjoy your personal home movies the way you experienced them while recording.

### 3.5" Wide Touch Panel SwivelScreen™ Clear Photo LCD plus Display (211K Pixels)

The 3.5" Wide (16:9) LCD screen provides excellent viewing clarity with improved resolution. The high resolution 211K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback, and the widescreen format makes shooting in 16:9 mode and composing shots even easier.

### Digital Still Memory Mode with Memory Stick Duo™ Media⁵

Capture still images up to 2304x1728 resolution, directly onto Memory Stick Duo™ Media for easy transfer to PCs for emailing, printing or sharing with other compatible Memory Stick™ devices.

### Super SteadyShot® Picture Stabilization System

An advanced version of Sony's SteadyShot® system that controls an even higher range of shake and vibration frequencies, to achieve an even higher level of smoothness without degradation of video like some other image stabilization systems.

### On Screen Zoom and Record Buttons

For additional control of the camcorder, the DCR-DVD505 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### USB 2.0 Interface⁴

USB 2.0 interface provides an easy way to connect your DVD Handycam Camcorder to the computer for fast transfer of video and still images to your computer for editing. The camcorder can also be used as an external DVD burner, convenient for making copies of your DVDs or burning edited movies.

### One Touch Wide Angle Shooting

Easily switch between 4:3 and 16:9 aspect ratios for shooting, with just the touch of a button.

### Progressive Shutter System

A mechanical shutter system that provides progressive scan performance while utilizing an interlaced scanning system. Digital still images will be sharp and clear with excellent definition.

### Active Interface Shoe

Provides a location directly on the camcorder to which one may add optional accessories while providing power and twoway communication with those accessories.

### Additional Features

- Super NightShot® Infrared System
- InfoLithium® Battery with AccuPower™
- Meter System¹
- Manual Focus
- Program AE (Auto Exposure) Modes
- Picture Effects
- Fader Effects
- Battery Information
- Easy Handycam Button
- Picture Package™ Software

## specifications

**Imaging Device:** 1/3" ClearVID CMOS Sensor™  
**Pixel Gross:** 2100K  
**Recording Media:** 8cm DVD (DVD-R/DVDRW/DVD+RW)  
**Recording and Playback Times:** HQ: 20 min., SP: 30 min., LP 60 min.  
**Video Actual:** 1910K Pixels (4:3), 1430K (16:9)  
**Still Actual:** 1990K Pixels (4:3), 1490K (16:9)  
**USB Streaming:** N/A  
**SteadyShot® Image Stabilization:** Yes (Super;Electronic)  
**Accessory Shoe:** Active Interface Shoe  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** Tested to support up to 2GB media capacity; does not support high speed transfer function; does not support Access Control security function.  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 3 Lux (0 Lux with Super NightShot® Infrared System)  
**Low Light Capability:** Super NightShot® System Inputs and Outputs  
**Analog Audio/Video Input(s):** Yes (Multi A/V)  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via USB)  
**Digital Audio/Video Output(s):** Yes (via USB)  
**USB Port(s):** Yes (2.0 compliant)  
**i.LINK® Interface:** N/A  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** Yes (thru Active Interface Shoe)  
**Remote Jack:** Yes (Mini Plug)  
**S-Video Input(s):** Yes (optional accessory)  
**S-Video Output(s):** Yes (optional accessory)

**LCD:** 3.5" (211K Pixels) Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display  
 Clear Photo LCD Plus  
**Lens Type:** Carl Zeiss® Vario-Sonnar® T\*  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in 5.1 Channel)  
**35mm Equivalent:** 41.3-485mm (16:9 Camera Mode), 37.9-445mm (4:3 Camera Mode), 40.4-404mm (16:9 Memory Mode), 37-370mm (4:3 Memory Mode)  
**Aperture:** f1.8-f2.9  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 30mm  
**Focal Distance:** 5.1-51mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/4-1/500(AE Mode)  
**Optical Zoom:** 10X  
**Digital Zoom:** 120X  
**Power Consumption:** 4.2W/4.5W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP60)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** Picture Package™ ver. 1.8 and Nero Express 6 (conversion software)  
**Video Recording System:** DVD-R/DVD-RW/DVD+RW  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** Yes (Signal Convert)  
**Weight:** 1 lb. 6 oz (630g) with Disc and Battery  
**Measurements:** 2 5/8" x 3 5/8" x 5 7/8" (76 x 92 x 149mm)

## supplied accessories

Power Adapter/In-Camera Charger (AC-L200)  
 InfoLithium® Rechargeable Battery (NP-FP60)  
 Remote Commander Remote Control (RMT-835)  
 A/V Cable (Stereo)  
 Picture Package™ Software ver. 1.8 and Nero Express 6 (3" conversion Software)  
 USB Cable  
 Cleaning Cloth

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

DVD Starter Kit (ACC-DVDP2)  
 Rechargeable InfoLithium® Batteries (NP-FP50/FP71/FP90), Travel Charger (BC-TRP)  
 AC Charger & Power Supply (AC-VQP10)  
 Filter Kit (VF-30CPKXS), Wide Angle Lens (VCL-0630X)  
 High Grade Wide Angle Lens (VCL-HG0730X)  
 Tele Conversion Lens (VCL-2030X)  
 High Grade Tele Conversion Lens (VCL-HG2030)  
 Video Light (HVL-HL1), Video Light & Flash (HVL-HFL1)  
 Tripod (VCT-R640), Pocket Tripod (VCT-MTK)  
 Soft Case (LCM-HCF), Carrying Case (LCS-VA30)  
 Wireless Bluetooth™ Microphone with Center Channel Capability (ECM-HW1)  
 Stereo Microphone (ECM-HST1)  
 A/V Cable with S-Video (VMC-30FS)  
 Sports Pack (SPK-HCB)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>1</sup>

Battery <sup>1</sup> (fully Charged)	Continuous Record Time VF/LCD/LCD Bcklt OFF/VF+LCD	Continuous Playback Time LCD On/Off
NP-FP50	65/60/65/55 min	65/60 min
NP-FP60	95/90/95/85 min	100/95 min
NP-FP70	135/125/130/120 min	140/130 min
NP-FP71	160/150/155/140 min	170/155 min
NP-FP90	240/225/235/215 min	255/235 min

1. Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.  
 2. Playback on all home DVD players, computers, DVD drives, and PlayStation® 2 consoles cannot be guaranteed. Some players drives, and video game consoles lack the ability to read due to the optical reflection standard of DVD-R/RW disks and/or due to encoding incompatibilities. Refer to the specifications of your playback equipment for additional compatibility information.  
 3. Image size and file size may vary based upon the type and complexity of the image recorded.

4. Not all products with USB 2.0 connector may communicate with each other due to chipset variations.  
 5. Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is: 8/75, 16/135, 32/230, 64/461, 128/823, 256/1220, 512/460, 1GB/940, 2GB/1.85GB.  
 6. Use of Sony DVD-R/RW/RW Media recommended. For third party media, confirm compatibility with manufacturer. Reproduction in whole or in part without written permission is prohibited. All rights reserved. Sony, AccuPower, Advanced HAD, Handycam, i.LINK, InfoLithium, like no other, Memory Stick, the Memory Stick logo, Memory Stick Duo, Memory Stick PRO Duo, NightShot, Picture Package, Remote Commander, SteadyShot, SwivelScreen, and worry-free digital are trademarks of Sony. Carl Zeiss and Vario-Sonnar are trademarks of Carl Zeiss. PictBridge is a trademark of CIPA. Microsoft and Windows are registered trademarks of Microsoft Corporation. Macintosh is a registered trademark of Apple Computer, Inc. All other trademarks are property of their respective owners.  
 Features and specifications subject to change without notice. Non-metric weights and measures are approximate. Screen images simulated.  
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### Still Image Mode<sup>3</sup> Fine/Standard Picture Quality

DVD Media <sup>6</sup>	2304 x 1728 4.0 MP	2304 x 1296 3.0 MP (16:9)	2016 x 1512 3.0 MP	2016 x 1134 2.3 MP (16:9)	1600 x 1200 1.9 MP	640 x 480 (VGA)
DVD-R	630/1700	820/1750	810/1750	1050/2250	1250/2550	5100/8100
DVD-RW/Video	850/1850	870/1850	850/1850	1100/2400	1300/2700	5400/8600
DVD-RW/+RW						
VR Mode	850/1850	870/1850	850/1850	1100/2400	1300/2700	5400/8600
DVD+RW/Video	740/1450	750/1450	740/1450	930/1750	1050/1850	2950/3800
Memory Stick Duo™ Media <sup>5</sup>						
8MB	3/9	5/12	5/12	6/16	8/18	50/120
16MB	7/18	10/24	10/24	13/32	16/37	96/240
32MB	15/37	20/48	20/48	27/65	32/75	190/485
64MB	31/75	41/98	40/98	54/130	65/150	390/980
128MB	63/150	83/195	82/195	105/260	130/300	780/1970
Memory Stick PRO Duo™ Media <sup>5</sup>						
256MB	110/270	150/355	145/355	195/470	235/540	1400/3550
512MB	230/550	305/720	300/720	400/960	480/1100	2850/7200
1GB	475/1100	620/1450	610/1450	820/1950	980/2250	5900/14500
2GB	970/2300	1250/3000	1250/3000	1650/4000	2000/4650	12000/30000

Please visit the Dealer Network for more information at [www.sony.com/dn](http://www.sony.com/dn)

	DCR-DVD105	DCR-DVD205
<b>General</b>		
Imaging Device	1/6"; 680K Gross Pixels CCD	1/5.5"; 1070K Gross Pixels CCD
Still Actual	340K Pixels	1000K Pixels
Viewfinder	Color, 123K Pixels	Color, 123K Pixels
Pixel Gross	680K	680K
Recording and Playback Times	HQ: 20 min., SP: 30 min., LP 60 min.	HQ: 20 min., SP: 30 min., LP 60 min.
Video Actual	340K	690K
<b>Optics</b>		
Lens Type	Carl Zeiss® Vario-Tessar®	Carl Zeiss® Vario-Tessar®
Resolution	VGA	1MP
Optical Zoom	20X	12X
Digital Zoom	800X	800X
<b>Hardware</b>		
LCD Panel SwivelScreen™ LCD Display	2.5"; (123K) Pixels SwivelScreen™	2.7"; (123K) Pixels Wide (16:9)
	LCD Display	Touch Panel SwivelScreen™ LCD Display
Docking Station	N/A	N/A
Microphone	Yes (Built-in)	Yes (Built-in)
<b>Input/Output</b>		
USB Terminal	N/A	N/A
LANC Terminal	N/A	N/A
Analog Audio/Video Input(s)	N/A	N/A
Analog Audio/Video Output(s)	Yes (Multi A/V)	Yes (Multi A/V)
Digital Audio/Video Input(s)	N/A	N/A
Digital Audio/Video Output(s)	N/A	N/A
Headphone Input(s)	N/A	N/A
Microphone Input	N/A	N/A
Headphone Jack	N/A	N/A
Remote Jack	N/A	N/A
S-Video Input(s)	N/A	N/A
<b>Convenience</b>		
USB Streaming	N/A	N/A
SteadyShot® Image Stabilization	Yes ( Super; Electronic)	Yes ( Super; Electronic)
Accessory Shoe	N/A	N/A
Minimum Illumination	5 Lux (0 Lux with Super NightShot® Plus Infrared System)	7 Lux (0 Lux with Super NightShot® Plus Infrared System)
Low Light Capability	Super NightShot® Plus	Super NightShot® Plus
Light/Flash	N/A	N/A
PictBridge™ Compatibility	N/A	N/A
<b>Video</b>		
Analog-to-Digital Converter	N/A	N/A
<b>Dimensions</b>		
Weight	1 lb. 1 oz (470 g) with Disc and Battery	1 lb. 1 oz (470 g) with Disc and Battery
Measurements	2 1/5"; x 3 7/15"; x 5 1/13"; (56 x 88 x 129mm)	2 1/5"; x 3 7/15"; x 5 1/13"; (56mm x 88mm x 129mm)
<b>Software</b>		
Supplied Software	Nero Express 6	Nero Express 6

<b>DCR-DVD305</b>	<b>DCR-DVD405</b>	<b>DCR-DVD505</b>
1/5.5"; 1070K Gross Pixels CCD	1/3"; 3310K Gross Pixels CCD	1/3"; 2100K Gross Pixels CMOS Sensor
1000K Pixels	3000K Pixels	1990K Pixels
Color, 123K Pixels	Color, 123K Pixels	Color, 123K Pixels
1070K	3310K	2100K
HQ: 20 min., SP: 30 min., LP 60 min.	HQ: 20 min., SP: 30 min., LP 60 min.	HQ: 20 min., SP: 30 min., LP 60 min.
690K	2048K	1910K
Carl Zeiss® Vario-Tessar®	Carl Zeiss® Vario-Sonnar® T*	Carl Zeiss® Vario-Sonnar® T*
1MP	3MP	2MP
12X	10X	10X
800X	120X	120X
2.7"; (123K) Pixels Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display	2.7"; (123K) Pixels Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display	3.5"; (211K) Pixels Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display
N/A	N/A	N/A
Yes (Supplied 5.1 Channel)	Yes (Built-in 5.1 Channel)	Yes (Built-in 5.1 Channel)
Yes (2.0 compliant)	Yes (2.0 compliant)	Yes (2.0 compliant)
N/A	N/A	N/A
Yes (Multi A/V)	Yes (Multi A/V)	Yes (Multi A/V)
Yes (Multi A/V)	Yes (Multi A/V)	Yes (Multi A/V)
Yes (via USB)	Yes (via USB)	Yes (via USB)
Yes (via USB)	Yes (via USB)	Yes (via USB)
N/A	N/A	N/A
Yes (thru Active Interface Shoe)	Yes (thru Active Interface Shoe)	Yes (thru Active Interface Shoe)
N/A	N/A	N/A
Yes (Mini Plug)	Yes (Mini Plug)	Yes (Mini Plug)
Yes	Yes	Yes
N/A	N/A	N/A
Yes ( Super; Electronic)	Yes ( Super; Electronic)	Yes ( Super; Electronic)
Yes; Active Interface Shoe	Yes; Active Interface Shoe	Yes; Active Interface Shoe
7 Lux (0 Lux with Super NightShot® Plus Infrared System)	5 Lux (0 Lux with Super NightShot® Infrared System)	3 Lux (0 Lux with Super NightShot® Infrared System)
Super NightShot® Plus	Super NightShot®	Super NightShot®
N/A	N/A	Yes
Yes	Yes	Yes
Yes	Yes	Yes
1 lb. 1 oz (470 g) with Disc and Battery	1 lb. 4 oz (570 g) with Disc and Battery	1 lb. 6 oz. (630g) with Disc and Battery
2 1/5"; x 3 7/15"; x 5 1/13"; (56 x 88 x 129mm)	2 3/5"; x 3 6/1"; x 5 5/8"; (66 x 90 x 143mm)	2 5/8" x 3 5/8" x 5 7/8" (66 x 90 x 147mm)
Picture Package™ ver. 1.8 and Nero Express 6	Picture Package™ ver. 1.8 and Nero Express 6	Picture Package™ ver. 1.8 and Nero Express 6

hdv



**HDR-HC1**  
SEE PAGE 58

## SONY®

As the leader in camcorder technology and innovation, Sony has once again raised the bar for video recording. With the HDR-FX1, Sony presented the world's first high definition 1080i consumer camcorder; for 2006, Sony has raised the standard again with the HDR-HC1, the smallest and lightest consumer HDV 1080i camcorder. You've never seen home videos like this before, images so vivid and realistic, they look almost 3-dimensional.

**HDV**  
HDV 1080i



### HDV 1080i Recording

High Definition Video recording represents a dramatic leap forward in the world of video recording. Most remarkably is that this high-definition video can be recorded onto standard MiniDV cassettes, so the camcorder can play back and record in both HDV and "standard" MiniDV. This is accomplished by the use of MPEG2 compression technology. Utilizing MPEG2 compression and the same data bit rate as MiniDV, a traditional MiniDV cassette can hold either an hour Standard definition or an hour of High definition video. Remarkable!

### Carl Zeiss® Vario-Sonnar® T\* Lens System

The HDV 1080i camcorders feature Carl Zeiss Vario-Sonnar T\* lens systems—world renown for their impeccable quality and clarity—for improved color rendition, and a reduction in flaring and glare. The advanced T\* coating allows more light to pass through the lens, providing truer and more accurate imaging without distortion. The extra-wide 32.5mm wide angle lens is produced especially for the demands of 16:9 recording.

### Super SteadyShot® Optical Image Stabilization

Found only on higher-end camcorders, optical stabilization is a mechanical method of steadying the video, using the camera's lenses to reduce vibration and movement and even out the image. Unlike electronic stabilization, which can tend to distort the image, optical stabilization provides a smoother image without detail, color or brightness loss.

### 16:9 LCD Screen and Viewfinder

The large, 16:9 format LCD screen—3.5" wide on the HDR-FX1, 2.7" wide on the HDR-HC1—is perfect for framing shots, and the high pixel count is detailed enough for even precise manual focusing. The Hybrid LCD provides accurate viewing in sunlight or bright light, virtually eliminating the "washout" common with traditional LCD screens.

### Shot Transition™

For smooth transitions within a scene, Shot Transition allows the user to preset focus, zoom, white balance, iris, gain and shutter for two different points within a scene. Then just by pressing a single button, the camera will automatically shift from one part of the picture to another, making the adjustments automatically.

## HDR-HC1 High Definition Digital Handycam® Camcorders



Industry's Smallest and Lightest Consumer HDV 1080i Camcorder (as of January 1, 2006); featuring HDV and SD recording along with 2.8 Megapixel still image capture capability.

## features

### 1/3" CMOS Sensor; 3,000K Pixels (gross)

1/3" CMOS Sensor provides stunning detail and clarity with exceptional video (up to 530 lines of horizontal resolution - SD Mode) and still image performance (2.8 Megapixel). Unlike traditional CCD imagers, CMOS Sensors require less power, providing better battery performance.

### HDV Recording Format

From the innovators in camcorder technology, Sony's HDR-HC1 camcorder is the industry's smallest and lightest HDV1080i consumer level camcorder and player. Now you can record all your memories in true high-definition video.

### Switchable HDV/DV Format Recording

The HDR-HC1 is capable of recording and playing back both High Definition (HD) and Standard Definition (SD) video recorded on a standard MiniDV cassette.

### Real-Time HD Codec Engine

Sony developed a Real Time MPEG Encode/Decode system with reduced energy consumption and compact size to fit inside a personal camcorder. This engine provides efficient MPEG2 compression, and recording and playback of clear HD images at the same bit rate of the DV format, so that High Definition video can be recorded on the same MiniDV cassettes as are used for SD recording.

### 10X Optical / 120X Digital Zoom Carl Zeiss® Vario-Sonnar® T\* Lens

From the authority in lens technology, the Carl Zeiss® Vario-Sonnar® T\* lens provides a high quality 10x optical zoom which maintains image clarity and color while reducing glare and flare.

### 2.7" Wide (16:9) Hybrid Touch Panel SwivelScreen™ LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The 123K pixel LCD display makes images sharp and detailed during playback or when monitoring recording. The Hybrid LCD Screen provides accurate viewing in sunlight or bright light, virtually eliminating the "washout" common with traditional LCD Screens.

### Super SteadyShot® Image Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### Selectable Manual Zoom / Focus Ring

Selectable Zoom and Focus rings provide precise and detailed control over the amount of zoom and the overall focus of the image with just a turn of the rings. Fast, intuitive framing when zooming, and finely detailed focusing is easy with the natural "feel" of the rings.

### Expanded Focus Indicator

The camera's LCD image is magnified, temporarily, up to 4X its original size without any loss of distortion. This allows the user more finite control while focusing the camera for greater detail and clarity.

### Cinematic Mode

Perfect for creating your own movie masterpieces, the HDR-HC1 Cinematic mode lends 24 frame film-like effect to your recordings.

### i.LINK® Interface (IEEE1394)²

A high speed bi-directional digital video/audio communication between two compatible devices equipped with an IEEE1394 interface, including camcorders, digital VCRs, and PCs.

### Shot Transition

Allows for a smooth automatic scene transition. Settings for focus, zoom, and white balance can be set to the A/B button and a smooth transition will take place according to the set time. This function enables the focus to gradually shift from the front of the image to a deeper part of the image.

### Tele Macro Function

Useful for shooting close up shots, but without having the camcorder casting a shadow on the subject. Images shot in the Tele Macro Mode will have the subject properly focused with the background unfocused so that the subject stands out.

### Active Interface Shoe

Provides a location directly on the camcorder on which to add optional accessories while providing power and two-way communication to those accessories.

### Built-in Pop-up Intelligent Flash

For added clarity and detail when taking pictures in low-light situations, the built-in flash improves pictures and reduces shadows.



