YOU WANT TO BE HAPPY
WITH THE CHOICES YOU MAKE.

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Introduction

Video production styles continue to diversify in response to the rapid and tremendous growth in visual communication. In this fast-changing environment, the need is for equipment that meets the crucial demands for both higher productivity and greater creativity in professional video production.

Since its launch in 1996, Sony DVCAM™ has satisfied these demands and brought many notable benefits. Excellent picture and sound quality that only a digital format can provide, high-performance editing capabilities, and system versatility that makes it possible to migrate smoothly from analogue to digital – these are just some of the factors behind the success of DVCAM. A full model line-up for digital acquisition, editing and program playout has led to the rapid acceptance of DVCAM by business users, production facilities and broadcasters around the world.

Many new models have been added to the DSR Series of DVCAM equipment, broadening the range of applications in ENG, field acquisition/editing, simple editing and so on.

Select from the Sony DVCAM lineup and you will be choosing innovative equipment to bring both new solutions to your production demands and added performance benefits to your system.

For more information, please visit our website: www.sonybiz.net/dvcam

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Today, DVCAM can be seen used in core applications such as education, corporate, event videography to television and film dailies, commercials, full-length feature production, off-line and on-line post production as well as editing of high-definition features. Award-winning productions have even been produced on DVCAM, as evident at this year’s Sundance Film Festival. Network news is being captured, edited and distributed on DVCAM equipment worldwide.

The success of the DVCAM format can be attributed to its unique ability to bridge a multitude of professional applications into the high-end broadcast and production realm, but clearly it has been the various application demands that has made DVCAM what it is, the ultimate ubiquitous digital broadcast and professional format.
Nominated for the Golden Palm at Cannes 2002, hit movie 24 Hour Party People was shot entirely on digital video, using DSR-PD150P DVCAM camcorders.

Director Michael Winterbottom (Wonderland, Welcome to Sarajevo, The Claim) came up with the idea for the film with producer Andrew Eaton while filming in Canada. Both wanted to make a film about music and hit on the Manchester music scene that they had both grown up through.

24 Hour Party People follows the birth of the Factory Records collective, from its earliest days, inspired by a Sex Pistols gig in Manchester, through to the Nineties collapse amid mounting debts, drug-inspired violence and mutual recriminations from all concerned.

To realise his vision, Winterbottom drafted in Dutch cinematographer Robby Müller, widely acclaimed for his work with innovative directors such as Lars von Trier (Breaking the Waves, Dancer in the Dark), Wim Wenders (Paris, Texas) and Jim Jarmusch (Down by Law, Mystery Train, Dead Man).

For 24 Hour Party People, Winterbottom’s original idea was to mix between 35mm and DV. “We looked at Wonderland that I’d shot on 16mm,” Winterbottom explains, “Breaking The Waves that Robby shot on 35mm and then some stuff that he shot on DV and in the end, the practical advantages of DV and the actual aesthetic of the film, it was surprising how close the DV was to the film.”

Müller says that after years working under the restrictions of traditional film making, shooting digitally allows more shooting to be done. “I like to keep the momentum, that’s my main objective actually, so you don’t have, after every cut, the whole crew coming in, redoing things, we keep on shooting,” he says.

The film features many handheld-filmed scenes which gives the movie a slightly docu-drama feel. New, lighter equipment is therefore a boon as earlier equipment weighed down Muller’s cameraman by 54 pounds. Muller says this approach benefited from filming on DV. “The quality of DV is so forgiving that you can be a bit more loose on lighting which helps us because we didn’t have time for lighting and Michael wanted to see 360 degrees around.”

“It’s not a film that’s to do with a look,” Winterbottom says, “it’s not a film concerned with the style. The reason why we’re shooting the way that we are is to allow the performances as much space as possible and to have a sense of recording things as they happen, as opposed to composing and organising them. So it’s not to achieve a certain look or style but to achieve the best content of a film.”
A Conversation With David Lynch
By Scott Billups

In an industry that all too often values commercial viability over artistic freedom, David Lynch has chiselled out a career full of exceptions to the rule. From his 1977 underground classic “Eraserhead” to the enigmatically beautiful “Blue Velvet” (1986), his films have managed to find beauty in the darkest recesses of the human condition.

Having just completed a tour of duty (Visual Effects Supervisor) on his latest film, “Mulholland Drive,” I was deeply impressed by the staggering originality of his ideas and the clarity of his vision. His innate ability to paint those visions to film is the mark of a consummate artist.

A few weeks after wrapping “Mulholland Drive,” David and I were sitting on my porch drinking some java and nibbling biscotti when he tells me he’s got this commercial to do.

“Sony PlayStation2, international roll-out,” he confided.

