

# SONY®

NTSC/PAL

3CCD Digital Camcorder

**DVCAM**™

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## DSR-PD170

## DSR-PD170P

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F o r

P r o f e s s i o n a l

R e s u l t s

# A “handy” addition to the DVCAM™ camcorder family – The **DSR-PD170**

The DSR-PD170\*1 is a 1/3-inch type 3CCD Digital Camcorder that uses the DVCAM format. Like its predecessor, the market acclaimed DSR-PD150/PD150P, the DSR-PD170 addresses a broad spectrum of applications - from video journalism, wedding and event videography, corporate and training productions, up to broadcast newsgathering - areas where picture quality, reliability, and mobility are prime concerns. In addition to inheriting all the attractive features of the DSR-PD150/PD150P, the DSR-PD170 offers a range of enhancements for further improved audio and video quality and operability, and adds new accessories to meet even more diverse shooting scenarios. The DSR-PD170 is designed to become a “handy” tool for professional shooting in a wide range of applications.

\*1 Two models of the DSR-PD170 are available: the DSR-PD170 for NTSC and the DSR-PD170P for PAL.

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## DSR-PD170



# Camera Features

## The Professional Picture Quality You Demand

### 3CCD Camera System

The DSR-PD170 incorporates three 1/3-inch type CCDs, each with 380,000 pixels, and the DSR-PD170P incorporates three 1/3-inch type CCDs, each with 450,000 pixels. The 1/3-inch size CCDs contribute to the high sensitivity and high signal-to-noise ratio. These CCDs are capable of interlace scan to acquire moving images and progressive\*<sup>2</sup> scan to capture still images.

\*<sup>2</sup> Moving images cannot be acquired in the progressive scan mode.

### Advanced HAD™ Technology

Advanced HAD technology reduces fixed pattern noise, thus allowing the camera to achieve a high sensitivity and excellent signal to noise ratio.

### Low Light Shooting

The minimum illumination has been improved from 2 lx for the DSR-PD150/PD150P to 1 lx thanks to the use of an enhanced noise-reduction process.

### Optical 12x Zoom Lens

The optical 12x zoom lens\*<sup>3</sup> allows the DSR-PD170 to maintain picture quality even at high zoom ratios.

\*<sup>3</sup> Digital zoom of 24x or 48x can also be achieved by the proper menu selection.

### Optical Super SteadyShot™ System

The DSR-PD170 employs the Super SteadyShot system, in which horizontal and vertical movements are detected independently by the sensors. The prism system located behind the lens adjusts and optically compensates for unsteady camera handling, while maintaining image quality.

### Large 180,000-dot LCD Precision Black & White Viewfinder

The 0.44-inch\*<sup>4</sup> type black and white LCD viewfinder provides 500 lines of horizontal resolution. In addition, a large-sized eyecup is used, and the window size of the magnifier has also been enlarged. This allows easier focusing and more comfortable use of the viewfinder.

\*<sup>4</sup> Viewable area, measured diagonally

### 16:9 Widescreen Acquisition Mode

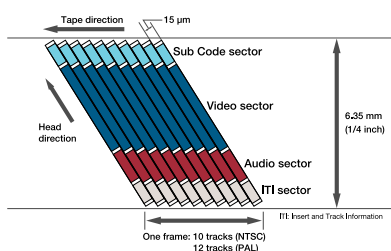
The DSR-PD170 is capable of widescreen 16:9 acquisition image capturing (video only), producing true 16:9 images. This is different from the letterboxing view commonly used in many equivalent models.

# Recorder Features

## High-Quality Digital Recording for Professionals

### DVCAM/DV Selectable Recording

The DSR-PD170 adopts the DVCAM format, which uses 8-bit digital component recording with a 5:1 compression ratio and a sampling rate of 4:1:1 (for 525/60) or 4:2:0 (for 625/50). The unique compression algorithm provides excellent picture quality and superb multi-generation dubbing performance. An audio lock mode synchronizes the audio to the video for professional editing results. Should a longer record time be required, the DSR-PD170 is also capable of recording and playing back DV format signals (SP mode only)\*<sup>5</sup>.



\*<sup>5</sup> The transition from cut to cut may not be smooth when recorded in DV (SP) format. In between scenes where the recording format is changed from DV to DVCAM, or vice versa, the transition may not be smooth either. This is a normal and expected phenomenon. Audio Dub mode is NOT possible when recorded in DV (SP) format.