## specifications

**Low Light Capability:** Super NightShot®  
**Accessory Shoe:** Active Interface Shoe  
**USB Streaming:** N/A  
**White Balance:** Auto/Outdoor/Indoor/One-Push  
**Imaging Device:** 1/3" 3000K (Gross) Pixel CMOS Sensor  
**Viewfinder:** Color, Precision 16:9 (252K pixel)  
**Interface:** i.LINK®<sup>2</sup> Interface (IEEE1394)<sup>2</sup>: Yes  
**LCD:** 2.7" Wide (16:9) Hybrid Touch Panel SwivelScreen™ LCD (123K)  
**USB Port(s):** Yes, ver. 1.1  
**Analog Audio/Video Input(s):** Yes (Multi A/V)  
**Analog Audio/Video Output(s):** Yes (Multi A/V) (Component, and Multi A/V)  
**Digital Audio/Video Input(s):** Yes, i.LINK®<sup>2</sup>  
**Digital Audio/Video Output(s):** Yes; i.LINK®<sup>2</sup>  
**Headphone Output(s):** Yes (Stereo, Mini)  
**Input(s): Microphone:** Yes (Stereo, Mini)  
**Minimum Illumination:** 7 lux  
**Aperture:** 1.8 - 2.1

**Focal Distance:** 5.1 - 51mm  
 35mm Conversion: 41 - 480mm (Camera; 16:9 mode);  
 50 - 590mm (Camera; 4:3 mode);  
 40 - 400mm (Memory; 16:9 mode);  
 37 - 370mm (Memory; 4:3 mode)  
**Zoom:** 10x Optical / 120x Digital  
**Focus:** Full Range Auto/Manual (Ring)/One Touch  
**Shutter Speed:** 1/4 - 1/10,000 (in AE Mode)  
**Iris:** Auto  
**Power Consumption:** 5.8W/ 5.9W/ 6.4W (VF/LCD/VF & LCD) - HDV 5.2W/ 5.3W/ 5.8W (VF/LCD/VF & LCD) - SD  
**Video Actual:** 1983K Pixels (16:9); 1486K Pixels (4:3)  
**Filter Diameter:** 37mm  
**Weight:** 1 lb, 7 oz (680 grams) without tape or battery  
**Dimensions (WHD):** 2 7/8" x 3 3/4" x 7 1/2" (71 x 94 x 188mm)

## supplied accessories

Power Adaptor/ In  
 Camera Charger (AC-L15)  
 InfoLithium® Rechargeable Battery (NP-FM50)  
 Wireless Remote Commander® Remote Control (RMT-831)  
 Lens Hood  
 Lens Cap  
 A/V Cable  
 Component Video Cable  
 Shoulder Strap  
 Memory Stick Duo™ Media  
 USB Cable

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Gunzoom Microphone (ECM-HGZ1)  
 Hard Carrying Case (LCH-HCE)  
 High Grade Tele Conversion Lens (VCL-HG2037Y)  
 High Grade Wide Angle Lens (VCL-HG0737Y)  
 Polarize and Clear Coat Filter (VF-37CPKS)  
 Quick Charger for Super Quick Batteries (AC-SQ950D)  
 Rechargeable InfoLithium® Battery Pack (NP-QM71/91D)  
 Remote Control Tripod (VCT-870RM)  
 Starter Kit (ACC-FM50S), Soft Carrying Case (LCS-VA3)  
 Travel Charger (BC-TRM), Stereo Microphone (ECM-HST1)  
 Tripod (VCT-FXA), Video Light (HVL-HL1)

### Battery Life<sup>1</sup>

HDV Battery <sup>2</sup> (fully Charged)	Continuous Record Time		Continuous Playback Time LCD On/Off
	VF/LCD/LCD Bcklt OFF/VF+LCD	Bcklt OFF/VF+LCD	
NP-FM50	80/80/85/70 min		100/110 min
NP-FM70/QM70	175/170/185/155 min		210/240 min
NP-QM71/QM71D	205/200/215/180 min		240/275 min
NP-FM91/QM91/QM91D	305/300/325/280 min		365/420 min
DV			
DV Battery <sup>2</sup> (fully Charged)	Continuous Record Time		Continuous Playback Time LCD On/Off
	VF/LCD/LCD Bcklt OFF/VF+LCD	Bcklt OFF/VF+LCD	
NP-FM50	90/90/100/80 min		125/145 min
NP-FM70/QM70	195/190/210/175 min		265/305 min
NP-QM71/QM71D	225/225/245/205 min		305/355 min
NP-FM91/QM91/QM91D	345/340/375/305 min		465/535 min

### Still Image Mode<sup>3</sup> Fine/Standard Picture Quality

Memory Stick Duo™ Media <sup>3</sup>	1920x1080 (16:9)			
	1920x1440	1440x1080	640x480 (VGA)	
8MB	7/17	5/13	9/22	50/120
16MB	14/34	11/26	19/43	96/240
32MB	29/69	22/54	39/88	190/485
64MB	59/135	45/105	78/175	390/980
128MB	115/280	91/215	155/355	780/1970
Memory Stick PRO Duo™ Media <sup>3</sup>				
256MB	215/500	165/395	280/640	1400/3550
512MB	435/1000	335/800	570/1300	2580/7200
1GB	890/2100	680/1600	1150/2650	5900/14500
2GB	1800/4300	1400/3350	2400/5500	12000/30000

<sup>1</sup> Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.  
<sup>2</sup> i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.  
<sup>3</sup> Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MB's is: 8=7.5, 16=15, 32=30, 64=61, 128=123, 256=220, 512=460, 1GB=940MB  
 Reproduction in whole or in part without written permission is prohibited. All rights reserved. Sony, Advanced HAD, Cine-Frame, Handycam, i.LINK, InfoLithium, like no other, Memory Stick Duo, Memory Stick PRO Duo, NightShot, Remote Commander, SteadyShot, SwivelScreen and worryfreedigital are trademarks of Sony. Carl Zeiss and Vario-Sonnar are trademarks of Carl Zeiss. All other trademarks are property of their respective owners.  
 Features and specifications subject to change without notice. Non-metric weights and measures are approximate.  
 Screen images simulated.  
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Please visit the Dealer Network for more information at [www.sony.com/dn](http://www.sony.com/dn)



HDR-FX1 is the world's FIRST Recording & Playback Consumer HDV 1080i Camcorder.

## features

### 3 - 1/3" 16:9 Advanced HAD™ CCD Imagers 1,120K Pixels Gross

Advanced HAD™ (Hole Accumulation Diode) CCD imagers with 1,120K effective (video) pixels provides excellent detail and clarity with exceptional digital video performance. Using a 3 chip Advanced HAD™ CCD system and dichroic prism to separate color information, colors are extremely accurate, and color "bleeding" and "smearing" are greatly reduced.

### Advanced HAD™ CCD Technology

Enhanced CCD design allows more light to reach the imager which reduces video noise to improve signal-to-noise ratio by up to 6db (2x better than a standard CCD). Particularly effective when shooting in dark situations.

### HDV Recording Format

From the innovators in camcorder technology, Sony's HDR-FX1 camcorder is the world's first HDV1080i consumer level camcorder and player. Now you can record all your memories in true high-definition video.

### Switchable HDV/DV Format Recording

The HDR-FX1 is capable of recording and playing back both High Definition and Standard Definition video recorded on standard MiniDV cassettes.

### Real-time HD Codec Engine

A Sony developed Real Time MPEG Encode/Decode system with reduced in energy consumption and compact size to fit inside a personal camcorder. Provides efficient MPEG2 compression, and recording and playback of clear HD images at the same bit rate of the DV format, so that High Definition video can be recorded on the same cassettes as are used for MiniDV recording.

### i.LINK\*\* DV Interface (IEEE1394)

A high speed bi-directional digital video/audio communication between two compatible devices equipped with an IEEE1394 interface, including camcorders, digital VCRs, and PCs.

### Expanded Focus Indicator

The camera's LCD image is magnified, temporarily, up to 4X its original size without any loss of distortion. This allows the user more finite control while focusing the camera for greater detail and clarity.

### 12X Optical Carl Zeiss® Vario-Sonnar® T\* Lens

From the authority in lens technology, the Carl Zeiss® Vario-Sonnar® T\* lens provides a high quality 12x optical zoom which maintains image clarity and color while reducing glare and flare.

### 3.5" Wide Precision Hybrid SwivelScreen™ LCD Display (250K Pixels)

Provides excellent viewing clarity with improved resolution. The 250K pixel LCD display makes images sharp and detailed during playback or when monitoring recording. The Hybrid Reflective-Transmissive LCD Screen provides accurate viewing in sunlight or bright light, virtually eliminating the "washout" common with traditional LCD Screens.

### Super SteadyShot® Optical Stabilization System

An advanced form of Sony's SteadyShot Image Stabilization system that controls an even higher range of shake and vibration frequencies. This optical stabilization system achieves an even higher level of smoothness without degradation of video like some digital stabilization systems.

### Assignable Buttons

Three buttons on the exterior of the camcorder are user-assignable so that they can be set to the options most commonly utilized, for ease of recording.

### Manual Iris Control

By turning the Iris dial on the side of the camera, the user can manually adjust the amount of light entering the camera. The iris is adjustable from f1.6 to f11, in 24 steps.

### Analog/Digital Conversion with Pass-Through

Convert and/or record any analog NTSC video source to digital video via the analog inputs. Analog NTSC video can also be passed through the digital Handycam camcorder directly into a PC via the i.LINK® interface in real-time for easy PC editing of your analog footage.

### CineFrame™ Recording

Provides the option of recording video at either 30 fps or with a feeling of "film-like" 24 fps.

### MPEG 1 Audio Layer II

The HDR-FX1 records audio in MPEG1 Audio Layer II while recording in HDV format that provides outstanding sound quality even when compressed. In the standard DV format audio is recorded in either 12/16 bit (selectable) PCM Digital Stereo for audio quality that rivals that of a CD.

### Manual Zoom and Manual Focus Ring

Dual independent Zoom and Focus rings provide precise and detailed control over the amount of zoom and the overall focus of the image with just a turn of the rings. Fast, intuitive framing when zooming, and finely detailed focusing is easy with the natural "feel" of the rings.

### Shot Transition

Allows for a smooth automatic scene transition. Settings for focus, zoom, iris, gain, shutter, and white balance can be set to the A/B button and a smooth transition will take place according to the set time. This function enables the focus to gradually shift from the front of the screen to a deeper part of the screen. Thus the iris enables a smooth change of depth of field.

### Additional Feature

- Picture Profile



## specifications

**Imaging Device:** 3- 1/3" 16:9 1120K Pixel  
Advanced HAD™ CCDs  
**Video Actual:** 1070K Pixels  
**F:** 1.6 – 2.8  
**Focal Distance:** 4.5 – 54.0mm  
**35mm Conversion:** 32.5 – 390mm (in 16:9 mode)  
40 – 480mm (in 4:3 mode)  
**Filter Diameter:** 72mm  
**Optical Zoom:** 12X  
**Focusing:** Full Range Auto/Manual (Ring)/One Touch  
**Minimum Illumination:** 3 lux  
**NightShot® Infrared System:** N/A  
**Shutter Speed:** 1/4 – 1/10,000 (in AE Mode)  
**Viewfinder:** Color, Precision 16:9 (252K pixel)  
**LCD:** 3.5" 16:9 (250K) Precision Hybrid Color  
**Accessory Shoe:** Yes (Cold)  
**Analog Audio/Visual Input(s):** Yes (Mini Plug)  
**Analog Audio/Visual Output(s):** Yes (Mini Plug)  
**Digital Audio/Visual Input(s):** Yes (via i.LINK®)\*  
**Digital Audio/Visual Output(s):** Yes (via i.LINK®)\*  
**i.LINK®\* DV Interface (IEEE1394):** Yes

**USB:** N/A  
**USB Streaming:** N/A  
**Headphone Jack:** Yes (Stereo, Mini)  
**Mic. Input:** Yes (Stereo, Mini)  
**White Balance:** Auto/One-Push (A)(B)/Preset  
**Iris Control:** Yes, Gain Independent  
**Power Consumption (VF/LCD/VF+LCD):**  
7.4W/8.0W/8.4W  
**Measurements:** 6"x7 1/4"x14 3/8"  
(151x181x365mm)  
**Weight:** 4 lbs. 11 oz. (with Supplied Battery,  
Cassette, Lens Hood)

## supplied accessories

AC-L15 Power Adaptor/In Camera Charger  
NP-F570 InfoLithium® Rechargeable Battery  
RMT-840 Wireless Remote Commander® Remote  
Control AA Battery  
Lens Hood  
Lens Cap  
A/V Cable  
Component Video Cable  
Cleaning Cassette  
Shoe Adapter  
Large Eye Cup  
Shoulder Strap

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

VCL-HG0872 High Grade Wide Angle Lens  
VCL-72CPK Polarizing Filter Kit  
LCS-VCB Carrying Case  
LCH-FXA Hard Carrying Case  
VCT-FXA Tripod  
HVL-20DW2 Video Light  
VCT-870RM Remote Control Tripod  
NP-F770/970 Rechargeable Battery Pack

### Battery Life<sup>1</sup>

Battery <sup>1</sup> (fully Charged)	Continuous Record Time VF/LCD/LCD Backlight OFF	Continuous Playback Time LCD On/Off
NP-F570	125/110/125 min	175/195 min
NP-F770	255/235/260 min	360/400 min
NP-F970	225/205/190 min	545/605 min

<sup>1</sup> Designed for use with compatible Sony InfoLithium® batteries.

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Features and specifications subject to change without notice. Non-metric weights and measures are approximate.  
Screen images simulated.  
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[www.sony.com/dn](http://www.sony.com/dn)

	<b>HDR-FX1</b>	<b>HDR-HC1</b>
<b>General</b>		
Imaging Device	3 1/3" 16:9 1120K pixel Advanced HAD™ CCDs	1/3" 3000K gross pixel CMOS Sensor
Still Actual	N/A	2764K Pixels
Viewfinder	Color, precision 16:9 (252K pixel)	Color, precision 16:9 (252K pixel)
Pixel Gross	3x1, 120K (1/3")	2969K
Recording and Playback Times	SP: 60 min., LP: 90 min.	SP: 60 min.
Video Actual	1070K pixels	1983 pixels (16:9); 1486 pixels (4:3)
<b>Optics</b>		
Lens Type	Carl Zeiss® Vario-Sonnar® T*	Carl Zeiss® Vario-Sonnar® T*
Resolution	N/A	3MP
Optical Zoom	12X	10X
Digital Zoom	N/A	120X
<b>Hardware</b>		
LCD	3.5" wide hybrid 250K	2.7" wide (16:9) Hybrid Touch Panel SwivelScreen™ LCD (123K)
Docking Station	N/A	N/A
Microphone	Yes (Built-in)	Yes (Built-in)
<b>Input/Output</b>		
LANC Terminal	Yes	Yes (Stereo Mini)
Analog Audio/Video Input(s)	Yes	N/A
Analog Audio/Video Output(s)	Yes	Yes (component and Multi A/V)
Digital Audio/Video Input(s)	Yes, i.LINK	Yes, i.LINK
Digital Audio/Video Output(s)	Yes, i.LINK	Yes, i.LINK
Headphone Input(s)	Yes (stereo, mini)	Yes
Microphone Input	Yes (stereo, mini)	Yes (stereo, mini)
Headphone Jack	Yes (stereo, mini)	Yes
Remote Jack	N/A	N/A
S-Video Input(s)	Yes	N/A
USB Terminal	N/A	Yes (1.1 compliant)
<b>Convenience</b>		
USB Streaming	N/A	N/A
SteadyShot® Image Stabilization	Yes, Super (Optical)	Yes ( Super; Electronic)
Accessory Shoe	Yes, Cold	Yes, Active interface shoe
Minimum Illumination	3 lux	7 Lux (0 Lux with Super NightShot® Infrared System)
Low Light Capability	N/A	Super NightShot®
Light/Flash	N/A	Yes
PictBridge™ Compatibility	N/A	Yes
<b>Video</b>		
Analog-to-Digital Converter	Yes	N/A
<b>Dimensions</b>		
Weight	4lbs 7oz (2kg) (w/o tape and battery)	1 lb. 11 oz. (780g) with Tape and Battery
Measurements	6" x 7 1/8" x 14 3/8" (WxHxD)	2 7/8" x 3 3/4" x 7 1/2" (WxHxD)
<b>Software</b>		
Supplied Software	N/A	N/A



<https://xross.sel.sony.com>

# hard disk drive



**DCR-SR100**  
SEE PAGE 66

## SONY®

Introducing Sony's first Hard Disk Drive Handycam®, designed for long recording time and simple editing. As Sony's first Hard Disk Drive Camcorder, the Hard Disk Drive Handycam® is gaining worldwide attention as a new type of media. The Hard Disk Drive Handycam® Camcorder has been designed to take advantage of the characteristics of a hard disk drive, such as shooting large amounts over a long period of time, browsing the stored images function and high-speed data transfer function to a PC.



### Large Capacity 30GB Hard Disk Drive

The Hard Disk Drive Handycam® Camcorder has a built-in, large capacity 30GB hard disk drive. This enables long time recording up to about 7 hours 20 minutes (in HQ mode)—equivalent to about seven 12cm DVDs. Recording in MPEG2-PS, the camera enables you to record hours of movie and photo without worrying about capacity.



WIDE LCD



The Hard Disk Drive Handycam® Camcorder features three recording modes: HQ (High Quality), SP (Standard Play) and LP (Long Play). DVD Handycam® Camcorders use the VBR format to automatically control the bit rate (the volume of recording data in a given time segment) according to the scene being recorded: fast moving scenes are recorded at a higher bit rate while scenes with less movement record at a slower bit rate.



### Three Megapixel Performance

The camera is equipped with a 1/3 inch 3.3 megapixel primary color CCD, as well as a Megapixel engine, providing enjoyment of high resolution images. The 1/3" 3.3 Megapixel CCD enables you to record high-resolution movie and still images. This large and high resolution CCD produces beautiful images while keeping the noise level low, even in low light conditions (such as in the shade or at sunset).



The Hard Disk Drive Handycam® Camcorder uses a primary color filter, which allows the three primary colors to pass from the lens as they are. The natural light which passes through the lens is captured as three primary light colors, R (red), G (green) and B (blue), resulting in excellent color reproduction, vivid movies and still images with rich tones.

- ♦ **Megapixel Engine.** Using Sony's unique digital signal processing technology, the megapixel engine realizes enormous amounts of data produced by the CCD, and enables high-resolution recording with low noise. The megapixel engine reduces video noise and produces movies and still images with rich tones.

### ImageMixer™ for Hard Disk Drive Camcorder software

The Hard Disk Drive Handycam® Camcorder comes packaged with ImageMixer™ software that allows for one touch DVD burning; easy PC back-up; and viewing, editing and playlist transfer, enabling you to produce customizable full-sized DVDs.

### 5.1 Channel Surround Sound

In the Hard Disk Drive Handycam® Camcorder, Sony has considered not just picture quality, but sound quality as well. This camera comes installed with Dolby Digital 5.1 Creator, which enables your recording to encode in 5.1ch automatically. When playing back the recorded movie on 5.1ch compatible equipment, you can enjoy superlative sound along with beautiful images.

Furthermore, when using an optional wireless microphone (the ECM-HW1), you can record distant sound wirelessly. This microphone picks sounds up accurately, even in busy or distant locations. Enjoy an audio experience worthy of the theater in the comfort of your home with the Hard Disk Drive Handycam®.

### 2.7" Wide LCD Screen

The Hard Disk Drive Handycam® Camcorder comes equipped with a 2.7" Wide Hybrid LCD monitor for 16:9 widescreen shooting. When viewing your video subjects on the camera's 16:9 wide color screen (123k pixels wide), images are easier to see and the camcorder is easier to use. In fact, bright scenes—such as at a beach with strong sunlight, and ski slopes with reflected light—can be viewed only on a Hybrid LCD monitor.

- ♦ **Touch Panel (active menu).** The touch panel displays the menu in 3D animation and large buttons. By just touching the screen, the camcorder can be easily and quickly operated.
- ♦ **Personal Menu.** Personal Menu is convenient for registering shortcuts of frequently used menus. You can create your own original menu, with up to 28 customized menu items.
- ♦ **REC START/STOP button and zoom on LCD frame.** The REC START/STOP button and the zoom buttons are located on the frame of the LCD screen, especially convenient for shooting low angle shots or self-portraits.

## DCR-SR100 30GB Hard Disk Drive Handycam® Camcorders



The compact DCR-SR100 houses a 30GB Hard Disk Drive to store all your high-quality stills and videos. Plus, you can easily connect you camcorder to a PictBridge enabled printer and print your 3.0 Megapixel stills instantly. And also bring your home movies to life with 5.1ch SURROUND SOUND recording.