I was impressed.

“I want you to shoot it.”

I was flattered.

“Oh DVCAM.”

I was terrified.

Let’s face it, crawling behind the camera for David Lynch is a daunting task for any DP because this guy really knows what he wants. He has pallet and lighting preferences that are not only unique, but also universally regarded. Like many, I consider the work he did with DP Peter Deming on “Lost Highway” (1997) to be among the most expressive in contemporary cinema... and then there’s “Dune” (1984). While it might not be one of David’s favorite projects, his collaboration with DP Freddie Francis created a painterly quality and dimension that rendered each frame as a singular work of art.

The commercial? Well it came out just fine, 22 effects in 60 seconds. The client loved it, the agency folks loved it, and most importantly David was very happy; but that poor little DSR-PD150P camcorder really got tweaked way beyond factory spec.

So now it’s a few weeks after we wrapped the commercial. We’re back on my porch, but this time I’ve got a small tape recorder sitting on the table next to the biscotti.

All of your work — your carpentry, your paintings, your photography, your sound design, and even your cinema and broadcast — all have an unmistakable sense of organic fundamentalism about it. And now you’re rigorously embracing digital.

We’ve all got something that wants to get out. We’ve got a piece of paper and a pencil, and we can write stuff down. It’s all about ideas, and ideas stringing themselves together to make stories, or a mood, or whatever. It doesn’t really matter what way you work, or what medium you work in, it’s all about ideas. Sometimes ideas want to be furniture and sometimes they want to be a story in film. Then when you start seeing images they start talking to you.

I did this thing with a Lumiere camera. It’s a beautiful camera, and the emulsion has a lot of weird qualities: the flicker, the way the old lenses resolved, and the fact that you had to crank it; you could really get into telling a story with that technology.

I’m shooting a series now called “Rabbits” with a tiny Sony DSR-PD100AP, and when you see the quality it’s kind of fuzzy and kind of organic in a way. It’s not bad quality, just different — kind of like the Lumiere. So the tools start talking to you and you start getting images with that kind of quality in mind.

Every story, every idea wants to be told a certain way. Now with digital cameras, the really great thing about them is the amount of control you have afterwards to fiddle around and start experimenting and get even more ideas.
“Knowing how to shoot digital video is a valuable skill for many business professionals. It’s yet another consequence of a technologically networked age – like cell phones, laptops and a knowledge of PowerPoint.”

Award-winning cinematographer and director Jon Fauer, has been shooting films from the age of eight with notable credits including DoP on the opening sequence for Bonfire Of The Vanities and creating countless commercials for companies such as Coca-Cola, McDonalds and IBM. His best-selling books on cinematography including Arriflex 16SR3: The Book, The 16SR Book and, most recently, Shooting Digital Video.

Below are his tips on shooting perfect DVCAM.

**DV Ubiquity**

Digital video is an increasingly key communications tool in today’s business world. Web sites have become essential to business, and the best Web sites often feature video clips or streaming video. Fortunately, creating quality video is easier than ever, and even a laptop computer can be used to edit video these days.

Knowing how to shoot digital video is a valuable skill that many business professionals may be called upon to use. It’s yet another consequence of a technologically networked age – like cell phones, laptops and a knowledge of PowerPoint. To date, about 150,000 professional digital video camcorders (DVCAM) and 3 million consumer MiniDV camcorders have been sold worldwide. More people are using digital video today than any previous format.

My personal career in cinematography career began in the world of corporate and documentary films, then branched out into movies and television shows. During this 25-year journey, I have used mostly 35mm motion picture cameras, but also some 16mm and video. Lately, more and more of my work has been shot in DV.

No doubt, many readers are skilled professionals, but for the purpose of this article, I’ll assume the reader has just returned to civilisation after an eight-year expedition to the remotest part of the Amazon...

**Recommended Kit**

For corporate and documentary work, I prefer the Sony DSR-PD150. It’s small, lightweight and versatile. It uses three 1/3-inch CCDs to convert the optical picture into digital information.

Smaller and less expensive is the Sony DSR-PD100A*, which comes with three 1/4-inch CCDs and is shaped like many consumer camcorders. The Sony DSR-250 has a traditional, shoulder-mounted news camcorder shape, and accepts standard MiniDV cassettes and 184-minute DVCAM tapes. It is a good choice for interviews and events. The DSR-250 is very economical.

For camcorders that will accept interchangeable lenses, Sony makes the DSR-370P, a three 1/2-inch CCD DVCAM, and the DSR-570WSP, with three 2/3-inch CCDs that can also shoot in 16:9 aspect ratio as well as the traditional 4:3 ratio.

