DVCAM

DSR-300PL

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The DSR-300 Digital Camcorder - the latest in the Sony DVCAM lineup that offers many of the features you are looking for in a broadcast or professional camera at a truly affordable price.

Incorporating Sony's latest DSP (Digital Signal Processing) technology based on the TruEye process, the DSR-300 realizes faithful color reproduction never experienced with conventional analog and digital cameras. Drastic smear reduction and high sensitivity achieved by the newly developed 1/2" Power HAD™ CCD provide more shooting opportunities, while maintaining high picture quality.

The DSR-300 is capable of ClipLink function (with optional accessory board) - which is automatic logging of the shot data onto the DVCAM Cassette Tape. This data can be used to reduce editing time. In addition, with SetupLog, FreezeMix, and EditSearch you have the tools at your fingertips to improve your efficiency right in the field.

- DVCAM Recording Format w/ Dual Cassette
- Total Level Control System
- Edit Search
- Freeze Mix Function
- ClipLink™ System
- 0.5 lux @ F1.4
- 800 TV lines Horizontal resolution

DSR-300PL Features

DVCAM Recording Format
Sony's DVCAM recording format is designed for professional use. While maintaining the playback compatibility with consumer DV recording format, higher picture quality is achieved by the wider track pitch.

Time Code Superimposed During Playback
For operational convenience while shooting, the time code is superimposed on the viewfinder screen or MONITOR OUT screen, even during the playback.

Edit Search
The DSR-300 incorporates an Edit Search function. Its control button is located to afford easy access while shooting.

Freeze Mix Function
When the camera operator needs to shoot a subject in the same framework as that of a previously recorded subject, it was very difficult to perfectly place the subject in the same position as the previous shooting with conventional cameras. With the DSR-300, a picture previously recorded on the DVCAM tape can be superimposed on the viewfinder screen, so that the camera operator can easily frame the subject just like a previous shot.

ClipLink System
The ClipLink system is a comprehensive shooting information and image management system necessary for the total digital production process, ranging from acquisition to editing. The ClipLink system in combination with Sony's new digital video products such as theDSR-300 and DSR-130 Digital Camcorders, the Digital VTRs (DSR-85/80/60), and the EditStation™ System (ES-7) will enhance the productivity and operating efficiency throughout the entire video production process.

DynaLatitude™
Based on the TruEye™ system, the DSR-300 further offers a unique feature called DynaLatitude™ which adaptively manages the contrast of each pixel according to a histogram of video signal level

Conventional Camera   DSR-500WSP (DynaLatitude)

distribution. The DynaLatitude brings a new dimension to the technologies such as Dynamic Contrast Control (DCC) that control the dynamic range of video signals. The DynaLatitude™ feature optimizes video level distribution based on video signal histograms in order to utilize the limited dynamic range of the video signal standard.

Power HAD CCD
The DSR-300 incorporates the newly developed Power HAD CCD sensor. This sensor features a minimal smear level equivalent to the conventional FIT CCDs, which addresses even the stringent demands of the high-end production field. The total performance of the Power HAD CCD sensor approaches that of the standard FIT.

DETAIL CORRECTIONS BY DSP
Skin Detail with Auto Detection of Active Area

The Skin Detail function in the DSR-300 gives the subject a pleasing complexion with a softer image in the facial area, while maintaining the sharpness of the other areas. The designated active area of Skin Detail can be set with the digital circuits by simply adjusting the Area Detect Cursor on the viewfinder screen and SKIN SET button on a camera side panel. The color range of the skin detail active area and skin detail level can be also set by the viewfinder menu system.

Black Halo-Free, Clean Detail
The DSR-300 provides edges with a natural line and appropriate thickness in areas with extreme dark-to-light or light-to-dark transitions, by digitally optimizing the level of detail signal to each of the transition parts, not by just clipping the detail signal. Consequently, the "Black Halo" effect which is seen as thick black edges surrounding an extremely bright object, as well as a stepping diagonal edge, have been dramatically reduced.

Red Vertical Detail Correction
The vertical detail correction signal, which is digitally created from both the Green and Red signals, assures image sharpness when shooting highly saturated subjects or subjects bathed in red light.

Horizontal Detail Frequency Control
The horizontal detail frequency can be controlled by the VF Menu System according to the user's preference.