## features

### 3.3 Megapixel (Gross) Advanced HAD™

CCD Imager 1/3" AdvancedHAD™ (Hole Accumulation Diode) CCD with 2048K (effective) pixels provides stunning detail and clarity with exceptional video (up to 530 lines of horizontal resolution) and still image performance. The Megapixel technology enhances your digital videos and digital still (3048K) photography performance.



### 10X Optical/120X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition, the Digital Zoom interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Sonnar® T\* Lens

Carl Zeiss lenses have an advanced optical multi-layer coating for increased contrast. This results in vivid image brilliance, true-to life color saturation and perfect renditions of subtle tones. The additional T\* coating on the lens further reduces unwanted glare and flare.



### Dolby Digital 5.1ch Recording

The DCR-SR100 will record in Dolby Digital 5.1ch surround sound with a built-in microphone. By recording in 5.1 channel surround sound you can now experience your home movies with active sounds coming from all directions. Enjoy your personal home movies the way you experienced them while recording.

### 2.7" Wide Touch Panel SwivelScreen™ Hybrid LCD Display (123K Pixels)

The 2.7" Wide (16:9) LCD screen provides excellent viewing clarity. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback, and the widescreen format makes shooting in 16:9 mode and composing shots even easier.

### Digital Still Memory Mode

Capture still images up to 2016x1512 resolution, directly onto the internal 30GB Hard Disk Drive for easy transfer to PCs for emailing and printing via the computer.

### Super SteadyShot® Picture Stabilization System

An advanced version of Sony's SteadyShot® system that controls an even higher range of shake and vibration frequencies, to achieve an even higher level of smoothness without degradation of video like some other image stabilization systems.

### On Screen Zoom and Record Buttons

For additional control of the camcorder, the DCR-SR100 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### USB 2.0 Interface<sup>3</sup>

USB 2.0 interface provides an easy way to connect your Hard Disk Handycam Camcorder to the computer for fast transfer of video and still images to your computer for editing. The camcorder can also be used as an external storage device, convenient for archiving, storing and transporting your videos and still images.

### One Touch Wide Angle Shooting

Easily switch between 4:3 and 16:9 aspect ratios for shooting, with just the touch of a button.

### Progressive Shutter System

A mechanical shutter system that provides progressive scan performance while utilizing an interlaced scanning system. Digital still images will be sharp and clear with excellent definition.

### Active Interface Shoe

Provides a location directly on the camcorder to which one may add optional accessories while providing power and two way communication with those accessories.

### Super NightShot® Infrared System

With Sony's NightShot® infrared system, capture video in total darkness (0 lux) up to 30 feet away. Super NightShot recording mode automatically adjusts the shutter speed to increase picture brightness and clarity. Color Slow Shutter mode allows you to record in low light situations with full color detail by slowing down the shutter speed.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the touch panel. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### Program AE (Auto Exposure) Modes

Program AE modes make recording easy even when filming in challenging situations. Choose from Beach & Ski, Landscape, Portrait, Sports Lesson, Spotlight and Sunset & Moon.

### ADDITIONAL FEATURES

- Picture Effects
- Fader Effects
- InfoLithium® Battery with AccuPower™
- Meter System<sup>1</sup>
- Battery Information
- Easy Handycam Button
- Picture Package™ Software

## specifications

**Imaging Device:** 1/3" CCD  
**Pixel Gross:** 3310K  
**Recording Media:** 30GB Hard Disk Drive  
**Recording and Playback Times:** HQ: 440 min., SP: 650 min., LP 1250 min.  
**Video Actual:** 2048K Pixels (4:3), 2060K Pixels (16:9)  
**Still Actual:** 3048K Pixels (4:3), 2290K Pixels (16:9)  
**USB Streaming:** N/A  
**SteadyShot® Image Stabilization:** Yes (Super; Electronic)  
**Accessory Shoe:** Active Interface Shoe  
 White Balance: Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** N/A  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 5 Lux (0 Lux with Super NightShot® Infrared System)  
**Low Light Capability:** Super NightShot®  
**Analog Audio/Video Input(s):** Yes (Multi A/V)  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via USB)  
**Digital Audio/Video Output(s):** Yes (via USB)  
**USB Port(s):** Yes (2.0 compliant)  
**i.LINK® Interface:** N/A  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** Yes (thru Active Interface Shoe)  
**Remote Jack:** Yes (Mini Plug)  
**S-Video Input(s):** Yes (optional accessory)  
**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.7" (123K) Pixels Wide (16:9) Touch Panel  
 SwivelScreen™ LCD Display

**Lens Type:** Carl Zeiss® Vario-Sonnar® T\*  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in 5.1 Channel)  
**35mm Equivalent:** 42.8-495mm (16:9 Camera Mode), 45-450mm (4:3 Camera Mode), 40.6-406mm (16:9 Memory Mode), 37-370mm (4:3 Memory Mode)  
**Aperture:** f1.8-f2.9  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 30mm  
**Focal Distance:** 5.1-51mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/4-1/4000 (AE Mode)  
**Optical Zoom:** 10X  
**Digital Zoom:** 120X  
**Power Consumption:** 3.9/4.3W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP60)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** ImageMixer for Hard Disk Drive Handycam® Camcorder  
**Video Recording System:** MPEG2  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** Yes (Signal Convert)  
**Weight:** 1 lb. 6 oz. (615g) with Battery  
**Measurements:** 3 1/6" x 2 7/8" x 5 13/15" (80.5 x 68.5 x 149mm)

## supplied accessories

Power Adapter/In-Camera Charger (ACL200)  
 InfoLithium® Rechargeable Battery (NPFP60)  
 Remote Commander Remote Control (RMT-835)  
 A/V Cable (Stereo)  
 ImageMixer for Hard Disk Drive Handycam® Camcorder  
 USB Cable

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Starter Kit (ACC-FP71)  
 Rechargeable InfoLithium® Batteries (NPFP50/FP71 FP90), Travel Charger (BC-TRP)  
 AC Charger & Power Supply (AC-VQP10)  
 Filter Kit (VF-30CPKXS), Wide Angle Lens (VCL0630X)  
 High Grade Wide Angle Lens (VCLHG0730X)  
 Tele Conversion Lens (VCL-2030X)  
 High Grade Tele Conversion Lens (VCLHG2030)  
 Video Light (HVL-HL1), Video Light & Flash (HVL-HFL1)  
 Tripod (VCT-R640), Pocket Tripod (VCT-MTK)  
 Soft Case (LCM-HCF), Carrying Case (LCS-VA30)  
 Wireless Bluetooth™ Microphone with Center Channel Capability (ECM-HW1), Stereo Microphone (ECM-HST1)  
 A/V Cable with S-Video (VMC-30FS)  
 Sports Pack (SPK-HCB)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>3</sup>

Battery <sup>3</sup> (fully Charged)	Continuous Record Time VF/LCD/LCD Bcklt Off/VF+LCD	Continuous Playback Time LCD On/Off
NP-FP50	65/60/65/55 min	105/125 min
NP-FP60	105/95/100/90 min	105/125 min
NP-FP70	145/130/140/125 min	225/265 min
NP-FP71	175/155/170/150 min	270/315 min
NP-FP90	260/235/255/225 min	400/475 min

### Record Times<sup>2</sup> (30GB Hard Disk)

HQ (High Quality)	Up to 440 minutes (Approx 7 hrs)
SP (Standard Play)	Up to 650 minutes (Approx 10 hrs)
LP (Long Play)	Up to 1250 minutes (Approx 20 hrs)

### Still Image Mode<sup>2</sup> Fine/Standard Picture Quality

	2016X1134	1600X1200	640X480	
30GB Hard Disk	3.0MP	2.3MP (16:9)	1.9MP	VGA
	9999/9999	9999/9999	9999/9999	9999/9999

<sup>1</sup> Battery life may vary depending upon usage patterns. Designed for use with compatible Sony InfoLithium® batteries.  
<sup>2</sup> Image size and files size may vary based upon the type and complexity of the image recorded.  
<sup>3</sup> Not all products with USB 2.0 connector may communicate with each other due to chipset variations.  
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**DCR-SR100**

<b>General</b>	
Imaging Device	1/3"; 3310K Gross Pixels CCD
Still Actual	3000K Pixels
Viewfinder	Color, 123K Pixels
Pixel Gross	3310K
Recording and Playback Times	HQ: 7 hours, SP: 10 hours, LP 20 hours
Video Actual	2048K
<b>Optics</b>	
Lens Type	Carl Zeiss® Vario-Sonnar® T*
Resolution	3MP
Optical Zoom	10X
Digital Zoom	120X
<b>Hardware</b>	
LCD	2.7"; (123K Pixels Wide (16:9) Touch Panel SwivelScreen™ LCD Display)
Docking Station	N/A
Microphone	Yes (Built-in 5.1 Channel)
<b>Input/Output</b>	
USB Terminal	Yes (2.0 compliant)
LANC Terminal	N/A
Analog Audio/Video Input(s)	Yes (Multi A/V)
Analog Audio/Video Output(s)	Yes (Multi A/V)
Digital Audio/Video Input(s)	Yes (via USB)
Digital Audio/Video Output(s)	Yes (via USB)
Headphone Input(s)	N/A
Microphone Input	Yes (thru Active Interface Shoe)
Headphone Jack	N/A
Remote Jack	Yes (Mini Plug)
S-Video Input(s)	Yes
<b>Convenience</b>	
USB Streaming	N/A
SteadyShot® Image Stabilization	Yes ( Super; Electronic)
Accessory Shoe	Yes, Active Interface Shoe
Minimum Illumination	5 Lux (0 Lux with Super NightShot® Infrared System)
Low Light Capability	Super NightShot®
Light/Flash	Yes
PictBridge™ Compatibility	Yes
<b>Video</b>	
Analog-to-Digital Converter	Yes
<b>Dimensions</b>	
Weight	1 lb. 6 oz. (615g) with Battery
Measurements	3 3/16" x 2 5/7" 8 x 5 13/15" (81 x 69 x 149mm)
<b>Software</b>	
Supplied Software	ImageMixer for Hard Disk Drive Handycam® Camcorder



# minidv



DCR-HC96  
SEE PAGE 78

## SONY®

In the beginning: digital video was once strictly for broadcasters and video professionals. Sony's 2006 MiniDV Handycam camcorders bring this very affordable, high resolution, high quality image camcorder into the hands of every consumer.



### Studio Quality Digital Pictures

- ◆ **Better than Standard Broadcast Resolution.** MiniDV has a maximum resolution of 530 lines, over double that of standard VHS.
- ◆ **Three Times the Color Information of VHS.** Separate R-Y and B-Y color “components” provide far brighter, richer, more vibrant color. You’ll see digital quality that analog camcorders just can’t begin to compare to.
- ◆ **Minimum Generation Loss.** Because it is a digital format, MiniDV is capable of making digital copies with virtually no loss in video and audio quality, as compared with analog formats.

### CD Quality Digital Sound

- ◆ **16-bit, 2 Channel Sound.** DV offers the same 16-bit PCM digital sound as compact disc. So you can enjoy a 96db dynamic range and full 20 - 20,000 Hz frequency response.
- ◆ **12-bit, 4 Channel Sound.** Alternately, you can record in 12-bit mode with two sets of stereo audio tracks—one with the original sound and another for adding music or narration.

### i.LINK®\*\* Connectivity and Digital Editing

The i.LINK (IEEE1394 DV input/output) connector and editing software are featured in millions of home PCs, or can be easily added on to PCs. This means you can shoot, connect, enhance, edit and even copy the results back to tape to share with friends and family. Because it’s digital, the quality of final edited product looks just as good as the original.

### Analog-to-Digital Conversion with Pass-Through

The DCR-HC96 offers analog inputs. You can store and archive your analog recordings on compact, durable MiniDV cassettes. You can also convert the analog footage to digital, by passing the analog signal into the camcorder, and connecting the camcorder with an optional i.LINK cable to the computer. As the signal enters the camcorder it is converted to digital and passed directly to the computer with no need to record to tape. Either way, your analog signal is ready for digital editing on your home PC.

### Prosumer Performance

Sony has endowed the MiniDV lineup with “prosumer” (professional + consumer) features, enhancements that blur the distinction between amateur and professional.

- ◆ **3-CCD Image Block.** Similar to those used in broadcast cameras, the 3-CCD image block creates beautiful true colors with minimal color smear and bleeding.
- ◆ **Megapixel Image Sensors.** Select MiniDV Handycam® Camcorders are capable of capturing still images at up to a 2016x1512 resolution, 4X that of standard digital camcorders. The larger Megapixel CCDs also increase the video resolution, bringing it up to 530 lines of resolution.
- ◆ **Carl Zeiss® Vario-Tessar®, Vario-Sonnar® T\* Lenses.** Because a picture can’t be any better than the lens that helps capture it, Sony incorporates professional-grade lenses from the legendary Carl Zeiss. The T\* coating minimizes lens “flare” in sunlight, preserving maximum contrast and resolution. (For more information on Carl Zeiss Technology visit [www.zeiss.com](http://www.zeiss.com))

### Ease of Use and Convenience in a Compact Design

- ◆ **New Body Design with Ultra-Compact Size.** A smaller chassis size further enhances the feature package on select Sony MiniDV camcorders. An even more portable package means you’ll take more video, because you’ll take the camcorder more often.
- ◆ **Touch Panel LCD Screens.** All new 2006 MiniDV models feature a touch panel LCD screen which makes operation and control of the camera very easy. No more searching for tiny buttons, everything is right there in front of you, simple and easy to use.

### Enhancing the DV Experience

- ◆ **Still Image Capture.** Almost all Sony MiniDV camcorders offer Digital Still Memory Mode, which saves still images onto Memory Stick Duo™ Media. You can now capture up to a 2016x1512 still image on select models.
- ◆ **MPEG Movie EX Mode.** MPEG movies can be stored on Memory Stick media and distributed in emails, on websites or incorporated into Microsoft® PowerPoint® presentations.

\*i.LINK® is a trademark of Sony used only to designate that a product contains an IEEE1394 connector. All products with an i.LINK® connector may not communicate with each other.



With spectacular sound and video in such a compact and stylish design, you'll have the versatility to record outstanding movies with operating ease and handling convenience. Swapping tapes is faster than ever with a Top-Loading Tape Mechanism. And the Color Viewfinder lets you see your subjects clearly and accurately.

## features

### 1/6" Advanced HAD™ CCD Imager, 680K Pixels Gross

1/6" Advanced HAD™ (Hole Accumulation Diode) CCD with 340K (effective) pixels provides stunning detail and clarity with exceptional video (up to 500 lines of horizontal resolution) and still image performance.

### MiniDV Recording

Offers up to 500 lines of horizontal resolution, 3X the color bandwidth and a significantly higher signal/noise ratio, to provide spectacular video performance.

### 20X Optical/800X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Tessar® Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones.

### Super SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### 2.5" Touch Panel SwivelScreen™ LCD

Display (123K Pixels) Provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback.

### USB Streaming

Stay connected to family and friends by broadcasting live video with audio over the internet using the USB interface. You can even playback your favorite recorded scene on the camcorder's tape. It's like having your own videoconferencing system.

### i.LINK® DV Interface<sup>1</sup>

A digital high-speed bi-directional interface which provides Audio/Video communication between two compatible devices. This connection allows for pure digital transfer between devices equipped with an IEEE1394 interface, such as camcorders, digital VTRs, capture cards and PCs.

### InfoLithium® Battery with AccuPower™ Meter System<sup>2</sup>

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subject to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### NightShot® Plus Infrared System

With Sony's NightShot Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 10 feet away using the built-in infrared system, but without the overall monochrome color common with earlier low-light recording systems.

### On Screen Zoom and Record Controls

For additional control of the camcorder, the DCR-HC26 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### Stamina® Battery Power Management System<sup>3</sup>

Using the optional NP-FP90 InfoLithium® Battery, the DCR-HC26 can continuously record for up to 9 hours (Viewfinder) or up to 8 hours (LCD) on a single full charge, providing extra long battery life.

### Program AE (Auto Exposure) Modes

Program AE modes make recording easy even when filming in challenging situations. Choose from Beach & Ski, Landscape, Portrait, Sports Lesson, Spotlight or Sunset & Moon modes.

### Picture Effects

Get creative when recording or playing back your videos with Sony's Picture Effect Modes. Effects available in Camera mode: Mosaic and Pastel. Effects available in Playback mode: Monotone, Negative Art, Sepia, and Solarize.

### Fader Effects

Enhance your personal videos by adding professional looking fader effects. Choose from Black, Mosaic, Monotone and White.

### Battery Information

At the touch of a button, battery information is displayed on the LCD screen when charging and when the camcorder is turned off. The display will show how much the battery is charged, in 10% increments and the recordable time left when using the LCD screen or in the viewfinder.

### Photo Mode

Using Sony's Adaptive Frame Interpolation for better image quality, you can store hundreds of individual still images with 7 seconds of audio on the videotape (depends upon the amount of video recorded on the tape).

### Additional Features

- ♦ Manual Focus
- ♦ Easy Handycam Button
- ♦ Picture Package™ Software



## specifications

**Imaging Device:** 1/6" CCD  
**Pixel Gross:** 680K  
**Recording Media:** MiniDV Cassette  
**Recording and Playback Times:** SP: 60min., LP: 90 min.  
**Video Actual:** 340K Pixels  
**Still Actual:** N/A  
**USB Streaming:** Yes  
**SteadyShot® Image Stabilization:** Yes (Super; Electronic)  
**Accessory Shoe:** N/A  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** N/A  
**Still Image Mode(s):** N/A  
**Minimum Illumination:** 5 Lux (0 Lux with NightShot® Plus Infrared System Low Light)  
**Capability:** NightShot® Plus  
**LANC Terminal:** N/A  
**Analog Audio/Video Input(s):** N/A  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via i.LINK®)<sup>1</sup>  
**Digital Audio/Video Output(s):** Yes (via i.LINK®)<sup>1</sup>  
**USB Port(s):** Yes (1.1 compliant)  
**i.LINK®<sup>1</sup> Interface:** Yes  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** N/A  
**S-Video Input(s):** N/A  
**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.5" (123K Pixels) SwivelScreen™ LCD Display  
**Lens Type:** Carl Zeiss® Vario-Tessar®  
**Viewfinder:** Color (123K Pixels)

**Docking Station:** N/A  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 44-880mm (4:3 Camera Mode)  
**Aperture:** f1.8-3.1  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 25mm  
**Focal Distance:** 2.3-46mm  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** N/A  
**Shutter Speed:** Auto, 1/60-1/4000 (AE Mode)  
**Optical Zoom:** 20X  
**Digital Zoom:** 800X  
**Power Consumption:** 1.8W/2.1W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP30)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** Picture Package™ ver. 1.5  
**Video Recording System:** 2 Rotary Heads, Helical Scanning System  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** N/A  
**Weight:** 14 oz (420g) with Tape and Battery  
**Measurements:** 2 5/8" x 3 1/8" x 4 1/2" (65 x 79 x 113mm)

## supplied accessories

Power Adapter/In-Camera Charger (ACL-25)  
 InfoLithium® Rechargeable Battery (NP-FP30)  
 Stereo A/V Cable  
 CD-ROM with USB Driver (Picture Package™ Software ver. 1.5 for Sony)  
 Lens Cap

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Handycam Camcorder Starter Kit for MiniDV (ACC-DVP)  
 High Capacity InfoLithium™ Batteries (NP-FP50/FP71/FP90)  
 AC Adaptor/Quick Charger (ACV-QP10)  
 AC/DC Adaptor (DCC-L50B)  
 Carrying Case (LCS-VA4)  
 Carrying Case (LCS-VA5)  
 Telephoto Lens (VCL-2025S)  
 High-Grade Telephoto Lens (VCL-HG2025)  
 Wide Angle Lens (VCL-HG0725)  
 Wide Angle Lens (VCL-0625S)  
 Lightweight Tripod (VCT-R610)  
 Pocket Tripod (VCT-TK1)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>3</sup>

Battery <sup>3</sup> (fully Charged)	Continuous Record Time VF/LCD	Continuous Playback Time LCD On/Off
NP-FP30	110/95 min	105/135 min
NP-FP50	160/135 min	150/190 min
NP-FP70	330/280 min	310/395 min
NP-FP71	395/330 min	370/465 min
NP-FP90	580/500 min	550/705 min

<sup>1</sup> i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.

<sup>2</sup> Designed for use with compatible Sony InfoLithium® batteries.

<sup>3</sup> Battery life may vary depending upon usage patterns.

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Features and specifications subject to change without notice. Non-metric weights and measures are approximate.

Screen images simulated.