**Whichever camera you choose, here’s ten quick, concise hints on how to shoot digital video well, with style.**

The best way to remember these tips is to picture the camera as you’re reading them. Start at the lens and work backwards.

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* This camera has been superceded by the new compact DSR-PDX10P
TOP TEN TIPS

1. Sunshades or matteboxes. Use one. A sunshade keeps flares off your lens, and is equipped with trays to hold filters. Flares are caused when the sun or an artificial light shines onto your lens. For a course on lens flares, rent Easy Rider. Lens flares are pretty, but you may not want them covering the face of the CEO while delivering the annual report. Sunshades usually come with the camera. If not, buy a mattebox.

2. Filters. Be selective. Use them tastefully. Some people soften an image with diffusion or nets for a ‘film look’ which actually looks like it was shot through a shower cap. Tiffen ProMists come in density strengths of 1/8 to 3, and can add an elegant, painterly quality. I recommend rarely using any grade higher than 1/8 on digital video. Soft/FX filters are ideal for softening facial blemishes. Glass and plastic filters are available. Use glass. Plastic, even durable Lexan, can distort an image at long focal lengths.

3. Focus. Auto Focus is great until the speaker you are filming reaches down for a glass of water. The camera lens starts hunting back and forth for the speaker, even after he or she is back in frame. Use Manual Focus as often as possible.

4. Zoom. Feather the starts and stops of your zoom as gracefully as possible by using a delicate touch on the zoom control. When the camera is on a tripod, use a remote zoom control.

5. Exposure. The amount of light entering the lens is controlled by the aperture. I prefer to manually control exposure. Most digital camcorders feature a slide switch called Auto Lock. Sliding the switch to the middle position usually allows you to manually open and close the lens. This is particularly important when you are panning from bright to dark areas. The camera will catch up in automatic mode, but the delay is obvious.

6. Support. Using a fluid head adds elegance to moves and stabilizes telephoto shots. The head’s viscous fluid dampens sudden moves and allows smoother panning and tilting than with a mechanical head. Three of my favourite brands are O’Connor, Sachtlter (DV4 for PD100A and PD150), and Cartoni.

7. Remote Control. When using a fluid head, it is essential to have external control of your zooms. Try to wrap your right hand around the grip handle while a tripod handle is poking you in the stomach is difficult and painful. Tripod handle controls are available from Sony, VariZoom, and Libec.

8. Sound. The built-in microphones on most digital camcorders are fine for ambient sound. Because DVCAM tape records on two tracks, you can split the audio. For example, you can put a lavalier microphone on the right channel and a shotgun microphone on the left channel. Popular microphones include Senheiser’s ME66 and ME67 shotguns and Sony’s ECM-77B and 44B lavs.

9. Lighting. A great fallacy about shooting digital video is that you don’t need to light the scene you’re shooting. Nothing could be farther from the truth. Like all things photographic, if it doesn’t look good to your eye, shooting it on digital video isn’t going to rescue your career. The best way to learn about lighting is to study great paintings, figure out where the light in the painting is coming from, and then imagine you have to light the same scene in a studio.

Beware of portable lighting kits. They can be wonderful tools or terrible traps, ensnaring the unwitting in a downward spiral of poor technique. Because the lights are small, they can create harsh shadows. Remember that the larger the light source, the softer and more natural the shadows will be. Bouncing the rays of small lights onto bed sheets, muslins, foam core, or even a wall can soften the light.

When shooting on location, I usually try to place our lights outside and aim them into the room through the windows. Using large 12,000 to 18,000 watt HMI lights softened slightly with Lee 216 or Rosco Opal Tough Frost creates a beautiful and natural single-source look.

Lighting kits large and small are made by Lowel, Ianiro, and Mole. Kino Fio lamps are cool, soft fluorescents. Most DIY stores offer 4’ x 8’ foam core and bead board. Chimera light banks, metallic umbrellas, Flexfills reflectors, and Litepanels are some of the many products used in the never-ending quest to shape and control light.

10. Cases and Covers. The most important accessory of all – to protect your investment. Soft-sided shoulder bags, backpacks, and wheeled soft-sided cases are best for local work where the equipment is carried by people, cars or vans. My favourite soft-sided bags come from PortaBrace, Tenba and Tamrac. For serious expeditions and hostile environments, try Lowe-Pro backpacks, Vidcam shoulder bags, and Omni/Extreme soft bags that fit inside waterproof shells for shipping.

For air travel and shipping, you need durable, water-resistant ATA-style cases from Pelican or Thermodyne. A good source is Nalpak, which supplies tripod cases and Magliner carts to wheel all the stuff around. To cut out the foam inside these cases, an electric knife makes an excellent saw and is a lot easier to use than a Stanley knife. For custom foam jobs, A&J Cases in Los Angeles make durable custom cases and wonderful custom foam cutouts.