Total Level Control System (TLCS)
Even if the incoming light exceeds the range of the automatic iris control either above or below, by using the iris control in combination with Auto Gain Control (AGC) and CCD AE (Auto Exposure, the application of variable shutter of CCD), the DSR-300 offers proper picture exposure. This function is called TLCS. While still maintaining low-noise characteristics, TLCS affords ease of operation for this high-end professional camera.

Setup Data Management with DVCAM Cassette
The DSR-300 has the following camera data management:

SetupLog™ - Automatic Recording of Camera Setting Data
Even without using the file system, the information of each setting parameter of the DSR-300 for every shot is automatically recorded on the VAUX territory in each video track of the DVCAM cassette tape. This function is called SetupLog™. It is useful not only for the camera operator if there is a need to re-take the same shot, but also for checking the operating conditions during a particular shoot.

Low Smear Level
Vertical Smear Level of the DSR-300 is -110 dB bwhich is the same level as conventional FIT sensors. This feature will give the operator more freedom to shoot subjects in high light situations.
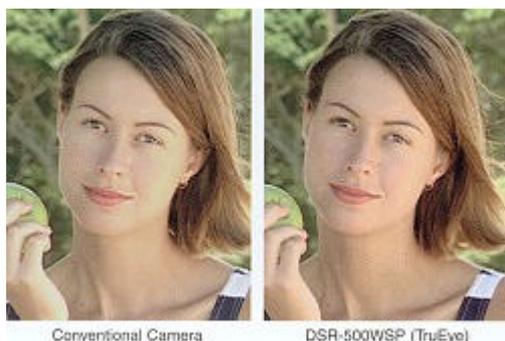
High Sensitivity
The Power HAD sensor in the DSR-300 achieves a high sensitivity of F11.0 (at 2000 lx, 3200K) and minimum illumination of 0.5 lx. This feature affords a greater opportunity to shoot under extremely low-light conditions.

High S/N Ratio
The improved CCD process combined with the camera's new digital circuits means CCD noise is reduced. The signal-to-noise ratio is an improved to 62dB, a high level specification in the industry.

TruEye™ Process
The TruEye™ digital signal process employed in the DSR-300 is a true innovation in camera signal processing, made possible for the first time by digital signal technology. In conventional RGB analog

Conventional Camera   DSR-500WSP (TruEye)

or digital processing, some non-linear signal processing occurs after gamma correction, such as white clip and knee correction, and can result in hue factor distortion - a phenomenon that is particularly obvious in extreme high-light conditions. This significant problem is totally eliminated by the TruEye™ process which manages video signal data according to three factors - brightness, hue and saturation - so that color in even a wide dynamic range an be reproduced as faithfully as by the human eye without hue factor distortion.

Lithium Ion Battery Ready
Uses BP-L40, BP-L60A, BP-L90A Lithium ion batteries for up to 4 hour recording time

26-pin VTR interface
For connection to external VTRs for field recording. Allows component, Y/C and VBS output.

Video Light Connector for Anton Bauer light
Optionally can attach Anton Bauer Ultralight 2 directly using the camcorder's attached power source. Can be triggered automatically by VTR trigger.

Direct Digital Interface between camera and DVCAM recorder
Component digital transfer for excellent digital picture quality unlike other digital camcorders. The DSR-300 does not have A/D conversion to the DVCAM VTR.

DynaFit™ Shoulder Pad
Newly developed ergonomic shape-memory material molds comfortably to any shoulder size resulting in good balance and even weight distribution. Ideal for long shooting situations.

Low Power Consumption
22.1 W with viewfinder allows up to 4 hours recording time with BP-L90A Lithium ion battery.

CA-WR855 Camera Adapter (for the WRR-855A)
A mounting adapter has been developed specially to accommodate the Sony WRR-855A Wireless Receiver. The Sony CA-WR855 Camera Adapter attaches directly to the DSR-500WSP via a V-shoe attachment and a direct audio/power connection interface. A Lithium-ion battery can also be attached directly to the rear panel of the CA-WR855 via the V-shoe attachment. This allows easy battery replacement even with the WRR-855A is in place.