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Transferring Digital stills and mini movies to your PC for printing and emailing is fast and convenient with the removable Memory Stick Duo™ Media. The DCR-HC36 also has an attractive 3D Menu System on its wide 2.5" SwivelScreen™ Touch Panel LCD Display. And the Super NightShot® Plus INFRARED System lets you record natural video in low-light conditions.

## features

### 1/6" Advanced HAD™ CCD Imager, 680K Pixels Gross

1/6" Advanced HAD™ (Hole Accumulation Diode) CCD with 340K (effective) pixels provides stunning detail and clarity with exceptional video (up to 500 lines of horizontal resolution) and still image performance.

### MiniDV Recording

Offers up to 500 lines of horizontal resolution, 3X the color bandwidth and a significantly higher signal/noise ratio, to provide spectacular video performance.

### 20X Optical/800X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition, the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Tessar® Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones.

### Super SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### 2.5" Touch Panel SwivelScreen™ Hybrid LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback.

### USB Streaming

Stay connected to family and friends by broadcasting live video with audio over the internet using the USB interface. You can even playback your favorite recorded scene on the camcorder's tape. It's like having your own video conferencing system.

### i.LINK® DV Interface<sup>1</sup>

A digital high-speed bi-directional interface which provides Audio/Video communication between two compatible devices. This connection allows for pure digital transfer between devices equipped with an IEEE1394 interface, such as camcorders, digital VTRs, capture cards and PCs.

### Digital Still Memory Mode with Memory Stick Duo™ Media<sup>3</sup>

Capture still images at 640x480 resolution, directly onto Memory Stick Duo™ Media for easy transfer to PCs for emailing, printing or sharing with other compatible Memory Stick™ devices.

### InfoLithium® Battery with AccuPower™ Meter System<sup>2</sup>

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subject to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### Super NightShot® Plus Infrared System

With Sony's Super NightShot Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 20 feet away using the built-in infrared system, but without the overall monochrome color common with earlier low-light recording systems.

### Tele Macro Function

Useful for shooting close up shots, but without having the camcorder casting a shadow on the subject. Images shot in the Tele Macro Mode will have the subject properly focused with the background unfocused so that the subject stands out.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the touch panel. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### On Screen Zoom and Record Controls

For additional control of the camcorder, the DCR-HC36 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### Stamina® Battery Power Management System<sup>4</sup>

Using the optional NP-FP90 InfoLithium® Battery, the DCR-HC36 can continuously record for up to 9 hours (viewfinder) or up to 7 hours (LCD) on a single full charge, providing extra long battery life.

### Program AE (Auto Exposure) Modes

Program AE modes make recording easy even when filming in challenging situations. Choose from Beach & Ski, Landscape, Portrait, Sports Lesson, Spotlight or Sunset & Moon modes.

### Additional Features

- ◆ Picture Effects
- ◆ Easy Handycam Button
- ◆ Fader Effects
- ◆ Battery Information
- ◆ Picture Package™ Software



## specifications

**Imaging Device:** 1/6" CCD  
**Pixel Gross:** 680K  
**Recording Media:** MiniDV Cassette, Memory Stick Duo™ Media, Memory Stick PRO Duo™ Media  
**Recording and Playback Times:** SP: 60 min., LP: 90 min.  
**Video Actual:** 340K Pixels  
**Still Actual:** 340K Pixels  
**USB Streaming:** Yes  
**SteadyShot® Image Stabilization:** Yes (Super; Electronic)  
**Accessory Shoe:** N/A  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** Tested to support up to 2GB media capacity; does not support high speed transfer function; does not support Access Control security function.  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 5 Lux (0 Lux with Super NightShot® Plus Infrared System)  
**Low Light Capability:** Super NightShot® Plus  
**LANC Terminal:** N/A  
**Analog Audio/Video Input(s):** N/A  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via i.LINK®)<sup>1</sup>  
**Digital Audio/Video Output(s):** Yes (via i.LINK®)<sup>1</sup>  
**USB Port(s):** Yes (1.1 compliant)  
**i.LINK®<sup>1</sup> Interface:** Yes  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** N/A  
**S-Video Input(s):** N/A  
**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.5" (123K Pixels) SwivelScreen™ LCD Display

**Lens Type:** Carl Zeiss® Vario-Tessar®  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** N/A  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 48-960mm (16:9 Camera Mode), 44-880mm (4:3 Camera Mode), 44-880mm (4:3 Memory Mode)  
**Aperture:** f1.8-f3.1  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 25mm  
**Focal Distance:** 2.3-46mm; 390mm (Telemacro)  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** N/A  
**Shutter Speed:** Auto, 1/2-1/4000 (AE Mode)  
**Optical Zoom:** 20X  
**Digital Zoom:** 800X  
**Power Consumption:** 1.9W/2.3W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP30)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Supplied Software:** Picture Package™ ver. 1.5  
**Video Recording System:** 2 Rotary Heads, Helical Scanning System  
**Video Signal System:** NTSC color, EIA  
**Analog-to-Digital Converter:** N/A  
**Weight:** 15 oz (430 g) with Tape and Battery  
**Measurements:** 2 5/8" x 3 1/8" x 4 1/2" (65 x 79 x 113mm)

## supplied accessories

Power Adapter/ In-Camera Charger (AC-L25)  
 InfoLithium® Rechargeable Battery (NP-FP30)  
 Remote Commander® Remote Control (RMT-831)  
 Stereo AV Cable  
 Lens Cap, USB Cable  
 CD-ROM with USB Driver  
 Picture Package Software Ver. 1.5

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Handycam Camcorder Starter Kit for MiniDV (ACC-FP71)  
 High Capacity InfoLithium™ Batteries (NP-FP50/FP71/FP90)  
 Portable AC Travel Charger (BC-TRP)  
 AC Adaptor/Quick Charger (ACV-QP10)  
 A/V Cable including S-Video (VMC-30FS)  
 Carrying Case (LCS-VA30)  
 Soft Carrying Case (LCS-VAC)  
 Filter Kit (VF-25CPKS)  
 Wide Angle Lens (VCL-0625S)  
 High Grade Wide Angle Lens (VCL-HG0725)  
 Telephoto Lens (VCL-2025S)  
 High-Grade Telephoto Lens (VCL-HG2025)  
 Lightweight Tripod (VCT-R100)  
 Pocket Tripod (VCT-MTK)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>4</sup>

Battery <sup>4</sup> (fully Charged)	Continuous Record Time VF/LCD	Continuous Playback Time LCD On/Off
NP-FP30	105/85 min	90/110 min
NP-FP50	150/120 min	125/160 min
NP-FP70	310/255 min	265/330 min
NP-FP71	370/300 min	315/395 min
NP-FP90	550/455 min	475/580 min

### Memory Mode<sup>3</sup> Still Pictures – Fine/Standard (Approx.)

	640 x 480 VGA
Memory Stick Duo™ Media <sup>3</sup>	
16MB	96/240
32MB	190/485
64MB	390/980
128MB	780/1970
Memory Stick PRO Duo™ Media <sup>3</sup>	
256MB	1400/3550
512MB	2850/7200
1GB	5900/14500
2GB	12000/30000

### MPEG MOVIE EX MODE<sup>3</sup> h=hours, m=minutes, s=seconds

Memory Stick Duo™ Media <sup>3</sup>	Email Mode (160x112)	Presentation Mode (320x240)	Memory Stick PRO Duo™ Media <sup>3</sup>	Email Mode (160x112)	Presentation Mode (320x240)
16MB	10m 40s	2m 40s	256MB	2h 50m 40s	42m 40s
32MB	21m 20s	5m 20s	512MB	5h 41m 20s	1h 25m 20s
64MB	42m 40s	10m 40s	1GB	11h 22m 20s	2h 50m 40s
128MB	1h 25m 20s	21m 20s	2GB	22h 45m 20s	5h 41m 20s

<sup>1</sup> i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.  
<sup>2</sup> Designed for use with compatible Sony InfoLithium® batteries.  
<sup>3</sup> Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is 8\*7.5, 16\*15, 32\*30, 64\*61, 128\*123, 256\*220, 512\*460, 1GB\*940, 2GB\*1890.  
<sup>4</sup> Battery life may vary depending upon usage patterns.  
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The DCR-HC46 is compact, stylish and packed with features including a supplied Handycam Station Cradle that provides a quick connection to sharing memories and charging the battery. Plus, a 1.0 Megapixel Imager and a 2.7" LCD Display capture more video in greater detail.

## features

### 1.0 Megapixel (Gross) Advanced HAD™ CCD Imager

1/5.5" Advanced HAD™ (Hole Accumulation Diode) CCD with 690K (effective) pixels provides stunning detail and clarity with exceptional video (up to 520 lines of horizontal resolution) and still image performance. The Megapixel technology enhances your digital videos and digital still photography performance.

### MiniDV Recording

Offers up to 520 lines of horizontal resolution, 3X the color bandwidth and a significantly higher signal/noise ratio, to provide spectacular video performance.

### 12X Optical/800X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition, the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Tessar® Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones.

### 2.7" Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display (123K Pixels)

Provides excellent viewing clarity for both 16:9 and 4:3 aspect with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback.

### Progressive Shutter System

A mechanical shutter system that provides progressive scan performance while utilizing an interlaced scanning system. Digital still images will be sharp and clear with excellent definition.

### Super SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### Handycam Station

The supplied Handycam Station cradle provides quick and easy connections to a TV for viewing or to a PC for editing and sharing video. Just placing the camcorder on the Handycam Station instantly makes the connections. No need to search for cables or wires when charging or playing back.

### One Touch Wide Angle Shooting

Easily switch between 4:3 and 16:9 aspect ratios for shooting with just the touch of a button.

### InfoLithium® Battery with AccuPower™ Meter System<sup>2</sup>

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subject to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### i.LINK® DV Interface<sup>1</sup>

A digital high-speed bi-directional interface which provides Audio/Video communication between two compatible devices. This connection allows for pure digital transfer between devices equipped with an IEEE1394 interface, such as camcorders, digital VTRs, capture cards and PCs.

### Digital Still Memory Mode with Memory Stick Duo™ Media<sup>3</sup>

Capture still images up to 1152x864 resolution, directly onto Memory Stick Duo™ Media for easy transfer to PCs for emailing, printing or sharing with other compatible Memory Stick™ devices.

### Tele Macro Function

Useful for shooting close up shots, but without having the camcorder casting a shadow on the subject. Images shot in the Tele Macro Mode will have the subject properly focused with the background unfocussed so that the subject stands out.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the touch panel. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### Super NightShot® Plus Infrared System

With Sony's Super NightShot Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 20 feet away using the built-in infrared system, but without the overall monochrome color common with earlier low-light recording systems.

### On Screen Zoom and Record Controls

For additional control of the camcorder, the DCR-HC46 features Zoom and Record buttons on the frame of the LCD screen. This allows the user more flexibility when holding the camcorder, especially in overhead or low angle shots.

### Additional Features

- ◆ Stamina® Battery Power Management System
- ◆ Program AE (Auto Exposure) Modes
- ◆ Picture Effects
- ◆ Fader
- ◆ USB Streaming
- ◆ Easy Handycam Button
- ◆ Battery Information



## specifications

**Imaging Device:** 1/5.5" CCD  
**Pixel Gross:** 1070K  
**Recording Media:** MiniDV Cassette, Memory Stick Duo™ Media, Memory Stick PRO Duo™ Media  
 Recording and Playback Times: SP: 60 min., LP: 90 min.  
**Video Actual:** 690K Pixels  
**Still Actual:** 1000K Pixels  
**USB Streaming:** Yes  
**SteadyShot® Image Stabilization:** Yes (Super; Electronic)  
**Accessory Shoe:** N/A  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** Tested to support up to 2GB media capacity; does not support high speed transfer function; does not support Access Control security function.  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 7 Lux (0 Lux with Super NightShot® Plus Infrared System)  
**Low Light Capability:** Super NightShot® Plus  
**LANC Terminal:** N/A  
**Analog Audio/Video Input(s):** N/A  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via i.LINK®)<sup>1</sup>  
**Digital Audio/Video Output(s):** Yes (via i.LINK®)<sup>1</sup>  
**USB Port(s):** Yes (1.1 compliant on Handycam Station)  
**i.LINK®<sup>1</sup> Interface:** Yes (on Handycam® Station)  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** N/A  
**S-Video Input(s):** N/A  
**S-Video Output(s):** Yes (optional accessory)

**LCD:** 2.7" (123K Pixels) Wide (16:9) Touch Panel  
 SwivelScreen™ Hybrid LCD Display  
**Lens Type:** Carl Zeiss® Vario-Tessar®  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** Yes (Handycam® Station)  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 46-628.5mm (16:9 Camera Mode), 48-576mm (4:3 Camera Mode), 43.6-523.2mm (16:9 Memory Mode), 40-480mm (4:3 Memory Mode)  
**Aperture:** f1.8-f2.5  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 25mm  
**Focal Distance:** 3.0-36mm; 350mm (Telemacro)  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/2-1/4000 (AE Mode)  
**Optical Zoom:** 12X  
**Digital Zoom:** 800X  
**Power Consumption:** 2.4W/2.7W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP50)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Video Recording System:** 2 Rotary Heads, Helical Scanning System  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** N/A  
**Weight:** 15 oz (445g) with Tape and Battery  
**Measurements:** 2 5/8" x 3 1/8" x 4 1/2" (65 x 79 x 113mm)

## supplied accessories

Power Adapter/In-Camera Charger (AC-L25)  
 InfoLithium® Rechargeable Battery (NP-FP50)  
 Handycam® Station (DRCA-C151)  
 Remote Commander® Remote Control (RMT-831)  
 Stereo AV Cable  
 Lens Cap  
 USB Cable  
 CD-ROM with USB Driver  
 PicturePackage™ Software Ver. 1.5

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Handycam Camcorder Starter Kit for MiniDV (ACC-FP71)  
 High Capacity InfoLithium™ Batteries (NP-FP50/FP71/FP90)  
 Adaptor/Quick Charger (ACV-QP10)  
 Travel Charger (BC-TRP)  
 Carrying Case (LCS-VAC)  
 Wide Angle Lens (VCL-0625S)  
 High Grade Wide Angle Lens (VCL-HG0725)  
 Telephoto Lens (VCL-2025S)  
 High-Grade Telephoto Lens (VCL-HG2025)  
 Lightweight Tripod (VCT-R100)  
 Pocket Tripod (VCT-TK1)  
 Av Composite Cables including S-Video (VMC-30FS)  
 High Grade A/V Cable with S-Video (VMC-30FS)

### Battery Life<sup>4</sup>

Battery <sup>4</sup> (fully Charged)	Continuous Record Time VF/LCD	Continuous Playback Time LCD On/Off
NP-FP30	-	-
NP-FP50	115/100/115 min	120/150 min
NP-FP70	240/215/240 min	255/310 min
NP-FP71	290/255/290 min	300/370 min
NP-FP90	435/385/435 min	455/550 min

1. i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.  
 2. Designed for use with compatible Sony InfoLithium® batteries.  
 3. Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is 8\*7.5, 16\*15, 32\*30, 64\*61, 128\*123, 256\*220, 512\*460, 1GB\*940, 2GB\*189GB.  
 4. Battery life may vary depending upon usage patterns.  
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### Memory Mode<sup>3</sup> Still Pictures – Fine/Standard (Approx.)

Memory Stick Duo™ Media <sup>3</sup>	1152x864 1.0MP	1152x648 0.7MP (Wide)	640 x 480 VGA	640x360 0.2MP (Wide)	
16MB	30/74	40/96	96/240	115/240	
32MB	61/150	81/190	190/485	240/485	
64MB	120/300	160/390	390/980	490/980	
128MB	245/600	320/780	780/1970	980/1970	
Memory Stick PRO Duo™ Media <sup>3</sup>	256MB	445/1000	195/470	1400/3550	590/1400
512MB	900/2050	400/960	2850/7200	1200/2850	
1GB	1800/4200	820/1950	5900/14500	2450/5900	
2GB	3750/8600	1650/4000	12000/30000	5000/12000	

### MPEG MOVIE EX MODE<sup>3</sup> h=hours, m=minutes, s=seconds

Memory Stick Duo™ Media <sup>3</sup>	Email Mode (160x112)	Presentation Mode (320x240)	Memory Stick PRO Duo™ Media <sup>3</sup>	Email Mode (160x112)	Presentation Mode (320x240)
16MB	10m 40s	2m 40s	256MB	2h 50m 40s	42m 40s
32MB	21m 20s	5m 20s	512MB	5h 41m 20s	1h 25m 20s
64MB	42m 40s	10m 40s	1GB	11h 22m 20s	2h 50m 40s
128MB	1h 25m 20s	21m 20s	2GB	22h 45m 20s	5h 41m 20s

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A 3.0 Megapixel Imager on the DCR-H96 records brilliant stills and spectacular video, while the 2.7" wide (16:9) Touch Panel LCD lets you see more in greater detail while providing fingertip control. With the built-in flash, vivid detail and color can be captured in the most difficult lighting conditions.

## features

### 3.3 Megapixel (Gross) Advanced HAD™ CCD Imager

1/3" Advanced HAD™ (Hole Accumulation Diode) CCD with 2048K (effective) pixels provides stunning detail and clarity with exceptional video (up to 530 lines of horizontal resolution) and still image performance. The Megapixel technology enhances your digital videos and digital still photography performance.

### MiniDV Recording

Offers up to 530 lines of horizontal resolution, 3X the color bandwidth and a significantly higher signal/noise ratio, to provide spectacular video performance.

### 10X Optical/120X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Professional Quality Carl Zeiss® Vario-Sonnar® T\* Lens

Carl Zeiss lenses have an advanced optical multi-layer coating that offers less glare and flare with increased contrast. This results in vivid image brilliance, true-to-life color saturation and perfect renditions of subtle tones. The additional T\* coating on the lens further reduces unwanted glare and flare.

### 2.7" Wide Touch Panel SwivelScreen™ Hybrid LCD Display (123K Pixels)

The 2.7" Wide (16:9) LCD screen provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback, and the widescreen format makes shooting in 16:9 mode and composing shots even easier.

### Analog To Digital Conversion with Pass-Through

Convert and/or record any analog NTSC video source to digital video via the analog inputs. Analog NTSC video can also be passed through the digital Handycam Camcorder directly into a PC via the i.LINK interface in real-time for easy PC editing of your analog footage.

### Digital Still Memory Mode with Memory Stick Duo™ Media<sup>3</sup>

Capture still images at 2016x1512 (3.0 Megapixel) resolution, directly onto Memory Stick Duo™ Media for easy transfer to PCs for emailing, printing or sharing with other compatible Memory Stick™ devices.

### Progressive Shutter System

A mechanical shutter system that provides progressive scan performance while utilizing an interlaced scanning system. Digital still images will be sharp and clear with excellent definition.

### Super SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### Handycam Station

The supplied Handycam Station cradle provides quick and easy connections to a TV for viewing or to a PC for editing and sharing video. Just placing the camcorder on the Handycam Station instantly makes the connections. No need to search for cables or wires when charging or playing back.

### One Touch Wide Angle Shooting

Easily switch between 4:3 and 16:9 aspect ratios for shooting with just the touch of a button.