### 2 Ch. XLR Audio Input and Supplied Directional Microphone

The DSR-PD170 provides two XLR audio input connectors for connecting professional microphones or for feeding an

external audio source. The input level can be selected from Mic/Line/ Mic Attenuator positions. 48 V microphone power can be supplied. INPUT 1 audio can be recorded on CH1 only, or both CH1 and CH2 audio tracks (selected by switch). One directional microphone is supplied.



### 16-bit/12-bit PCM Digital Sound and Audio Dub Capability

The DSR-PD170 records two channels of audio with the 48 kHz/16-bit or 32 kHz/12-bit mode. On a pre-recorded tape with two channels recorded in the 32 kHz/12-bit mode, it can dub an additional two channels through the external microphone input (XLR connectors or RCA pin jacks, DVCAM recorded tape only).

### Additional Recorder Features

- 16:9 recording mode
- Interval recording function

# Operational Features

## Advanced Features for Professional Results

### Newly Developed Hybrid LCD Monitor with a High Resolution of more than 210,000 Pixels

The DSR-PD170 has a high-resolution color LCD monitor for viewing the recorded picture, or checking the playback picture on location. With its large screen, it is also helpful in setting menus or the audio recording level, as well as monitoring the camera and audio status while mounted on a tripod. The hybrid LCD monitor combines the characteristics of both transmissive and reflective LCD panels. The transmissive LCD panel is suited for dark conditions such as in the studio, while the reflective LCD panel provides clear viewing in bright conditions such as under strong sunlight.



Comparison of images displayed on the LCD monitors of the DSR-PD150 on the left and DSR-PD170 on the right

### Simultaneous Operation of LCD Monitor and Viewfinder

The LCD monitor and viewfinder can be used simultaneously. This allows an operator to perform focus adjustments on the subject with the black and white LCD viewfinder, while adjusting the color balance with the LCD monitor.



### Large-sized Handle

The top height of the handle is about 10 mm higher than that of the DSR-PD150/PD150P. The handle design has also been enhanced for a better and easier grip.



### On-handle Zoom Lever and Rec. Start/Stop Button

In order to facilitate zoom control and recording operation during low-angle shooting, an additional zoom lever and a rec. start/stop button have been added to the carrying handle. Zoom speed can be selected from H (faster), L (slower) or OFF via the three-position slide switch located on the side of the handle.



### Long Operating Time

Combined with the optional NP-F960 InfoLITHIUM™ battery pack, the DSR-PD170 can continuously operate in record mode for up to eight hours. By attaching the battery and connecting the camcorder to the supplied AD-L15 AC Adaptor, the camcorder will start charging the battery.

### Battery Life

Continuous Recording Time**	With LCD viewfinder on	With LCD monitor on	With LCD viewfinder and LCD monitor on
NP-F330 (supplied)	60 min.	50 min.	45 min.
NP-F550 (optional)	130 min.	110 min.	105 min.
NP-F750 (optional)	265 min.	230 min.	215 min.
NP-F960 (optional)	480 min.	420 min.	395 min.

\*\*6 Continuous recording time, indoors at 25°C.

### Manual Functions

In order to provide the flexibility required in professional applications, the DSR-PD170 allows a variety of its functions to be manually adjusted.

- **Zoom**
- **Focus**
- **Iris** (with smoother and more sensitive iris control)
- **Shutter speed**
- **Gain**
- **AE (Auto Exposure) Shift**
- **White Balance**
- **Custom Preset** (Color Level, Sharpness, White Balance Shift, AGC Limit)
- **ND Filters** (1/4 and 1/32)
- **Spotlight Button**
- **Backlight Button**
- **Digital Effects** (Still, Flash Motion, Luminance Key, Trail, Old Movie)
- **Audio Recording Level** (Separate or Linked adjustment of CH1 and CH2)
- **Zebra Patterns** (100% or 70%)
- **Guide Frame** (Vertical and Horizontal alignment of the subject to guide frame)



## Index Marking

When a Cassette Memory-equipped DVCAM/DV tape is used, an Index can be marked while recording with the camera or recording from an external video source.

This function allows quick access to the marked tape position in subsequent operations.