DynaFit shoulder Pad   Anton Bauer Ultralight 2   CA-WR855 Camera adapter

S P E C I F I C A T I O N S   SONY DSR-300PL

General :	.
Power requirements :	DC 12 V (11 to 17 V)
Power consumtion :	22,1 W with VF
Operating temprature :	0C to 40 C
Storage temprature :	-20C to +60C
Operating humidity :	Less than 85%
Storage humidity :	Less than 90%
Tape Speed :	28.193 mm/s
Rec / playback time :	Standard size = 184 min
	Mini size = 40 min
Fast FF / Revind time :	Standard size = 12 min
	Mini size = 3 min

Continious Rec time :	80 min with BP-L40 battery
	180 min with BP-L60A battery
	290 min with BP-L90A battery
Mass :	Approx. 3,3 kg camera head only
	Approx. 4,1 kg with VF and mic
	Approx. 5,2 kg with VF and mic and lens
	Approx. 5,7 kg with VF and mic and lens, BP-L40 battery and tape
Dimentions w/h/d :	121 x 192 x 270 mm (house only)

Camera Part   .

Image device :	3 chip 1/2" Interline-Transfere CCD
Optics :	F1,4 medium index prism system
Effective pic. elements :	752 x 582
Total pic. elements :	795 x 596
Sensing area :	6,4 x 4,8 mm
Built-in filters :	1 : 3200K / 3000K
	2 : 5600K +1/8 ND
	3 : 5600K
	4 : 5600K + 1/64 ND
Lens mount :	Sony 1/2" bayonet mount
Signal system :	PAL colour system
Scanning system :	2:1 interlaced 625 lines 50 fields
Horizontal frequency :	15.625 Hz
Vertical frequency :	50 Hz
Sync system :	Internal and external with the VBS or BS signal
Horizontal resolution :	800 TV lines
Vertical resolution :	480 TV lines (w/o EVS) 530 TV lines (w EVS)
Minimum illumination :	0,5 lx with F:1,4 Hyper Gain 30db+DPR
	0,8 lx with F:1,8 Hyper Gain 30db+DPR
Sencivity :	F:11 at 2000 lx (3200K, 89,9% reflectance)(typical)
Gain selection :	-3 db. 0 db, 3 db, 6 db, 9 db, 12 db, 18 db, 18 db+DPR
	24 db, 24 db+DPR, Hyper Gain (30 db + DPR)
Shutter speed selection :	Off, 1/60, 1/250, 1/500, 1/1000, 1/2000 sec.
Clear scan selection :	50,3 to 201,4 Hz
Signal-to-noise ratio :	60 db typical
registration :	0,05% (all zones, without lens)
· Geometric distortion :	Below measurable level

VTR part

Video performance

Bandwidth :	Luminance : 25Hz to 5.5MHz +1,0/-2,0db
	Chrominance :25Hz to 2,0MHz +1,0/-2,0db
S/N ratio (luminance) :	More than 55db
K-factor :	Less than 2%
Y/C delay	Less than 30 nsec

Audio performance

Frequency responce :	48KHz = 20Hz to 20KHz +0,5/-1,0db
	32KHz = 20Hz to 14,5KHz +0,5/-1,0db
Dynamic range :	More than 80db
Distortion (THD) :	Less than 0,08% (1KHz reference level, 48KHz)

In/Output connectors

Signal Inputs

Genlock video in :	BNC, 1,0 Vp-p, 75ohm
TC in :	BNC, 0,5 V to 18 Vp-p 10Kohm
Ext Audio ch 1/2 :	XLR 3-pin female x 2, -60dbu 3Kohm / +4dbu 10Kohm
Mic in :	XLR 3-pin female

Signal Outputs

Video Out :	BNC, 1,0 Vp-p, sync negative, 75ohm, 26-pin male
VBS .	1,0 Vp-p, sync negative
Y - R/Y - B/Y	Y , 1,0 Vp-p, sync negative
	R/Y - B/Y, 525mVp-p
Y/C :	Y, 1,0 Vp-p, sync negative
	C, 300mVp-p burst level
Monitor Out :	BNC, 1,0 Vp-p, sync negative, 75ohm
TC Out :	BNC, 1,0 Vp-p, 75ohm
Audio ch 1/2 Out :	Phono, -10dbu, 47Kohm
S-Video Out :	Din 4-pin 1,0 Vp-p, 75ohm

Others

DC in :	XLR 4-pin male
DC out :	4-pin female
Battery terminal :	5-pin
Earphone :	Mini jack
Light out :	2-pin female
WRR out :	7-pin
Lens :	14 pin hot-shoe type or 12-pin
VF :	20-pin
Remote 1 :	Stereo mini jack
Remote 2 :	10-pin
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