### i.LINK® DV Interface<sup>1</sup>

A digital high-speed bi-directional interface which provides Audio/Video communication between two compatible devices. This connection allows for pure digital transfer between devices equipped with an IEEE1394 interface, such as camcorders, digital VTRs, capture cards and PCs.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the touch panel. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### Additional Features

- Tele Macro Function
- Active Interface Shoe
- USB Streaming
- Super NightShot® Plus Infrared System
- On Screen Zoom and Record Controls
- Program AE (Auto Exposure) Modes
- Picture Effects
- Digital Effects
- Battery Information
- Easy Handycam Button
- Picture Package™ Software
- InfoLithium Battery with AccuPower™ Meter System<sup>3</sup>



## specifications

**Imaging Device:** 1/3" CCD  
**Pixel Gross:** 3310K  
**Recording Media:** MiniDV Cassette, Memory Stick Duo™ Media, Memory Stick PRO Duo™ Media  
 Recording and Playback Times: SP: 60 min., LP: 90 min.  
**Video Actual:** 2048K Pixels  
**Still Actual:** 3048K Pixels  
**USB Streaming:** Yes  
**SteadyShot® Image Stabilization:** Yes (Super; Electronic)  
**Accessory Shoe:** Active Interface Shoe  
**White Balance:** Auto, Indoor, One-push, Outdoor  
**Memory Stick PRO™ Media Compatibility:** Tested to support up to 2GB media capacity; does not support high speed transfer function; does not support Access Control security function.  
**Still Image Mode(s):** JPEG  
**Minimum Illumination:** 5 Lux (0 Lux with Super NightShot® Infrared System)  
**Low Light Capability:** Super NightShot®  
**LANC Terminal:** Yes (Stereo Mini)  
**Analog Audio/Video Input(s):** Yes (Multi A/V)  
**Analog Audio/Video Output(s):** Yes (Multi A/V)  
**Digital Audio/Video Input(s):** Yes (via i.LINK®)<sup>1</sup>  
**Digital Audio/Video Output(s):** Yes (via i.LINK®)<sup>1</sup>  
**USB Port(s):** Yes (1.1 compliant on Handycam Station)  
**i.LINK®<sup>1</sup> Interface:** Yes (on Handycam® Station)  
**Component Video (Y/Pb/Pr) Output(s):** N/A  
**Headphone Jack:** N/A  
**Microphone Input:** Yes (thru Active Interface Shoe)  
**S-Video Input(s):** Yes (optional accessory)

**S-Video Output(s):** Yes (optional accessory)  
**LCD:** 2.7" (123K Pixels) Wide (16:9) Touch Panel  
 SwivelScreen™ Hybrid LCD Display  
**Lens Type:** Carl Zeiss® Vario-Sonnar® T\*  
**Viewfinder:** Color (123K Pixels)  
**Docking Station:** Yes (Handycam® Station)  
**Microphone:** Yes (Built-in)  
**35mm Equivalent:** 42.8-495mm (16:9 Camera Mode), 45-450mm (4:3 Camera Mode), 40.6-406mm (16:9 Memory Mode), 37-370mm (4:3 Memory Mode)  
 Aperture: f1.8-2.9  
**Exposure:** Touch Panel (24 steps)  
**Filter Diameter:** 30mm  
**Focal Distance:** 5.1-51mm; 370mm (Telemacro)  
**Focus:** Full Range Auto, Manual (Touch Panel)  
**Progressive Shutter Mode:** Yes  
**Shutter Speed:** Auto, 1/2-1/4000 (AE Mode)  
**Optical Zoom:** 10X  
**Digital Zoom:** 120X  
**Power Consumption:** 3.0W/3.4W (VF/LCD)  
**Battery Type:** InfoLithium® with AccuPower™ Meter System (NP-FP50)  
**Power Requirements:** 7.2V (battery pack); 8.4V (AC Adaptor)  
**Operating System Compatibility:** Microsoft® Windows® 2000 Professional, XP Home, XP Professional  
**Video Recording System:** 2 Rotary Heads, Helical Scanning System  
**Video Signal System:** NTSC color, EIA standards  
**Analog-to-Digital Converter:** Yes (with Pass Through)  
**Weight:** 1 lb. 2 oz. (525g) with Tape and Battery  
**Measurements:** 2 7/8 x 3 5/8 x 4 3/4" (72 x 91 x 120mm)

## supplied accessories

Power Adapter/ In-Camera Charger (AC-L25)  
 InfoLithium® Rechargeable Battery (NP-FP50)  
 Handycam Station (DCRA-C152)  
 Remote Commander® Remote Control (RMT-831)  
 Stereo A/V Cable  
 USB Cable  
 CD-ROM with USB Driver  
 PicturePackage™ Software Ver. 1.5

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Handycam Starter Kit for MiniDV (ACC-FP71)  
 InfoLithium™ Batteries (NP-FP50/ FP71/FP90)  
 Travel AC Charger (BC-TRP)  
 Carrying Case (LCM-HCF)  
 Wide Angle Lens (VCL-0630X)

### Battery Life<sup>2</sup>

Battery <sup>2</sup> (fully Charged)	Continuous Record Time VF/LCD/LCD Backlight Off/VF+LCD	Continuous Playback Time LCD On/Off
NP-FP50	90/80/85/75 min	115/140 min
NP-FP70	190/170/185/160 min	240/295 min
NP-FP71	230/200/220/190 min	290/350 min
NP-FP90	345/300/335/285 min	435/525 min

### Memory Mode<sup>3</sup> Still Pictures - Fine/Standard (Approx.)

Memory Stick Duo™ Media <sup>3</sup>	2016x1512 3.0MP	2016x1134 2.3MP (Wide)	1600x1200 1.9MP	640x480 VGA	640x360 0.2MP (Wide)
16MB	10/24	13/32	16/37	96/240	115/240
32MB	20/48	27/65	32/75	190/485	240/485
64MB	40/98	54/130	65/150	390/980	490/980
128MB	82/195	105/260	130/300	780/1970	980/1970
<b>Memory Stick PRO Duo™ Media<sup>3</sup></b>					
256MB	145/355	195/470	235/540	1400/3550	1750/3550
512MB	300/720	400/960	480/1100	2850/7200	3600/7200
1GB	610/1450	820/1950	980/2250	5900/14500	7300/14500
2GB	1250/3000	1650/4000	2000/4650	12000/30000	15000/30000

### MPEG Movie EX Mode<sup>3</sup> h=hours, m=minutes, s=seconds

Memory Stick Duo™ Media <sup>3</sup>	Email Mode (160x112)	Presentation Mode (320x240)	Memory Stick PRO Duo™ Media <sup>3</sup>	Email Mode (160x112)	Presentation Mode (320x240)
16MB	10m 40s	2m 40s	256MB	2h 50m 40s	42m 40s
32MB	21m 20s	5m 20s	512MB	5h 41m 20s	1h 25m 20s
64MB	42m 40s	10m 40s	1GB	11h 22m 20s	2h 50m 40s
128MB	1h 25m 20s	21m 20s	2GB	22h 45m 20s	5h 41m 20s

1. i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.  
 2. Designed for use with compatible Sony InfoLithium® batteries.  
 3. Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is 8\*7.5, 16\*15, 32\*30, 64\*61, 128\*123, 256\*220, 512\*460, 1GB\*940, 2GB\*139GB.  
 4. Battery life may vary depending upon usage patterns.  
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Designed for the “prosumer”, the DCR-VX2100 is made for the video enthusiast. This camcorder features a 3-CCD imaging system, which yields outstanding resolution and color. The Manual Zoom Ring and the 58mm Aspherical Lens allows for better focusing with greater detail and clarity.

## features

### MiniDV Recording

Offers up to 530 lines of horizontal resolution, 3X color bandwidth (vs. VHS) and significantly higher S/N ratio, to provide stunning video performance.

### 3 CCD Imaging System

Each 1/3" CCD has 380,000 pixels for brilliant digital picture-quality.

### 530 Lines of Horizontal Video Resolution

Advanced HAD™ Megapixel CCD technology, combined with high-quality optics provide outstanding video performance with up to 530 horizontal lines of resolution.

### Digital Still Memory Mode with Memory Stick® Media

Capture digital still images at 640x480 resolution, directly onto Memory Stick® media for easy transfer to PC's for emailing, printing, or sharing with other compatible Memory Stick® devices.

### Advanced HAD™ CCD Technology

Enhanced CCD design allows more light to reach the imager which reduces video noise to improve signal-to-noise ratio by up to 6db (2x better than a standard CCD). Particularly effective when shooting in dark situations.

### 12X Optical/48X Digital Zoom

The optical zoom helps to bring the action up close from far away. In addition, the digital zoom interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### Aspherical Ground Glass 58mm Lens

Larger diameter allows more light to strike the Advanced HAD™ CCD imagers for greater detail and clarity, while the aspherical lens reduces optical distortion, and provide better corner-to-corner focus.

### 2.5" Precision Hybrid SwivelScreen™ LCD Display (211K Pixels)

Provides excellent viewing clarity with improved resolution. The 211K pixel LCD display makes images sharp and detailed during playback or when monitoring recording. The Hybrid Reflective-Transmissive LCD Screen provides accurate viewing in sunlight or bright light, virtually eliminating the “wash-out” common with traditional LCD Screens.

### Manual Zoom Ring

Allows user operated manual zoom speed for more flexibility and control.

### Precision Color Viewfinder (180K Pixels)

Increased pixel count provides more detail and clarity of video subjects.

### Manual Shutter Speed

Gives you optimum control over the shutter speed based upon shooting environment or desired effect.

### Manual Exposure Dial

Create your own special look by controlling the camera's exposure amount manually, allowing in less or more light for creative control.

### Stamina Power Management System 9 Hours (Using Optional NP-F960)<sup>3</sup>

The Sony DCR-VX2100 can record for up to 9 hours or playback for up to 13 hours (with LCD screen off) on a single charge with the optional NP-F960.

### InfoLithium® Battery with AccuPower™ Meter System

Charge the battery at any time because unlike NiCad (Nickel Cadmium) batteries Sony's rechargeable Lithium-Ion batteries are not subjected to a life shortening “memory effect”. Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in the viewfinder or the LCD screen.

### Super SteadyShot Optical Stabilization System

An advanced version of Sony's SteadyShot® System that minimizes even high frequency shake and vibration using motion sensors and an optical active prism stabilization system, for better performance even in difficult shooting situations.

### i.LINK®<sup>2</sup> DV Interface (IEEE1394)

A high speed bi-directional digital video/audio communication between two devices equipped with an IEEE1394 interface, including camcorders, digital VCRs, and PCs.

### Intelligent Accessory Shoe

Provides power, on/off and special operational commands to a variety of Sony Intelligent Accessories via an 8-pin interface. This enables easy synchronized operation between the Handycam® camcorder and such accessories as video lights, infrared lights and microphones without additional batteries or cables.

### Progressive Shutter System

Mechanical shutter system that provides Progressive Scan performance while utilizing an interlace scanning system. Digital still images will be sharp and clear with excellent definition.



## specifications

**Accessory Shoe:** Yes (Intelligent)  
**USB Streaming:** N/A  
**White Balance:** Auto, Outdoor, Indoor, Hold  
**Imaging Device:** 3-1/3" 380K Pixel  
 Advanced HAD™ CCD  
**Still Actual:** 340K Pixels  
**Viewfinder:** Precision Color (180K)  
**Interface:** i.LINK® DV Interface (IEEE1394)<sup>2</sup>: Yes  
**USB Terminal:** N/A  
**LCD:** 2.5" (211K) Precision Hybrid Color  
**Analog Video Input/Output(s):** Yes (Mini plug)  
**Analog Audio Input/Output(s):** Yes (Mini plug)  
**Digital Video Input/Output(s):** Yes (via i.LINK®)<sup>2</sup>  
**Digital Audio Input/Output(s):** Yes (via i.LINK®)<sup>2</sup>  
**Headphone Output(s):** Yes  
**Input(s):** Microphone-Yes  
**Minimum Illumination:** 1 Lux  
**Aperture:** 1.6-2.4  
**Focal Distance:** 6.0-72mm  
**35mm Conversion:** 43.2-518.4mm (Camera Mode)

43.2-518.4mm (Memory Mode)  
**Zoom:** 12X, 48X  
**Focus:** Full Range Auto/Manual Ring  
**Shutter Speed:** 1/4-1/10,000 (Manually Adjustable)  
**Exposure:** Manual Dial (19 Steps)  
**Power Consumption:** 4.0W/ 4.7W/ 5.0W  
 (VF/LCD/VF LCD)  
**Limited Warranty:** 1 Year Parts; 90 Days Labor  
**Video Actual:** 340K Pixels per Imager  
**Filter Diameter:** 58mm  
**Weight:** 3 lbs, 5 oz (1.5 Kg)  
**Dimensions (WHD):** 4 8/11" x 6 4/15" x 15 7/15" (120 x 159 x 393mm)

## supplied accessories

Power Adaptor/ In  
 Camera Charger (AC-L15)  
 InfoLithium® Rechargeable Battery (NP-F330)  
 Wireless Remote Commander® Remote  
 Control (RMT-811)  
 8MB Memory Stick Media  
 2AA Batteries  
 Stereo A/V Cable  
 Lens Hood  
 Shoulder Strap

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

Memory Stick® Media (MSH-128)  
 InfoLithium® Batteries (NPF-570/770)  
 AC Adapter/Charger (AC-L200)  
 Polarizing Filter Kit (VF-58CPKS)  
 Wide Angle Conversion Lens (VCL-HG0758)  
 Telephoto Conversion Lens (VCL-HG1758)  
 Wired Remote Control (RM-VD1)  
 Remote Control Tripod (VCT-870RM)  
 Stereo Microphone (ECM-MSD1)

### Battery Life<sup>3</sup>

Battery <sup>3</sup> (fully Charged)	Continuous Record Time VF/LCD/VF+LCD	Continuous Playback Time LCD On/Off
NP-F330	80/60/60 min	85/120 min
NP-F550	150/130/120 min	185/225 min
NP-F750	315/265/250 min	375/460 min
NP-F960	575/480/450 min	380/830 min

### Memory Mode<sup>1</sup> Still Pictures - Fine/Standard (Approx.)

Memory Stick® Media <sup>1</sup>	Fine (640x480)	Standard 640x480
8MB	50	120
16MB	96	240
32MB	195	485
64MB	390	980
128MB	780	1970

<sup>1</sup> Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is 8\*7.5, 16\*15, 32\*30, 64\*61, 128\*123, 256\*220, 512\*450, 1GB\*940, 2GB\*1.85GB.  
<sup>2</sup> i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.  
<sup>3</sup> Battery life may vary depending upon usage patterns.  
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	DCR-HC26	DCR-HC36
<b>General</b>		
Imaging Device	1/6"; 680K Gross Pixels CCD	1/6"; 680K Gross Pixels CCD
Still Actual	N/A	340K Pixels
Viewfinder	Color, 123K Pixels	Color, 123K Pixels
Pixel Gross	680K	680K
Recording and Playback Times	SP: 60 min., LP: 90 min.	SP: 60 min., LP: 90 min.
Video Actual	340K	340K
<b>Optics</b>		
Lens Type	Carl Zeiss® Vario-Tessar®	Carl Zeiss® Vario-Tessar®
Resolution	VGA	VGA
Optical Zoom	20X	20X
Digital Zoom	800X	800X
<b>Hardware</b>		
LCD	2.5"(123K) Pixels SwivelScreen™ LCD Display	2.5"(123K) Pixels SwivelScreen™ LCD Display
Docking Station	N/A	N/A
Microphone	Yes (Built-in)	Yes (Built-in)
<b>Inputs/Outputs</b>		
USB Terminal	Yes (1.1 compliant)	Yes (1.1 compliant)
LANC Terminal	N/A	N/A
Analog Audio/Video Input(s)	N/A	N/A
Analog Audio/Video Output(s)	Yes (Multi A/V)	Yes (Multi A/V)
Digital Audio/Video Input(s)	Yes (via i.LINK®)	Yes (via i.LINK®)
Digital Audio/Video Output(s)	Yes (via i.LINK®)	Yes (via i.LINK®)
Headphone Input(s)	N/A	N/A
Microphone Input	N/A	N/A
Headphone Jack	N/A	N/A
Remote Jack	N/A	N/A
S-Video Input(s)	N/A	N/A
<b>Convenience</b>		
USB Streaming	Yes	Yes
SteadyShot® Image Stabilization	Yes ( Super; Electronic)	Yes ( Super; Electronic)
Accessory Shoe	N/A	N/A
Minimum Illumination	5 Lux (0 Lux with NightShot® Plus Infrared System)	5 Lux (0 Lux with Super NightShot® Plus Infrared System)
Low Light Capability	NightShot® Plus	Super NightShot® Plus
Light/Flash	N/A	N/A
PictBridge™ Compatibility	N/A	Yes
<b>Dimensions</b>		
Weight	14 oz (420g) with Tape and Battery	15 oz (430 g) with Tape and Battery
Measurements	2 5/8"; x 3 1/8"; x 4 1/2"; (65 x 79 x 113mm)	2 5/8"; x 3 1/8"; x 4 1/2"; (65 x 79 x 113mm)
<b>Software</b>		
Supplied Software	Picture Package™ ver. 1.5	Picture Package™ ver. 1.5
<b>Video</b>		
Analog to Digital Converter	N/A	N/A

DCR-HC46	DCR-HC96	DCR-VX2100
1/5.5"; 1070K Gross Pixels CCD	1/3"; 3310K Gross Pixels CCD	3 1/3" 380K Pixel Advanced HAT™ CCD
1000K Pixels	3000K Pixels	340K Pixels
Color, 123K Pixels	Color, 123K Pixels	Precision Color 180K
1070K	3310K	380k
SP: 60 min., LP: 90 min.	SP: 60 min., LP: 90 min.	SP: 60 min; LP: 90 min
690K	2048K	340k
Carl Zeiss® Vario-Tessar®	Carl Zeiss® Vario-Sonnar® T*	Sony Glass
1MP	3MP	530 lines
12X	10X	10x
800X	120X	48x
2.7"(123K) Pixels Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display	2.7"(123K) Pixels Wide (16:9) Touch Panel SwivelScreen™ Hybrid LCD Display	2.5"(111K) Pixels Wide SwivelScreen™ LCD Display
Yes (Handycam® Station)	Yes (Handycam® Station)	N/A
Yes (Built-in)	Yes (Built-in)	Yes (Built-in)
Yes (1.1 compliant on Handycam® Station)	Yes (1.1 compliant on Handycam® Station)	N/A
N/A	Yes (Stereo Mini)	Yes
N/A	Yes (Multi A/V)	Yes (Multi A/V)
Yes (Multi A/V)	Yes (Multi A/V)	Yes (Multi A/V)
Yes (via i.LINK®)	Yes (via i.LINK®)	Yes (via i.LINK®)
Yes (via i.LINK®)	Yes (via i.LINK®)	Yes (via i.LINK®)
N/A	N/A	Yes
N/A	Yes (thru Active Interface Shoe)	Yes
N/A	N/A	Yes
N/A	N/A	N/A
N/A	Yes	Yes
Yes	Yes	Yes
Yes ( Super; Electronic)	Yes ( Super; Electronic)	Yes ( Super; Electronic)
N/A	Yes, Active Interface Shoe	Yes; Intelligent
7 Lux (0 Lux with Super NightShot® Plus Infrared System)	5 Lux (0 Lux with Super NightShot® Infrared System)	1 Lux
Super NightShot® Plus	Super NightShot®	N/A
N/A	Yes	N/A
Yes	Yes	N/A
15 oz (445g) with Tape and Battery	1 lb. 2 oz. (525g) with Tape and Battery	
2 5/8"; x 3 1/8"; x 4 1/2"; (65 x 79 x 113mm)	2 7/8 x 3 5/8 x 4 3/4"; (72 x 91 x 120mm)	4 3/4" x 6 3/8" x 15 1/2"; (120 x 159 x 393mm)
Picture Package™ ver. 1.5	Picture Package™ ver. 1.5	N/A
N/A	Yes	Yes

# digital8



DCR-TRV280  
SEE PAGE 86

## SONY®

Full digital video recording has never been more affordable than right now and Sony's Digital8® Handycam® Camcorders will get you there easily. High quality digital video, CD quality audio and professional level features make going digital the logical option.

### Digital 8



Digital8 represents the logical evolution of 8mm video. Digital8 Handycam camcorders combine a mechanism based on 8mm camcorders with the digital encoding/decoding electronics of MiniDV camcorders. The result is spectacular digital images and digital sound! Digital8 camcorders encompass features that ensure superb digital video recording:



- ◆ **Studio-Quality Digital Pictures.** By taking advantage of the same data encoding system as DV, Digital8 recording can capture pictures of spectacular quality. The Digital8 system captures three times as much color information as VHS, up to 500 lines of resolution, so what you see is brighter, richer, more vibrant color that previous systems just couldn't record! The Digital8 video system looks less like home video and more like what you get from a broadcast television studio.



- ◆ **CD Quality Digital Sound.** Digital8 recording offers the same 16-bit PCM stereo sound quality as the Compact Disc. Enjoy broad dynamic range and full frequency response. You can record in 16-bit mode with one pair of CD-quality stereo tracks—or 12-bit mode with two sets of tracks for adding music or narration when connecting to a compatible DV camcorder or deck.
- ◆ **i.LINK® Connectivity and Digital Editing.** The i.LINK® (IEEE1394 DV input/output) connector and PC editing software are now featured in millions of home PCs, which means you can shoot, connect, enhance, edit and then copy the results back to tape to share with family and friends! And because it's digital, you can get near perfect copying without the "generation loss" that visibly degrades the image as with analog tapes.



### Picture Package™ Software

Newly developed, easy to use supplied Picture Package software lets the user create music videos and custom slide shows with audio tracks, create a Video CD, store images on a CD-R, and organize their still images and video onto their computer.

### Digital Still Camera Function

Now you can have the best of both worlds a camera and a camcorder all in one! The Sony Digital8 camcorder is capable of capturing still images using the Photo Mode. Photo Mode found on the DCR-TRV280 saves your photos directly to the videotape.

### NightShot® Plus Infrared System

Capture video in total darkness on the DCR-TRV280. By using the built in infrared system, video with color can be captured up to 10 feet away for shooting in no light situations.