## Time Code Preset

The time code can be preset using any number in H/M/S/F (hours/minutes/seconds/frames), for accurate tape-position information. The time-code mode can be selected between "rec-run" or "free run". User bits can also be set.

## Title Function

When using a Cassette Memory-equipped tape, titles can be set and stored in the Cassette Memory for superimposition during playback. This information is not burnt into the video signal, but is overlaid only during the playback.

## Fader

The DSR-PD170 provides five fading modes: Black Fade (IN/OUT), Monotone Fade (fade from Black & White to color), Overlap (last image becomes a still image and overlaps into the new scene), Wipe and Dot.

## Digital Still Camera Functions with Memory Stick™ Media

The Memory Photo function allows the camera to be switched to progressive scan mode for capturing still images. VGA-sized files are recorded on the **Memory Stick** media. The Memory Mix function can combine the still images stored on Memory Stick media with camera video images.



## Supplied Lens Hood with Built-in Lens Cap

This lens hood incorporates a lens cap that can be opened or closed by using a lever located on the side of the hood.



## Supplied Wide Conversion Lens and Additional Lens Hood

The high performance VCL-HG0758 Wide Conversion Lens and its associated lens hood, LSF-S58 Lens Hood are bundled with the DSR-PD170. The LSF-S58 can serve as a lens hood even when the Wide Conversion Lens is not in use.

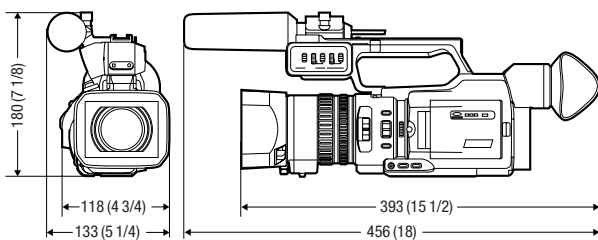


## Other Functions

- **Date Stamping** Superimpose date onto image, selected by menu.
- **AV to DV Out** Convert analog input signals to DV signals.

# DSR-PD170/PD170P Specifications

<b>Lens</b>	12:1 Variable Speed (1.2 - 22 sec.) zoom lens (48x digital zoom) F=6.0 to 72.0 mm; F1.6 to 2.4; Filter Diameter 58 mm
<b>Focus</b>	Auto/Manual (ring)/Infinity/One push auto
<b>Imaging Device</b>	Three 1/3-inch type CCDs Gross 380,000 pixels/effective 340,000 pixels (NTSC) Gross 450,000 pixels/effective 400,000 pixels (PAL) Progressive/Interface Scan
<b>White Balance</b>	Auto/One-push/Outdoor (5800 K)/Indoor (3200 K)
<b>Shutter Speed</b>	1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 second (NTSC) 1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 second (PAL)
<b>Exposure</b>	Auto/Manual
<b>Gain</b>	0, 3, 6, 9, 12, 15, 18 dB
<b>Minimum Illumination</b>	1 lx with F1.6 at 18 dB gain
<b>Horizontal Resolution</b>	530 TV lines
<b>Viewfinder</b>	180,000 dot Black & White LCD Horizontal Resolution: 500 TV lines
<b>Audio Signal</b>	Rec. 48 kHz/16-bit, 32 kHz/12-bit Playback 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit
<b>Built-in Speaker</b>	Dynamic Speaker, $\phi$ 20 mm
<b>LCD</b>	Hybrid, 2.5-inch, 211, 200 dots (960 x 220)
<b>Tape Speed</b>	Approx. 28.2 mm/sec (DVCAM mode) Approx. 18.8 mm/sec (DV SP mode)
<b>Maximum Recording Time</b>	40 minutes (DVCAM mode) 60 minutes (DV SP mode)
<b>Video Signal</b>	EIA Standard, NTSC color system (DSR-PD170) CCIR Standard, PAL color system (DSR-PD170P)