### USB Streaming

Sony was among the first manufacturers to introduce USB Streaming available on camcorders, and this popular feature continues into 2006. USB Streaming allow the camcorder to operate as a webcam or video conferencing tool enabling communication among family and friends, around the world, via the Internet. And because this feature is built right into the camcorder you can also share pre-recorded video! This year USB Streaming has been improved offering a higher quality picture at up to 30 frames per second using a high speed Internet connection (Compatible ISP required).



Stepping into the digital age has never been easier with the DCR-TRV280. Featuring digital recording along with SteadyShot® Image Stabilization and NightShot® Plus Technology.

## features

### Digital8 Recording

The Digital8 recording format delivers 3X the color bandwidth of VHS with significantly less video noise providing stunning video performance. Digital8 records digital audio and video comparable to MiniDV on affordable Hi8 tapes.

### 1/6" CCD Imager, 460K Pixels Gross

1/6" CCD Imager with 290K (effective) pixels provides great detail and clarity along with outstanding digital video performance.

### 20X Optical/990X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### SteadyShot® Picture Stabilization System

Picture stabilization system that uses motion sensors to detect and compensate for camera "shake" without compromising picture quality like some other digital stabilization systems.

### 2.5" SwivelScreen™ LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback.

### i.LINK®<sup>1</sup> DV Interface

A digital high-speed bi-directional interface which provides Audio/Video communication between two compatible devices. This connection allows for pure digital transfer between devices equipped with an IEEE1394 interface, such as camcorders, digital VTRs, capture cards and PCs.

### InfoLithium® Battery with AccuPower™ Meter System<sup>2</sup>

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subjected to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### Multi-Language Menu

Change the menu display from English to English (Simplified), Canadian French, Latin American, Spanish, Brazilian Portuguese, Korean or Traditional Chinese.

### Easy Dubbing

Connect the Handycam camcorder to a VCR to effortlessly make VHS copies of your home videos. The camcorder can control up to 59 brands of VCRs.

### NightShot® Plus Infrared System

With Sony's NightShot Plus Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 10 feet away using the built-in infrared system, but without the overall monochrome color common with earlier low-light recording systems.

### Stamina® Battery Power Management System<sup>3</sup>

Using the optional NP-QM91D InfoLithium® Battery, the DCR-TRV280 can continuously record for up to 12 hours on a single full charge (with LCD screen off), providing extra long battery life.

### Program AE (Auto Exposure) Modes

Program AE modes make recording easy even when filming in challenging situations. Choose from Portrait, Beach & Ski, Sports Lesson, Landscape, Spotlight or Sunset & Moon modes.

### End Search

Automatically advances the video tape to the last 5 seconds of the recorded scene. This prevents accidentally recording over previously recorded videos.

### Titling

Add professional looking titles to your video. Select from 8 presets, or customize 2 titles with up to 22 characters.

### Photo Mode

Using Sony's Adaptive Frame Interpolation for better image quality, you can store hundreds of individual still images with 7 seconds of audio on the videotape.

### Built-In White LED Light

Brighten your video, and reduce shadows when shooting in low-light situations. The LED light uses considerably less power than bulb-based light systems, with the same light output.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the dial. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### Easy Handycam Button

Using a camcorder can be intimidating for some people, so with a press of the Easy Handycam button, most of the advanced features of the camcorder are "locked out" leaving only the buttons essential for recording operational.

### Additional Features

- Picture Effects
- Fader Effects
- Battery Information
- USB Streaming



## specifications

**Imaging Device:** 1/6" 460K Gross Pixel CCD  
**Video Actual:** 290K Pixels  
**Still Actual:** N/A  
**F:** 1.6 – 2.4  
**Focal Distance:** 2.5 – 50mm  
**35mm Conversion:** 42 – 840mm  
**Filter Diameter:** 37mm  
**Optical Zoom:** 20X  
**Digital Zoom:** 990X  
**Focusing:** Full Range Auto/Manual (Dial)  
**SteadyShot® Image Stabilization:** Yes  
**Minimum Illumination:** 4 Lux (0 Lux with NightShot Infrared System)  
**NightShot® Infrared System:** NightShot Plus  
**Shutter Speed:** 1/60 – 1/4000 (AE Mode)  
**Viewfinder:** Black and White, 90K Pixels  
**LCD:** 2.5" Color (123K)  
**Accessory Shoe:** N/A

**Analog Video Input/Output:** No/Yes (Mini)  
**Analog Audio Input/Output:** No/Yes (Stereo, Mini)  
**Digital Video Input/Output(s):** Yes (via i.LINK®)<sup>1</sup>  
**Digital Audio Input/Output(s):** Yes (via i.LINK®)<sup>1</sup>  
**USB:** Yes  
**USB Streaming:** Yes  
**LANC (Accessory) Terminal:** N/A  
**Operating System Compatibility:** Microsoft®  
 Windows® 2000 Professional, XP Home, XP Professional  
**Headphone Jack:** N/A  
**Mic. Input:** N/A  
**White Balance:** Auto  
**Exposure:** Yes, Dial (24 Steps)  
**Power Consumption (VF/LCD/VF+LCD):**  
 2.5W/3.4W/3.6W  
**Measurements:** 3 3/8"x3 7/8"x6" (85x98x151mm)  
**Weight:** 1 lb. 11 oz (780g) w/out Tape and Battery

## supplied accessories

AC-L15 Power Adapter/ In-Camera Charger  
 NP-FM30 InfoLithium® Rechargeable Battery  
 AV Cable  
 USB Cable  
 Lens Cap  
 Shoulder Strap  
 CD-ROM with USB Driver  
 (PicturePackage™ Software Ver. 1.5 for Sony)

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

AC-SQ950D Quick Charger for Super Quick Batteries  
 AC-VQ850D AC/DC Adapter Quick Charger  
 DC-VM50 Portable AC Charger  
 DCC-L50 Car Battery Adapter Cable  
 NP-FM50/QM71D/FM91/QM91D High Capacity InfoLithium® Batteries  
 LCS-VA2 Carrying Case, LCS-VA1 Carrying Case  
 ACC-KITFM50 Handycam Camcorder Starter Kit  
 VCL-0637H Wide Angle Lens  
 VCL-HG0737X High-Grade Wide Angle Lens  
 VCL-ES06A Wide Angle Lens, VCL-ES20A Telephoto Lens  
 VCL-R2037X High Grade Telephoto Lens  
 VFR-37K Neutral Density Filter Set  
 VF-37PK Polarizing Filter Kit  
 VCT-R610 Lightweight Tripod  
 VCT-TK1 Pocket Tripod

### Battery Life<sup>3</sup>

Battery <sup>3</sup> (fully Charged)	Continuous Record Time VF/LCD/VF+LCD	Continuous Playback TimeLCD On/Off
NP-FM30	125/90/80 min	100/150 min
NP-FM50	200/145/135 min	160/240 min
NP-QM71D	485/355/335 min	390/580 min
NP-FM91/QM91D	725/535/505 min	585/865 min

<sup>1</sup> i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.

<sup>2</sup> Designed for use with compatible Sony InfoLithium® batteries.

<sup>3</sup> Battery life may vary depending upon usage patterns.

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Features and specifications subject to change without notice. Non-metric weights and measures are approximate.

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## DCR-TRV280

**General**

Imaging Device	1/6" 460K gross pixel CCD
Still Actual	N/A
Viewfinder	Black and white, 90K pixels
Pixel Gross	460K, 1/6"
Recording and Playback Times	60 min SP; 90 min LP
Video Actual	290K pixels

**Optics**

Lens Type	Glass
Resolution	N/A
Optical Zoom	20x
Digital Zoom	990x

**Hardware**

LCD	2.5" (123K)
Docking Station	N/A
Microphone	N/A

**Input/Output**

LANC Terminal	Yes
Analog Audio/Video Input(s)	N/A
Analog Audio/Video Output(s)	Yes (Stereo Mini)
Digital Audio/Video Input(s)	Yes (via i.LINK®)
Digital Audio/Video Output(s)	Yes (via i.LINK®)
Headphone Input(s)	N/A
Microphone Input	N/A
Headphone Jack	N/A
Remote Jack	N/A
S-Video Input(s)	N/A
USB Terminal	Yes (ver 1.1)

**Convenience**

USB Streaming	Yes
SteadyShot® Image Stabilization	Yes
Accessory Shoe	N/A
Minimum Illumination	4 lux (0 lux with Nightshot Plus System)
Low Light Capability	Nightshot Plus
Light/Flash	Built-in video light
PictBridge™ Compatibility	N/A

**Video**

Analog-to-Digital Converter	N/A
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**Dimensions**

Weight	1lb 11oz (780g) (w/o tape and battery)
Measurements	3 3/8" x 3 7/8" x 6" (WxHxD)

**Software**

Supplied Software	PicturePackage™ Software ver. 1.5
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THE ULTIMATE TRAINING SITE FOR RETAIL PROFESSIONALS

hi8



CCD-TRV138  
SEE PAGE 92

## SONY®

From the beginning, nothing else delivered the picture quality, the compact size and the ease of use. And Sony ought to know because they have been the leader in 8mm camcorders. To this day, Sony Hi8 Handycam camcorders deliver tremendous features and benefits at very competitive prices.

### Hi8



#### Great 8

To a generation familiar with VHS, the advantages of 8mm recording were apparent right from the start. These benefits continue to define Hi8 Handycam camcorders today—and continue to attract large numbers of satisfied customers.

- ♦ **Superb Picture Quality.** Thanks to the format's technical superiority, Hi8 recording captures a visibly more detailed and realistic picture than VHS. The Hi8 system achieves up to 400 lines of resolution—compared to 240 lines for standard VHS and VHS-C.
- ♦ **Smaller Size.** The Hi8 system uses Metal tape that packs about four times the magnetic energy of the oxide tape used for VHS. As a result, Hi8 recording can store more information on a smaller cassette. And smaller cassettes mean smaller camcorders—a benefit that's apparent to anyone who has had to carry a camcorder around all day.
- ♦ **Superb Sound.** Conventional VHS uses “linear” recording that's comparable in quality to AM radio. The Hi8 system uses high fidelity Audio Frequency Modulation (AFM) that approaches the quality of Compact Disc!
- ♦ **Better Protection for your Memories.** As one more benefit, the Hi8 cassette shell incorporates a special cover that protects the tape when it's outside the camcorder. So there's no chance that the tape will unspool from the cassette and no chance for fingerprint damage. Even dust contamination is reduced to a bare minimum. Compared to VHS and VHSC, your customers' memories are not only clearer, they're safer.
- ♦ **NightShot® Infrared System.** With Sony's NightShot Infrared System you can capture video even when shooting in total darkness (0 lux) up to 10 feet away using the built-in infrared system.
- ♦ **InfoLithium® Battery with AccuPower™ Meter System.** Charge the battery at any time thanks to Sony's rechargeable Lithium-Ion batteries. These batteries are not subjected to a life shortening “memory effect”. You can recharge the battery after a few minutes of use! The AccuPower Meter System displays the battery time remaining in minutes in the viewfinder or the LCD Screen so you are never caught short.
- ♦ **Stamina® Power Management System.** With the optional NP-QM91D battery enjoy up to 15 hours of battery life\*. Never again will you see the “out of battery” indicator flashing!

#### Battery Information

Never be left wondering about your batteries charge again. Battery information is displayed on either the LCD Screen or viewfinder when charging and when the camera is turned off. The display will show how much the battery is charged in 10% increments and the recordable time left using either the LCD screen or the viewfinder.

Sony's Hi8™ Handycam® Camcorders feature everything the budding videographer needs for exceptional analog video performance. The 2.5" LCD Screen is perfect for framing the action and NightShot Infrared System lets you capture the action in low light or even total darkness. Getting creative has never been easier with the Manual Focus function, which allows you to determine the focus of the camera. This is especially important in difficult shooting situations where the auto-focus does not perform at an optimal level. Even as the digital revolution continues, Hi8™ Handycam® Camcorders still have an important place in Sony's lineup.

Customers looking for camcorders that offer high-end performance with tremendous features and benefits will enjoy Sony's Hi8™ Handycam® Camcorders. Their ease of use, compact size and affordable price points are features that customers have come to expect and appreciate.

\* Actual battery life may vary upon usage patterns.



The CCD-TRV138 provides high quality video and audio recording. It includes NightShot® Plus INFRARED Recording for capturing video in No Light (0 Lux) and provides a Built-In Light LED for capturing video in vivid color while in difficult lighting situations.

## features

### Video Hi8™ Recording

Records outstanding video quality up to 400 lines of horizontal resolution with Hi-Fi sound on affordable 8mm and Hi8 tapes.

### 1/6" CCD Imager, 320K Pixels Gross

1/6" CCD Imager with 200K (effective) pixels provides great detail and clarity along with exceptional analog video performance.

### 20X Optical/990X Digital Zoom

The optical zoom helps to bring the action close up from far away. In addition the Digital Zoom Interpolation means that extreme digital zooming is clearer, with less distortion than previous types of digital zooms.

### 2.5" SwivelScreen™ LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The high resolution 123K pixel LCD screen rotates up to 270 degrees for multiple viewing angles providing sharp, detailed images for monitoring or playback.

### InfoLithium® Battery with AccuPower™ Meter System<sup>1</sup>

Charge the battery at anytime because unlike NiCad (Nickel Cadmium) batteries, Sony's rechargeable Lithium Ion batteries are not subjected to a life shortening "memory effect". Sony's exclusive AccuPower™ meter displays the approximate battery time remaining in minutes, in either the viewfinder or on the LCD screen.

### Multi-Language Menu

Change the menu display from English to English (Simplified), Canadian French, Latin American Spanish, Brazilian Portuguese, Korean or Traditional Chinese.

### Easy Dubbing

Connect the Handycam camcorder to a VCR to effortlessly make VHS copies of your home videos. The camcorder can control up to 59 brands of VCRs.

### NightShot® Plus Infrared System

With Sony's NightShot Infrared System you can capture natural looking video, even when shooting in low light. Record subjects up to 10 feet away using the built-in infrared system, without the monochrome color common with earlier low-light recording systems.

### Stamina® Battery Power Management System<sup>2</sup>

Using the optional NP-QM91D InfoLithium® Battery, the CCD-TRV138 can continuously record for up to 16 hours on a single full charge (with LCD screen off), providing extra long battery life.

### Program AE (Auto Exposure) Modes

Program AE modes make recording easy even when filming in challenging situations. Choose from Portrait, Beach & Ski, Sports Lesson, Landscape, Spotlight or Sunset & Moon modes.

### Picture Effects

Get creative when recording or playing back your videos with Sony's Picture Effect Modes. Effects available in Camera mode: Negative Art, Sepia, Monotone, Solarize, Slim, Stretch, Pastel and Mosaic.

### End Search

Automatically advances the video tape to the last 5 seconds of the recorded scene. This prevents accidentally recording over previously recorded videos.

### Titling

Add professional looking titles to your video. Select from 8 presets, or customize 2 titles with up to 22 characters.

### Battery Information

At the touch of a button, battery information is displayed on the LCD screen when charging and when the camcorder is turned off. The display will show how much the battery is charged, in 10% increments and the recordable time left when using the LCD screen or in the viewfinder.

### Built-In White LED Light

Brighten your video, and reduce shadows when shooting in low-light situations. The LED light uses considerably less power than bulb-based light systems, with the same light output.

### Manual Focus

Allows the user to manually adjust the focus of the camcorder using the dial. Manual focusing also allows the user to control the focus in difficult situations where either the environment or the subject does not allow the camcorder's auto focus to perform optimally, such as when shooting through a window or in a crowded environment.

### Easy Handycam Button

Using a camcorder can be intimidating for some people, so with a press of the Easy Handycam button, most of the advanced features of the camcorder are "locked out" leaving only the buttons essential for recording operational.

### Fader Effects

Enhance your personal videos by adding professional looking fader effects. Choose from Black, Mosaic, White, Monotone and Stripe.



## specifications

**Imaging Device:** 1/6" 320K Gross Pixel CCD

**Video Actual:** 200K Pixels

**Still Actual:** N/A

**F:** 1.6 – 2.4

**Focal Distance:** 2.5 – 50mm

**35mm Conversion:** 42 – 840mm

**Filter Diameter:** 37mm

**Optical Zoom:** 20X

**Digital Zoom:** 990X

**Focusing:** Full Range Auto/Manual (Dial)

**SteadyShot® Image Stabilization:** N/A

**Minimum Illumination:** 1 Lux (0 Lux with NightShot Infrared System)

**NightShot® Infrared System:** NightShot Plus

**Shutter Speed:** 1/60 – 1/4000 (AE Mode)

**Viewfinder:** Black and White, 90K Pixels

**LCD:** 2.5" Color (123K)

**Accessory Shoe:** N/A

**Analog Video Input/Output:** No/Yes (Mini)

**Analog Audio Input/Output:** No/Yes (Mono, Mini)

**USB:** N/A

**USB Streaming:** N/A

**Headphone Jack:** N/A

**Mic. Input:** N/A

**White Balance:** Auto

**Exposure:** Yes, Dial (24 Steps)

**Power Consumption (VF/LCD/VF+LCD):**

1.8W/2.7W/2.9W

**Measurements:** 3 3/8"x3 7/8"x6" (85x98x151mm)

**Weight:** 1 lb. 11 oz (780g) w/out Tape and Battery

## supplied accessories

AC-L15 Power Adapter/ In-Camera Charger  
NP-FM30 InfoLithium® Rechargeable Battery  
AV Cable  
Lens Cap  
Shoulder Strap

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

AC-SQ950D Quick Charger for Super Quick Batteries  
AC-VQ850D AC/DC Adapter Quick Charger  
DC-VM50 Portable AC Charger  
DCC-L50 Car Battery Adapter Cable  
NP-FM50/QM71D/FM91/QM91D High Capacity InfoLithium® Batteries  
LCS-VA2 Carrying Case  
LCS-VA1 Carrying Case  
ACC-KITFM50 Handycam Camcorder Starter Kit  
VCL-0637H Wide Angle Lens  
VCL-HG0737X High-Grade Wide Angle Lens  
VCL-ES06A Wide Angle Lens  
VCL-ES20A Telephoto Lens  
VCL-R2037X High Grade Telephoto Lens  
VFR-37K Neutral Density Filter Set  
VF-37PK Polarizing Filter Kit  
VCT-R610 Lightweight Tripod  
V-TK1 Pocket Tripod

### Battery Life<sup>1</sup>

Battery <sup>1</sup> (fully Charged)	Continuous Record Time VF/LCD/VF+LCD	Continuous Playback Time LCD On/Off
NP-FM30	175/115/105 min	115/185 min
NP-FM50	280/185/170 min	185/295 min
NP-QM71D	675/445/415 min	445/715 min
NP-QM91D	1010/670/625 min	670/1070 min

<sup>1</sup> Designed for use with compatible Sony InfoLithium® batteries.

<sup>2</sup> Battery life may vary based on usage conditions.

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**CCD-TRV138**

**General**

Imaging Device	1/6" 320K gross pixel CCD
Still Actual	N/A
Viewfinder	B&W
Pixel Gross	320K, 1/6"
Recording and Playback Times	60 min SP; 90 min LP
Video Actual	200K pixels

**Optics**

Lens Type	Glass
Resolution	N/A
Optical Zoom	20x
Digital Zoom	990x

**Hardware**

LCD	2.5" (123K)
Docking Station	N/A
Microphone	N/A

**Input/Output**

LANC Terminal	N/A
Analog Audio/Video Input(s)	N/A
Analog Audio/Video Output(s)	Yes (Stereo Mini)
Digital Audio/Video Input(s)	N/A
Digital Audio/Video Output(s)	N/A
Headphone Input(s)	N/A
Microphone Input	N/A
Headphone Jack	N/A
Remote Jack	N/A
S-Video Input(s)	N/A
USB Terminal	N/A

**Convenience**

USB Streaming	N/A
SteadyShot® Image Stabilization	N/A
Accessory Shoe	N/A
Minimum Illumination	1 lux (0 lux with NightShot Plus System)
Low Light Capability	NightShot Plus
Light/Flash	Built-in video light
PictBridge™ Compatibility	N/A

**Video**

Analog-to-Digital Converter	N/A
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**Dimensions**

Weight	1lb 11oz (780g) (w/o tape and battery)
Measurements	3 3/8" x 3 7/8" x 6" (WxHxD)

**Software**

Supplied Software	N/A
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# video walkman



**GV-D1000**  
SEE PAGE 98

## GV-D800/D-200 Digital8® Video Walkman™ VCR

The portable GV-D800 provides a large 4" Color LCD Screen, to edit and record your Digital videos. Backward compatibility with previously recorded Hi8™ or 8mm videos makes the GV-D800 the perfect accessory for any of Sony's Digital8® Handycam® Camcorders. The GV-D200 provides all the great features of the GV-D800 without the LCD screen and stereo speakers.



GV-D800

## features



### Digital8® Recording and Playback

Records outstanding digital picture and sound on affordable Hi8™ and 8mm tapes. Offers up to 520 lines of resolution with three times the color bandwidth of VHS and significantly lower video noise.



### Hi8™/8mm Playback

Video Walkman™ VCRs can playback previously recorded material from Hi8™ or 8mm video-tapes in either SP or LP modes.

### Analog-to-Digital Conversion with Pass-Through

Convert your analog tapes to digital via real-time analog to digital conversion using the i.LINK® (IEEE1394) connection. It allows you to pass-through an analog signal to a PC for editing, without first recording it digitally.

### PCM stereo digital audio:

16-bit recording capability offers the same, outstanding sound quality as Compact Disc. 12 bit recording enables you to transfer the recorded signal via i.LINK® to a compatible DV device so that stereo music or narration can be added without disturbing the original soundtracks.

### Built-in assemble editing (20 segments):

Allows user to connect the deck via an i.LINK® or infra-red interface to any other i.LINK® or infra-red device and select up to twenty different scenes from a video and then have the deck automatically assemble those scenes together.

### i.LINK® (IEEE 1394) DV Input/Output

Provides bi-directional digital communication that carries digital audio, digital video and control signals to other i.LINK® equipped video devices and a growing range of compatible PCs for dubbing and non-linear editing.

### 4" Color Active Matrix LCD Screen and Built-in Stereo Speakers

Provides on the spot high quality viewing of your videos. (GV-D800 only)

### AC Powered with Supplied Adapter/DC Powered or Optional InfoLithium® Battery

Supplied AC-L10 adapter allows you to plug in your Video Walkman™ VCR into any standard AC outlet. By adding an optional InfoLithium® battery (NP-F570, NP-F770 or NP-F970) you can enjoy using your Video Walkman™ VCR in portable applications such as playback and editing.

### Crystal Clear Still/Slow Motion and Frameby-Frame Advance

Digital video recording allows crystal clear still/slow motion and frame-by-frame advance capabilities.

### Playback PAL Recorded Digital8® Tapes

Provides the ability to playback PAL system recorded Digital8® cassettes on the LCD screen. (GV-D800 only)

### 2X Playback and 2X Playback Zoom

Allows for 2X playback in forward and reverse. 2X Playback zoom allows you to zoom into a selected area of the video during playback of a Digital8® tape.

### Digital Noise Reduction

Reduces chrominance (color) noise up to 20% when recording.

### Time Base Correction (TBC)

Corrects timing errors, which eliminate the jitters commonly found in home video.



GV-D200

## specifications

**Recording Format:** Digital8® only  
**Playback Formats:** Digital8®, Hi8™ & 8mm  
**Video Signal:** NTSC Standard  
**Recording and Playback Speeds:** SP/LP  
**Playback Time:** 13 Hours Max, LCD and Laserlink® off  
 (Using optional NP-F970 InfoLithium® battery)  
**Assemble Edit:** 20 Segments  
**Audio Recording System:** 12/16-bit PCM digital stereo recording  
**Built-in Stereo Speakers:** Yes  
**Display:** 4-inch 123K Pixel Active Matrix LCD Display  
**Video Input/Output:** One Composite, One S-Video  
**Audio Input/Output:** One set of Composite (Left & Right)

**Digital I/O:** i.LINK® (IEEE1394)<sup>1</sup> DV Interface  
**Control L:** Stereo Mini-Mini Jack  
**Headphone Jack:** Stereo Mini Jack  
**RF Connection:** Yes  
**Measurements:** 5 7/8" x 2 5/8" x 5 3/8"  
**Weight:** 2 lbs 10z

## gv-d200

All the great features of the GV-D800 without the LCD screen and stereo speakers. The GV-D200 makes a great side-by-side editing companion to the GV-D800 or most camcorders with video inputs and remote control capabilities.

## supplied accessories

AC Adapter (AC-L10)  
 Standard phono AV Cable  
 Special AV-Mini to Phono Cable

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

NP-F570/770/970 Battery

	GV-D200	GV-D800
Recording Format	Digital8	Digital8
Playback Format	8mm, Hi8, Digital8	8mm, Hi8, Digital8
PAL Playback	No	Yes
A/D Conversion	Yes	Yes
Digital Program Editing	Yes	Yes
Super LaserLink	Yes	Yes
Color LCD	No	4" Color Active Matrix
Built-In Speakers	No	Yes
Playback Zoom	Yes	Yes
i.LINK DV Input/Output	Yes	Yes
S-Video Input/Output	Yes	Yes
Composite Input/Output	Yes	Yes
TGV-100 Compatible*	No	Yes
AC Power	Yes	Yes
DC Power*	NP-F330/F570, NP-F770/F970	NP-F330/F570, NP-F770/F970
Weight	1 lb 7oz	2 lbs 1 oz
*Optional Accessories		

## Power Consumption

D8 Rec/LCD on	5.4W	D8 Play/LCD off 3.0W
D8 Rec/LCD off	3.5W	Hi8 Play/LCD on 5.6W
D8 Play/LCD on	4.9W	Hi8 Play/LCD off 3.7W

<sup>1</sup> i.LINK® is a trademark of Sony used only to designate that a product contains an IEEE 1394 connector. All products with an i.LINK® connector may not communicate with each other. Reproduction in whole or in part without written permission is prohibited. All rights reserved. Sony, Digital8, Hi8, InfoLithium, i.LINK, LaserLink and Video Walkman are trademarks of Sony. All other trademarks are property of their respective owners. Features and specifications subject to change without notice. Non-metric weights and measures are approximate. Screen images simulated.  
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The portable GV-D1000 allows you to view, edit and record video and still images. The USB Streaming feature lets you stay in touch with family and friends by sending pre-recorded video with audio across the internet. The Memory Stick® media slot allows you to capture still images or MPEG movies directly from the cassette and/or play them back on the large 4.0" LCD Screen.

## features



### MiniDV Format

MiniDV recording format delivers 3X the color bandwidth of VHS with significantly less video noise ratio compared to analog formats and providing stunning video performance.



### 4" LCD Display (123K Pixels)

Provides excellent viewing clarity with improved resolution. The 123K pixel LCD rotates for multiple viewing angles providing sharp detailed images for monitoring or playback.

### Digital Still Memory Mode with Memory Stick® Media

Capture digital still images at 640x480 resolution from videotapes, analog inputs or digital video i.LINK®\* input, directly onto Memory Stick media. The images can be easily transferred to PCs for emailing, printing or sharing with other compatible Memory Stick devices.

### MPEG Movie Mode

Capture MPEG1 compressed video with audio directly to Memory Stick media. Shoot an MPEG1 Movie "on location" or select up to 60 seconds from your recorded videotapes. The Video Email mail mode, 160x112, is an ideal resolution for sharing videos via the Internet. Use the Presentation Mode, 320x240, to increase the resolution for greater detail.

### USB Streaming

Stay connected with family and friends by broadcasting prerecorded videos with audio, via the Internet with the USB interface. It's like having your own video conferencing system.

### Playback Zoom

Manipulates the picture inside the Video Walkman™ VCR. While playing back your images on the Video Walkman™ VCR, it allows you to edit your images by zooming in (up to 2 times) and cropping your picture (up, down, left, right). You can save the new image as a separate file. Resize lets you save a copy of an image to a smaller or larger file size.

### Analog Input/Output Capability

Utilizing standard composite video inputs allows the capability to record previous recorded video on a smaller more compact MiniDV tape. Utilizing the higher quality S-Video cable reduces "Dot Crawl" which is commonly seen as distortion around the edge of the recorded video signal, normally found from analog sources.

### Analog-to-Digital Conversion with Pass-Through

Convert and/or record any analog NTSC video source to digital video via the analog inputs. Analog NTSC video can also be passed-through the digital Handycam® camcorder directly into a PC via the i.LINK®\* interface in real time for easy PC editing of your analog footage.

### 12-Bit/16-Bit PCM Digital Stereo

16-bit recording offers the same, outstanding sound quality as Compact Disc. 12-bit recording enables you to add an additional audio track with compatible audio dubbing equipment or i.LINK®\* interface/connector compatible computers.

### SP and LP Record/Playback

Standard Play offers up to 60 minutes of digital recording, or Long Play for up to 90 minutes, on one MiniDV cassette.

### Digital Program Editing

Allows you to select a sequence of 20 scenes and then control dubbing via i.LINK®\* to another i.LINK®\* camcorder, via infrared remote to an analog VCR. Controls both Sony and other brand camcorders and VCRs.

### i.LINK®\* DV Interface (IEEE1394)

A high speed bi-directional digital video/audio communication between two compatible devices equipped with an IEEE1394 interface, including camcorders, digital VTRs, capture cards and PCs.

### Print Mark

Pre-select your digital still images (in the camcorder) for printing, and connect with a DPOF (Digital Print Order Format) compatible printer for hassle free printing. Because your images are already selected, your printing experience will be fast and enjoyable.

### Crystal Clear Still/ Slow Motion Playback

Digital video provides noise free playback in slow motion and in the pause mode for detailed playback.

### Index Titler

Add titles to your videos. Allows an updateable title to be stored on a DV cassette IC chip and accessed using the GV-D1000 data code.

### Cassette Memory

Compatible with the MiniDV tapes with a built-in 4K Integrated Circuit Memory Chip. The Memory Chip provides the ability to read and write data that can be used to access index points, Photo ID points, Title for the scene or Title for the entire tape.

### InfoLithium® M Series Battery with AccuPower Meter System (Optional)

Charge the battery at any time because unlike NiCad (Nickel Cadmium) batteries Sony's rechargeable Lithium-Ion batteries are not subjected to a life shortening "memory effect."

### Drop Frame Time Code

Assigns each video frame a sequential code number providing frame accurate editing for each of the 29.97 frames contained in 1 second of DV video.

## specifications

**Format:** Digital Video (MiniDV) Standard  
**Video Signal:** NTSC Standard  
**Video Resolution:** Up to 530 Horizontal Lines of Resolution  
**Sampling Frequency:** 13.5 MHz  
**Video Rec. System:** Helical Scan  
**Audio Record System:** Helical Scan 12/16-bit PCM  
**Video Input/Output:** Mini Jack (Input), Composite (Output)  
**S-Video Input/Output:** Yes/Yes  
**Audio Input/Output:** Mini Jack (Input), Composite (Output)  
**i.LINK® DV Interface (IEEE1394)\*:** In/Out (4 pin)  
**USB Terminal:** Yes  
**USB Streaming:** Yes, Playback Only  
**Headphone Jack:** Stereo (Mini)

**Control L (LANC) Terminal:** Stereo (Mini)  
**Power Consumption:** 7.2V; Record: 5.0 W (LCD on), 3.3 W (LCD off)  
**Playback:** 5.2 W (LCD on), 3.5 W (LCD off)  
**Measurements:** 5 7/8" x 2 5/8" x 3/8"  
**Weight:** 2 lbs  
**Software OS Compatibility:** Microsoft® Windows® 98SE, ME, 2000, XP; Macintosh® 8.5.1, 8.6, 9.0, 9.1, 10.0, 10.1\*\*

## supplied accessories

AC-L10 Power Adapter  
 AV Cables  
 RMT-811 Remote Commander® Remote  
 2 AA Batteries  
 CD-ROM Drivers (Pixela ImageMixer™ 1.0)  
 USB Cable

## service and warranty

**Limited warranty:** 1 year parts, 90 days labor

## optional accessories

VMC-IL4415 i.LINK® DV Interface Cable  
 VMC-IL4435 DV Interface Cable (3.5 Meter)  
 NP-FM30/50/70/91 InfoLithium® Batteries  
 NP-QM71/91 SuperQuick Battery  
 AC-SQ950D AC Quick Charger for SuperQuick Batteries  
 MSA-16A/32A/64A/128A Memory Stick® Media

### Battery Life<sup>3</sup>

Battery <sup>3</sup> (fully Charged)	Continuous Record Time LCD On/Off	Continuous Playback Time LCD On/Off
NP-FM30	55/90 min	55/85 min
NP-FM50	95/150 min	90/140 min
NP-FM70	205/310 min	195/295 min
NP-QM71D	235/265 min	225/340 min
NP-FM91	360/550 min	345/520 min
NP-QM91D	360/550 min	345/520 min

### Memory Mode

Media Stick® Media	Fine	Standard
16MB	160	240
32MB	325	485
64MB	650	980
128MB	1310	1970

### MPEG Movie Mode

Media Stick® Media	Email Mode 160x112	Presentation Mode 320x240
16MB	10min 40sec	2min 40sec
32MB	21min 20sec	5min 20sec
64MB	42min 40sec	10min 40sec
128MB	85min 20sec	21min 20sec

<sup>1</sup> Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions.

<sup>2</sup> Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is: 8\*7.5, 16\*15, 32\*30, 64\*61, 128\*123, 256\*220, 512\*460.

<sup>3</sup> Battery life may vary depending upon usage patterns.

\* i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.

\*\* Not compatible with USB Streaming.

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Screen images simulated.

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### ACC-DVDP2 Accessory Kit

- ◆ New Accessory Kit for all DVD Camcorders
- ◆ Includes NP-FP50, three DVD+RW, DVD Wallet and LCS-DVDP Case
- ◆ A compelling value



### ACC-FP71 Accessory Kit

- ◆ New Accessory Kit for all DVD and MiniDV Camcorders
- ◆ Includes NP-FP71 and LCS-VAC Case
- ◆ Includes BLT-HSB Shoulder Strap



### LCS-VAC Soft Carrying Case

- ◆ New Soft Carrying Case for all DVD and MiniDV Camcorders
- ◆ Stylish, compact, vertical design
- ◆ Rugged construction.
- ◆ Front side pocket for spare battery, tape or other small accessories.



### LCS-VA30 Soft Carrying Case

- ◆ Ideal for storing and carrying camcorder and accessories
- ◆ High grade ballistic style textile construction
- ◆ Compact, easy to carry shoulder bag
- ◆ Front, side and upper mesh pockets for spare battery, chargers, cables and other small accessories



### VCT-D680RM Remote Control Tripod

- ◆ User friendly and durable
- ◆ Includes elevator function, level, and panhandle
- ◆ Digital still camera or camcorder can be controlled with remote control



### VCT-R640 Tripod

- ◆ User friendly standard model
- ◆ Includes the elevator function and level
- ◆ 3Way Panhead function



**NP-FP50/71/90 High Capacity InfoLithium™ Batteries**

- ◆ High Capacity InfoLithium™ Batteries for DVD and MiniDV Camcorders
- ◆ Rechargeable batteries that realize higher capacity



**NP-FM50 InfoLithium™ M Series Battery with Display.**

- ◆ InfoLithium™ M Series Batteries for DCR-TRV138, DCR-TRV280, HDR-HC1
- ◆ Highly efficient, compact and lightweight
- ◆ Accupower enables display in minutes for the remaining battery life
- ◆ Rechargeable



**NP-QM71D/QM91D Super Quick Charge InfoLithium™ M Series Battery with Display.**

- ◆ M Series Batteries for DCR-TRV138, DCR-TRV280, HDR-HC1
- ◆ One-touch display gives you power level information any time, anywhere
- ◆ Charges up to 70% faster when used with AC-SQ950D charger
- ◆ 5.9X more powerful than the supplied battery (NP-FM30)
- ◆ Rechargeable



**BC-TRP Battery Charger**

- ◆ Super compact AC charger for P series batteries
- ◆ Great for travel with retracting AC plug
- ◆ Universal voltage AC100-240V (50/60Hz)



**MSX-M256S, MSX-M512S, MSX-1GS, MSX-2GS Memory Stick PRO Duo™ Media**

- ◆ Memory Stick PRO Duo™ media can store short videos or stills from your Digital Handycam® camcorder for quick transfer to your PC and other compatible equipment.
- ◆ Compatible with standard Memory Stick® media slots using the included adaptor
- ◆ Memory Stick PRO Duo media offer you an expanded operating temperature range
- ◆ Compatible only with DCR-HC36/46/96, DCR-DVD305/405/505 and HDR-HC1



**MSAC-US40 Memory Stick® USB Reader/Writer**

- ◆ Quickly transfer images, sounds, data, and text to your PC
- ◆ Compatible with all Memory Stick Duo™ media
- ◆ USB cable included



### SPK-HCB Sports Pack

- ◆ Waterproof Sports Pack for DVD and MiniDV Camcorders
- ◆ Waterproof protection while shooting video and still images
- ◆ Underwater depth rating of up to 16ft
- ◆ Allows for basic camcorder operation including zoom and record on/off
- ◆ Integrated built-in stereo microphone



### VMC-30FS AV Cables

- ◆ Multi function AV camcorder output terminal to RCA and S-video connectors
- ◆ Long length, (9.5 feet)
- ◆ Gold contacts for high signal integrity
- ◆ Ideal for home theatre environment
- ◆ Compatible with Sony multi AV plug camcorders



### VMC-IL445A i.Link Cable<sup>1</sup>

- ◆ Conforms to i.LINK (IEEE1394 Standard) and provides high speed data transfer (400Mbps)
- ◆ Enables the transmission of picture, sound and various digital signals all via one cable.



### ECM-HGZ1 Gunzoom Microphone

- ◆ Compatible with DCR-DVD305, DCR-DVD405, DCR-DVD505, DCR-HC96, and HDR-HC1
- ◆ Enables synchronization of the sound recorded by the Handycam's internal microphone
- ◆ Automatically synchronized with camcorder zoom
- ◆ Available with three setting positions for use in a variety of video shooting situations
- ◆ Works with Active Interface Shoe
- ◆ Powered by camcorder, needs no separate battery



### ECM-HW1 Wireless Microphone

- ◆ Capture the sounds you've been missing from a distance or in crowds
- ◆ Records in true 5.1 channel center sound with compatible Handycam models DCR-DVD405, DCR-DVD505 and DCR-SR100
- ◆ Working range: approximately 30m (100 feet) depending on obstacles between the Bluetooth device, radio wave conditions, etc.
- ◆ Works with Active Interface Shoe
- ◆ Batteries required for mic (2 x "AAA")



### HVL-HL1 Video Light

- ◆ A compact and lightweight light convenient for shooting videos in dark interiors or when there is a strong backlight
- ◆ Equipped with a position switch for selection or three setting (AUTO, ON or OFF)
- ◆ Automatically switches on when in dark environment
- ◆ Compatible with Active Interface Shoe
- ◆ Powered by camcorder, needs no separate battery

1. i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.



**VCL-0625S Wide Conversion Lens**

- ◆ 0.6X wide conversion lens
- ◆ Fits 25mm diameter lens camcorder
- ◆ Broaden your field of view with this lens



**VCL-0630X Wide Conversion Lens**

- ◆ 0.6X wide conversion lens
- ◆ Fits 30mm diameter lens camcorder
- ◆ Broaden your field of view with this lens



**VCL-HG0730X HG Wide Conversion Lens**

- ◆ Broaden your field of view with these high grade lenses
- ◆ Unmatched ease of use, making them the accessories of choice for reducing distortion and boosting image detail in a wide angle format
- ◆ High grade lenses in aluminum housing for superb durability
- ◆ High grade lenses offer twice the detail at the edge of an image



**VCL-2025S Tele Conversion Lens**

- ◆ 2.0X telephoto converter lens
- ◆ Fits 25mm diameter lens camcorder
- ◆ Helps make distant subjects appear closer



**VCL-2030X Tele Conversion Lens**

- ◆ 2.0X telephoto converter lens
- ◆ Fits 30mm diameter lens camcorder
- ◆ Helps make distant subjects appear closer



**VCL-HG2030 Tele Conversion Lens**

- ◆ Get astounding detail in a telephoto view
- ◆ These high grade lenses deliver twice the edge detail ensuring optimum image quality
- ◆ 2.0X telephoto converter for Sony 30mm diameter lens
- ◆ Helps make distant subjects appear closer
- ◆ High grade lenses in aluminum housing for superb durability



**VF-30CPKXS/25CPKS PL Filter Kits**

- ◆ Circular polarizing filter suppresses unwanted reflections off glass and water
- ◆ Protector filter helps save lens from dust and scratches
- ◆ Hard carrying case for protection
- ◆ Fits 30mm and 25mm diameter lens respectively





## 1.0 Megapixel CCD

1/4.7" CCD with 1,070,000 pixels providing 520 lines of horizontal resolution for stunning detail and clarity, with exceptional video and still image performance. High quality still images are captured at an 1152x864 resolution onto Memory Stick® Media when in Memory Mode.

## 2.0 Megapixel CMOS Sensor

1/3" CCD with 1,910,000 pixels providing 530 lines of horizontal resolution for stunning detail and clarity, with exceptional video and still image performance. Utilizes Sony's exclusive in camera processing to provide images up to 2304x1728 resolution onto Memory Stick® or DVD media when in Memory Mode.