<b>Connectors</b>	
Video IN/OUT	RCA pin x 1 Luminance signal: 1 Vp-p 75 $\Omega$ unbalanced, sync negative
Audio IN/OUT	RCA pin x 2 327 mV Output impedance with less than 2.2 k $\Omega$ Input impedance with more than 47 k $\Omega$
S-Video IN/OUT	Mini-Din 4-pin x 1 Luminance signal: 1 Vp-p, 75 $\Omega$ , unbalanced Chrominance signal: 0.286 Vp-p (NTSC), 0.3 Vp-p (PAL)
Audio IN	XLR 3-pin female x 2, 327 mV, -60 dBu, 3 k $\Omega$ , +4 dBu, 10 k $\Omega$ (0 dBu = 0.775 Vrms)
i.LINK** (DV IN/OUT)	4-pin x 1
LANC	Stereo mini jack (2.5 mm) x 1
Headphone	Stereo mini jack (3.5 mm) x 1
External DC IN	8.4 V for AC-L15 AC adaptor
<b>Operating Temperature</b>	0 to 40 °C (32 to 104 °F)
<b>Storage Temperature</b>	-20 to 60 °C (-4 to 140 °F)
<b>Power Requirements</b>	DC 7.2 V (Battery), DC 8.4 V (AC adaptor)
<b>Power Consumption</b>	Rec. with LCD viewfinder only: 4.7 W Rec. with LCD monitor only: 5.4 W Rec. with LCD viewfinder and LCD monitor: 5.7 W Playback on LCD: 4.1 W
<b>Dimensions (W x H x D)</b>	118 x 180 x 393 mm (4 3/4 x 7 1/8 x 15 1/2 inches) (camcorder only) 133 x 180 x 456 mm (5 1/4 x 7 1/8 x 18 inches) including microphone
<b>Mass</b>	Approx. 1.6 kg (3 lb 6 oz) (camcorder only)
<b>Supplied Accessories</b>	AC-L15 AC Adaptor ECM-NV1 Electret Condenser Microphone NP-F330 InfoLITHIUM Rechargeable Battery Pack VCL-HG0758 Wide Conversion Lens LSF-S58 Lens Hood for Wide Conversion Lens and Hood Cap Lens Hood with Built-in Lens Cap RMT-811 Remote Commander and R6 Batteries (x2) Carrying Belt i.LINK Cable Strap Stereo AV Cable

\*7 i.LINK is a trademark of Sony Corporation 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. Please refer to the documentation that comes with any device having an i.LINK connector for information on compatibility operating conditions and proper connection. For information on any device having an i.LINK connection contact nearest Sony office.

# Optional Accessories

Some of the following accessories may not be available in certain countries. For details, please contact your nearest Sony office.



**NP-F550/NP-F750/NF-F960**  
InfoLITHIUM Rechargeable Battery Pack



**AV-V700A**  
AC Adaptor/Charger



**BC-V615**  
Battery Charger



**BC-V500**  
Battery Charger



**VCL-HG1758**  
Tele Conversion Lens 1.7x



**VF-58PK**  
Filter Kit, PL Filter and Multi-coat Filter



**VCT-1170RM**  
Video Tripod with Remote Control



**LCH-VX2000A**  
Hard Carrying Case for  
DSR-PD170/PD170P



**LCR-VX2000A**  
Rain Jacket



**HVL-20DW2**  
Battery Video Light



**HVL-F10**  
Video Flash



**VMC-IL4408A/4415A/4435A**  
(4-pin to 4-pin, 0.8 m/1.5 m/3.5 m)  
i.LINK Cable



**VMC-IL4615A/4635A**  
(4-pin to 6-pin, 1.5 m/3.5 m)  
i.LINK Cable



**PDVM-12ME/22ME/32ME/40ME**  
Digital Videocassette (Mini size)  
**PDV-34ME/64ME/94ME/124ME/184ME**  
Digital Videocassette (Standard size)

**PDVM-12N/22N/32N/40N**  
Digital Videocassette (Non-IC type/Mini size)  
**PDV-64N/124N/184N**  
Digital Videocassette  
(Non-IC type/Standard size)

**PDVM-32MEM/40MEM**  
Digital Videocassette (Master tape/Mini size)  
**PDV-64MEM/124MEM/128MEM**  
Digital Videocassette  
(Master tape/Standard size)

**PDVM-12CL**  
Cleaning Cassette Tape (Mini size)  
**PDV-12CL**  
Cleaning Cassette Tape (Standard size)



**MSA-16AN/32AN/64AN/128A**  
**MSA-128S2**  
IC Recording Media **Memory Stick**



**UWP-C1**  
UHF Synthesized Wireless Microphone  
Package



**ECM-670/672**  
Electret Condenser Microphone  
(CAC-12 Camera Microphone Holder  
is required)



**DSR-DU1**  
Video Disk Unit

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