## 3.0 Megapixel CCD

1/3" CCD with 3,040,000 pixels providing 530 lines of horizontal resolution for stunning detail and clarity, with exceptional video and still image performance. High quality still images are captured at a 2016x1512 resolution onto Memory Stick® media when in Memory Mode.

## 2 Position Neutral Density Filter

An electronic filter that helps to maintain highlight detail in bright lighting situations.

## 3 CCD

3 CCDs, produce excellent image quality by separating an image's color information into Red, Green and Blue components. Colors will be more vibrant with minimal color "smear" and "bleed".

## 12-Bit/16-Bit PCM Stereo Audio

16-Bit offers one pair of stereo recording tracks which achieves the same audio quality as CD or DAT. The 12-Bit mode offers the ability to record an additional audio track, at a later time, for adding music or narration to your home videos. (Available on Digital8® and MiniDV models)

## 14-Bit DXP (Digital Extended Processor)

Provides even greater dynamic range, preserving both highlight and shadow detail. With 16,384 levels of brightness, 14-bit DXP provides an increase of 400% over 12-bit systems to improve depth for more realistic digital still images.

## 16:9 Mode

Enables you to record and play back in the wide-screen 16:9 aspect ratio, for compatibility with the new Digital Television (DTV) standard. MiniDV models feature an enhanced 16:9 mode which gives a 30% increase in pixel count, and an increase of 14% in wide angle, allowing for more picture information to be recorded.

## AccuPower™ System

Exclusive Sony system that allows the Lithium-Ion battery to accurately communicate with the camera to indicate the approximate amount of power remaining in minutes, displayed in the viewfinder or on the LCD monitor.

## Active Interface Shoe

An exclusive Sony feature, the Active Interface Shoe not only provides power to any of the Intelligent Accessories, such as the HVL-HFL1, 3-Watt Video Light, or the ECM-HGZ1 Zoom Mic, it also provides synchronized on/off operation and in the case of the Zoom Mic, it actually changes the pick up pattern of the mic to match the zoom lens.

## Advanced HAD™ (Hole Accumulation Diode) CCD Image Sensor

A superior CCD that reduces noise in the video signal to improve signal-to-noise ratio by up to 6 dB (2x better than a standard CCD). This is particularly effective when shooting in dark or low light situations.

## AFM Hi-Fi Mono Sound

Records superior Hi-Fi audio quality using Audio Frequency Modulation (AFM) technology.

## AFM Hi-Fi Stereo Sound

Hi-Fi audio quality using Audio Frequency Modulation (AFM) technology in stereo for greater realism.

## Analog-to-Digital (A/D) Conversion with Pass-Through

Convert and/or record any analog NTSC video source to digital video via the analog inputs. Analog NTSC video can also be passed-through the Digital Handycam® Camcorder directly into a PC via the i.LINK® DV (IEEE1394) interface in real time for easy PC editing of your analog footage.

## Aspherical Lens

Achieves superb clarity, without the geometric distortion commonly noticed with large lenses.

## Audio Dubbing

Found on MiniDV models, this feature permits the recording of an additional 12-bit audio track to the 12-bit audio already recorded on a cassette. This feature is convenient for adding background music or narration to videos.

## Audio/Video Digital Fader

For a more professional look when transitioning between scenes, you can select from the following available modes: fade to black, mosaic, bounce, mono-tone, overlap, wipe, dot or stripe for creative scene transitions. (Not all modes available on all models)

## Auto Exposure

Auto exposure calculates the current shooting condition and adjusts aperture and shutter automatically for correct exposure levels, resulting in a proper balance of light in your video.

## Auto Focus

The camera determines the proper focus of subjects automatically, providing clean, sharp image.

## Battery Info

Pressing the Battery Info button will display the battery status information on the LCD screen or in the viewfinder for approximately 7 seconds. This provides the customer with a more rapid way to gauge battery life than turning on the camcorder and waiting for the InfoLithium® battery information to display.

## Bit Rate

The amount (measured in "bits") of data that flows in a specified period of time. For video recording and playback, which requires a large amount of data, bit rate is expressed in Mbps ("megabits per second"). In general, a higher bit rate results in higher-quality picture and sound. Bit rate can also be constant or variable.

## Built-In Intelligent Flash with Red-Eye Reduction

Found on select Sony Handycam® Camcorders, will greatly improve results when using a flash to capture images. By using a series of pre-flashes, these Digital Handycam camcorders constrict the subject's pupil before that image is captured, virtually eliminating any red-eye effect.

## Built-In Light

A 3 Watt LED light that brightens up your video when shooting in low light situations, improving color and reducing shadows.

## Carl Zeiss® Vario-Sonnar® T\* Lens

The most advanced multi-layered lens coating system in the world; reduces unwanted camera lens reflections. The T\* adds an extra coating which delivers vivid images, brilliance, true-to-life color saturation and perfect rendition of subtle tones.

## Carl Zeiss® Vario-Tessar® Lens

Professional quality optics with precision ground glass and better multi-coatings allow more light to reach the CCD with less flaring and glare. Carl Zeiss Vario-Tessar lens refers to the smaller, more compact version of the widely known Vario-Sonnar® lens; however, it keeps the same quality and clarity of image found on the larger lens.

**CCD**

“Charged Couple Device.” It is the imaging device made of light sensing pixels, which are used in the camera to capture images for both video and stills. Higher effective pixel counts produce larger images with more detail.

**ClearVID™ CMOS Sensor**

‘ClearVid CMOS Sensor’ is an entirely new and unique type of CMOS Sensor that uses new pixel distribution. This allows the recording of high-quality images with high-resolution and heightened sensitivity. In addition, still picture functionality has been improved along with more advanced still capture functionality.

**Coding**

In a digital video or audio signal, coding (or encoding) refers to the process of converting data from one form to another—for example, into a compressed form so more data can be recorded and stored on a DVD disc. During playback, the compressed data is decoded to its original form.

**Color Bar Generator**

Found only on DCR-VX2100, HDR-FX1 and HDR-HC1, it produces a professional Color Bar pattern which allows for proper color adjustment and color calibration.

**Control L (LANC) Jack**

An editing interface connector that connects to other Sony VCRs, Handycam® Camcorders and editing controllers also having a Control L jack, for synchronized, easy editing.

**Data Code**

The Data Code consists of a variety of information: time code, date and time of recording, source, camera information and index ID points, which are encoded onto the Digital8® tape in a separate area of the recording.

**Date/Time Recording**

Record date or time on to your video with the push of a button. Auto Date can be set to record the date on your movies automatically, for 10 seconds, at the start of each day's recording.

**Digital Effects**

For a more professional look to your movies, choose from Trail, Old Movie, Flash, Slow Shutter and Luminescence. These effects change the way the motion of the video is recorded.

**Digital Fader**

The Fader control allows you to create a new look to your videos with up to 7 different modes: Black, Mosaic, Bounce, Monotone, Stripe, Overlap, Wipe and Random Modes.

**Digital Photo Mode**

Allows you to record a still image for seven seconds to video tape while the live audio continues to record, providing narration for the still image.

**Digital Program Editing**

Allows for the non-linear editing of up to 20 scenes using just your Digital Handycam® Camcorder and a compatible VCR.

**Digital Recording**

A high-quality recording format allowing for editing with other compatible digital devices, such as another digital camcorder or home computer via an i.LINK® (IEEE1394)<sup>1</sup> cable, without image quality deterioration.

**Digital Still Camera Memory Mode**

Capture and store high-quality digital still images and MPEG1 movies directly to Memory Stick® Media.

**Digital8®**

Provides digital picture and sound quality recorded onto 8mm or Hi8™ tapes, with the capability to record up to 520 lines of resolution along with 12/16 Bit PCM digital stereo audio.

**Dolby® Digital 5.1 Channel Surround**

5.1 channel surround sound uses six speakers. Front left/right, center, rear left/right, and subwoofer. This feature is included in DVD Handycam® Camcorder recordings.

**Dolby® Digital AC-3® System**

The audio system used in DVD Handycam® Camcorder recordings. In the Dolby AC-3 system, audio can be recorded in 2-channel stereo, monophonic, or 5.1 channel surround sound (using six speakers for front left/right, center, rear left/right, and subwoofer). Audio compression only takes place in the frequency range beyond human hearing.

**Duel Record**

Record a still image to the Memory Stick® Media while at the same time recording video to the tape.

**DVD Formats**

DVD discs for video recording exist in various formats or standards. DVD-ROM is a playback-only format used for commercial movies. DVD-R is a format that can be recorded only once. DVD-RW can be recorded, edited and re-written (re-recorded). DVD-RAM, DVD+R and DVD+RW are alternate recordable formats not compatible with Sony DVD Handycam® Camcorders, which use only discs that conform to DVD-R and DVD-RW standards.

**DVD-Video**

The application for DVD recordings that do not require editing. DVD-Video allows up to 2 hours of high quality moving images and sound on a single, dual-sided disc, using MPEG2 coding for movies and Dolby® AC-3® (Dolby Digital 2-Channel system) or linear PCM recording for sound. DVD-Video is an optical disc format that also allows for special playback features such as multiple screen ratios, captions, language options, and simultaneous multi-angle viewing of a scene.

**DVD-VR**

The application for which Sony DVD Handycam® Camcorders are designed. DVD-VR (or DVD Video Recording) provides added in-camera capabilities such as re-recording, editing, playlist display, etc. (Not available on +RW media).

**Easy Dubbing**

A simplified method for copying your personal videos using your Handycam camcorder and a VCR. Compatible with up to 59 different brands of VCRs.

**Easy Handycam®**

Found on all new 2006 Handycam camcorders makes it easier for the beginning videographer to handle a camcorder. By pressing the Easy Handycam button it will return most of the camera's settings to “Auto” mode. In addition, it will increase the size of the on-screen letters and will only display the NECESSARY menu items, making operation simple.

**Edit Search Feature**

Review your tape in forward and reverse, without leaving camera mode—for quick, seamless on-the-spot retakes without gaps.

**End Search**

Automatically advances the tape to the last frame recorded. Helps to prevent recoding over other information already contained on the cassette.

**Expanded Focus Indicator**

While using the manual focus ring, the camera automatically adjusts to 2X magnification, allowing for precise and accurate focus adjustments.

**EZ Menu Setup**

Allows for the presetting of functions by way of an icon-based, on screen menu display.

1. i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.

## Finalizing

Finalizing a disc enables its recorded contents to be played back on other equipment. Once finalized, DVD-R and DVD-RW discs are read as though they were commercially recorded DVD movies—allowing them to be played back on most DVD players. A finalized disc can no longer be re-recorded, but DVD-RW discs can be “unfinalized” to return them to recordable state.

## Full Range Auto Focus

Fast, accurate, automatic focusing from macro close-up to infinity.

## Hi8™ Format

Records up to 400 lines of resolution which is almost double that of VHS, giving improved picture quality and clarity from standard 8mm.

## Horizontal Resolution

The number of horizontal lines that a device can reproduce and still have the lines viewable. The more viewable horizontal lines, the sharper, clearer and better the video image.

## i.LINK\*\* DV Interface (IEEE1394)<sup>1</sup>

A digital interface that allows 2-way, pure digital communication between two DV camcorders and/or PCs. (Not all devices with an i.LINK connector may communicate with each other.)

## Index Titling

Storing the titles to the cassette memory allows for the addition of titles to the video in post production, after it has been shot. Storing titles to the cassette memory and not directly to the cassette allows for changes to the text at any future date.

## InfoLithium® Battery

Rechargeable Lithium-Ion battery pack which can be charged at any time without developing a memory effect. In addition, the battery has the ability to exchange information with compatible equipment about its battery time remaining and consumption.

## Initializing

Initializing a disc allows the disc to be recorded or written on. Initializing a previously recorded disc will erase all existing data on the disc. DVD-R discs do not need to be initialized. DVD-RW discs must be initialized. The DVD Handycam camcorder system provides an “initializing” prompt each time a new DVD-RW disc is inserted.

## Interval and Frame Recording

Found on all Digital8® and MiniDV models. Interval Recording allows you to make time-lapse recordings (i.e. recording a flower budding or sunset). When selecting the interval, the record time is automatically set. Frame Recording allows you to record 4 frames at a time to achieve a special animated effect. It records an object for 4 frames and then stops, allowing you to move the object and continue recording to obtain the desired look.

## JPEG

“Joint Photographers Experts Group,” is a popular file format used for digital images, including images captured to Sony Digital Handycam® camcorders equipped with Memory Stick® Media.

## LP Recording

Provides up to 50% longer recording time than standard SP mode. Available on Hi8™, Digital8® and MiniDV.

## Lux

A metric measurement of light, that indicates the amount of light needed to shoot video with decent picture quality.

## Macro Capability

The ability to take sharply focused video at a very close range. Useful when the subject is located a few inches from the camcorder lens.

## Manual Backlight Control Button

Compensates for strong light behind the subject by automatically adjusting exposure levels to ensure that proper exposure and detail are maintained.

## Manual Controls

Manually adjustable controls allow more control for recording. The following are found on select models:

- ♦ **Manual Focusing Ring:** Allows you to focus manually with smooth, precise action for a “hands on” creative feel.
- ♦ **Manual Shutter Speeds:** Up to 16 speeds on select models: 1/60 – 1/10,000 and slow shutter speeds of 1/4, 1/6, 1/10, and 1/30.
- ♦ **Manual Exposure:** Iris control, up to 24 steps, offers creative control of image quality. Exposure mode cannot be accessed while in Program AE modes.
- ♦ **Manual Audio Gain:** Microphone level control allows the user to back off gain in very loud situations and increase gain to enhance low volume or subjects at a distance.

## Manual Focus

Allows the user to control the focus of the camcorder; especially effective in low light or situations with a lot of movement or activity.

## Memory Mix Effects

Superimpose still images you have stored on a Memory Stick® Media over a moving picture. Select from the following modes: Camera Chroma Key (for moving video on a still background), Memory Chroma Key (for still pictures on a moving background) and Memory Luminance Key (for titles and graphics superimposed on moving video).

## Memory Stick® Media<sup>2</sup>

A compact, removable flash memory system that enables storage of digital still images, MPEG1 movies and other data for quick, convenient transfer to compatible PCs, printers and other Memory Stick® Media enabled devices. Memory Stick media is currently available in 16, 32, 64 and 128MB capacities.

## Memory Stick PRO™ Media<sup>2</sup>

Memory Stick PRO™ Media is the latest evolution of the Memory Stick media format, and available in capacities of 256MB, 512MB, and 1GB, 2GB, and 4GB. A 4GB Memory Stick PRO media has the capacity to store approximately 30,000 VGA resolution images—plenty for any vacation or event.

## MiniDV

Records outstanding digital picture and sound on super compact MiniDV cassettes. Offers up to 530 lines of horizontal resolution, with up to 3x the color bandwidth of VHS and significantly lower video noise.

## MPEG2

MPEG2 is an industry standard for demanding video applications. It offers high quality images with data compression that reduces the amount of data that must be processed. Rather than processing complete video frames, the MPEG2 system processes only the differences between adjacent frames.

## MPEG Movie EX (EXTended) Mode

Allows you to record MPEG1 video and audio, up to 16.6 fps, directly to Memory Stick Media. Recording time is only limited by the capacity of the Memory Stick being used.

1. i.LINK is a trademark of Sony, used only to designate that a product contains an IEEE1394 connector. All products with an IEEE1394 connector may not communicate with each other.  
2. Available storage capacity of Memory Stick and Memory Stick PRO media may vary. A portion of the memory is used for data management functions. Actual available memory in MBs is: 8=7.5, 16=15, 32=30, 64=61, 128=123, 256=220, 512=460, 1GB=940, 2GB=1.85GB.

**MPEG Movie Mode**

Allows you to capture up to 15 seconds of MPEG1 video with audio at 320x240 resolution or 60 seconds at 160x112 resolution.

**MPEG1 Audio Layer 2**

A very efficient compression technology that yields high quality stereo audio with a 48 kHz sampling frequency at a very small file size.

**MP@ML**

The MPEG2 standard allows various parameter setups for picture formats and coding modes. MP@ML (Main Profile at Main Level) is the parameter setup adopted for DVD-Video and DVD-VR (Video Recording) applications. "Profile" refers to the combination of functions provided; "Level" refers to the level of resolution and frame rate. Numerical Aperture (NA) value determines the performance of an object lens; the larger the value, the more data can be written at any one time.

**NightShot® Plus Infrared System**

Allows you to record images up to 10 feet away in total darkness (0 Lux) using infrared technology. Images shot in total darkness appear as monochrome images. With minimal light you will see color in your video eliminating the "greenish" tint. With the optional HVL-IRM or HVL-HIRL NightShot Light, images up to 100 feet away can be captured.

**On Screen Display**

Camcorder information is displayed on the LCD monitor and/or through the video outputs to a TV or monitor.

**Optical Zoom**

Helps frame your shot by bringing distant subjects closer or pulling back for wider angles. Unlike digital zoom, optical zoom magnifies the scene using glass lenses that provide a crisp, clear image without the distortion that can be found with digital zooms.

**Optimum Recording Control (ORC)**

Analyzes the condition of the video heads and the tape, and makes adjustments to maximize picture performance, resulting in longer life for the video heads. (Available on Hi8™ models only)

**Picture Effects**

Allows for more creativity by adding a custom look to your video. Available modes include: Old Movie, Luminance Key, Flash Motion, Still, Slow Shutter, and Trail. (All modes not available on all models.)

**Photo Mode**

Photo Mode captures a still image, with 7 seconds of audio directly on to the videocassette. This mode is perfect to use when vacationing. Take a still image of your location, and verbally note where you are and what you are seeing, no more need to remember when you get home.

**Pit**

Pits describe the microscopic hollows within the surface of a DVD-ROM or CD-ROM disc. Data is read in a spiral motion and is determined by the length and number of pits that occur. The discs used by DVD Handycam® Camcorders do not have pits; instead, their data is carried by changes in reflection on the disc's surface.

**Pixels**

Short for Picture Element, Pixels are the dots that make up an image on the LCD monitor and the CCD. In general, the larger the pixel count, the greater the detail and clarity of the display, or the image.

**Playback Zoom**

Zoom in up to 5x closer on your videos during playback or in the playback pause mode.

**Playlist**

The function that arranges movie scenes and still images on a DVD disc. Playlists can be set up for editing and playback purposes; recorded scenes and still images are not changed by being put in playlist order.

**Precision Color Viewfinder**

A 180K pixel, high-resolution color viewfinder provides outstanding image quality, ideal for manual focusing ability.

**Precision Digital Zoom**

Enhances the power of the optical zoom of the camcorder allowing you to zoom in incredibly close without the distortion typically found with digital zooms.

**Program Auto Exposure**

Sony's Program AE system provides up to 7 auto exposure modes for a variety of shooting situations. Which include: Soft Portrait, Beach & Ski, Sports Lesson, Landscape, Spotlight, Sunset & Moon, and Low Light mode. (All modes not available on all models.)

**Progressive Shutter System**

Available only in the Digital Still Camera Mode, it provides Progressive Scan performance, while utilizing an interlaced scanning system. Digital Still images will be sharp and clear with excellent definition, even during fast action.

**Self-Timer**

Enables a ten second delay before recording starts, allowing you to get in the picture also.

**Skip Scan**

The ability, while in VTR mode, to view the image in Fast Forward or Rewind.

**Stamina® Power Management**

Gives extra long-life recording capabilities to your Handycam® Camcorder while using optional InfoLithium® batteries.

**SteadyShot® Picture Stabilization**

Uses motion sensors and HyperPrecision CCDs to detect camera movement, and minimizes hand shake without compromising picture quality.

**Super NightShot® and Color Slow Shutter Mode**

Shutter speed is automatically slowed to allow more light to enter the CCD for true color representation while filming in low light situations.

**Super SteadyShot® Picture Stabilization**

Similar to standard SteadyShot® Picture Stabilization but minimizes at an even higher frequency of vibration up to 25 Hz, such as vehicle shake, with minimal loss of image quality.

**SwivelScreen™ Color LCD Monitor**

The color LCD monitor swivels 270 degrees for viewing at any angle and even goes into the "mirror mode" where the subjects see themselves in the LCD and the operator sees them in the viewfinder.

**Time Base Correction**

Reduces unwanted jitter during playback for better picture quality.

**Track**

A data-recording field in the shape of a spiral or concentric circle. CD and DVD tracks have a spiral structure; floppy disc and hard disc tracks are concentric. The distance between adjacent tracks is called "track pitch."

**USB Connection (Still Images/ MPEG Movies)**

An Interface that provides quick and easy transfer of digital still images and MPEG1 movies from camcorder to computer.





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