Once you’ve captured your subject on digital video, it’s time to edit. Many digital video formats are easy to edit via an i.LINK interface – Sony’s IEEE 1394 interface protocol – and the latest VAIO laptops are loaded with video-editing applications such as Adobe Premiere or Purple.

But remember these ten tips – and have a good shoot!
DIGITAL COMPONENT RECORDING FOR EXCELLENT PICTURE QUALITY

The DVCAM format is the professional extension of the worldwide standard DV format. The DVCAM format uses 8-bit digital component recording with a 5:1 compression ratio and a sampling rate of 4:2:0. The unique compression algorithm provides excellent picture quality and superb multi-generation performance. The DVCAM format has a wider track pitch of 15 µm (compared with 10 µm for the DV format) which gives higher reliability for professional editing. It also offers superior digital audio performance, providing a wide dynamic range and excellent signal-to-noise ratio, comparable to CD quality. Alternative audio channel modes can be selected: a two-channel mode with 48 kHz/16-bit recording or a four-channel mode with 32 kHz/12-bit recording.

RECORDING CAPABILITY OF UP TO THREE HOURS

DVCAM cassette tapes are available in two sizes: standard and mini. The standard-size cassette provides a recording time of up to 184 minutes, while the mini-size cassette provides up to 40 minutes. These long recording times are achieved in very compact cassettes with a 1/4-inch (6.35 mm) tape width.

EXCELLENT PERFORMANCE FROM PROFESSIONAL DVCAM TAPES

To gain maximum performance from high-density digital recording, advanced Metal Evaporated tape technology has been developed for the DVCAM format. The use of Sony pure cobalt advanced evaporated coating gives both high output and a high C/N (Carrier-to-Noise) ratio, resulting in superb quality pictures and a low error rate.

A DLC (Diamond Like Carbon) protective layer provides the enhanced protection of the tape surface that is essential to avoiding tape damage during long editing sessions. Finally, DVCAM tapes provide a low frequency of dropout and superior thermal stability.

A variety of cassettes, including tapes with IC Cassette Memory and Master Tapes, is available to suit different applications. The built-in 16-kbit Cassette Memory stores ClipLink™ Log Data, Index Pictures, Photo mode and other shooting data, enhancing editing efficiency. Tapes without IC Cassette Memory fit a wide range of applications, at an affordable price. The Master Tapes, which use Sony Hyper Evaticle II Magnetic Particle technology to provide higher output and lower noise, are suitable for high-speed data transfer applications as well as for making master recordings.
### TRUE DIGITAL CAMCORDERs

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<th>Cameras:</th>
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<td>DSR-570WSP</td>
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<td>DSR-PD150AP</td>
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Sony DVCAM camcorders are "True Digital Camcorders". They incorporate DSP (Digital Signal Processing) for full digital processing in the camera section and digital recording in the VTR section. The camera video signal remains in its digital component format through the recording process, resulting in outstanding image quality, free of artifacts and with none of the resolution loss typical of A/D and D/A conversion.

### PLAYBACK CAPABILITY OF ALL DV (25 MB/S) FORMAT RECORDED TAPES

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<th>VTRs:</th>
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For maximum versatility in playback, the DVCAM VTRs are designed to playback DVCAM and DV (SP mode) tapes without a mechanical adaptor or menu adjustment. The DVCAM Master Series VTRs support DVCPRO tape playback*, and the DSR-2000P even supports DV (LP mode) playback. Furthermore, it is possible to use these tapes directly as editing source material, improving productivity. All DVCAM products including camcorders and VTRs can playback DV SP mode recorded tapes.

* Not compatible with SDTI (QSDI) and i.LINK (DV In/Out) interfaces.

### EXCELLENT EDITING PERFORMANCE

#### Preread Editing Capability*

**VTR:** DSR-2000P

The DSR-2000P VTR offers preread editing, a function never before available on a 1/4-inch (6.35 mm) VTR. Preread heads are positioned ahead of the record heads on the drum to scan previously recorded video and audio signals. These signals can then be sent to a character generator, a video switcher and/or an audio mixer, combined with signals from another source, and then recorded back onto the same tracks. Preread editing provides many advantages since it enables single-VTR titling, audio mix/swap and voice over with no delay between video and audio. In addition, A/B roll editing with two VTRs is available (MIX and WIPE only).

* Not available for SDTI (QSDI) and i.LINK (DV In/Out) interfaces as these handle compressed signals.

#### Audio Cross-fade Capability

**VTRs:** DSR-2000P | DSR-1800P | DSR-85P

Preread heads also provide an audio cross-fade capability with clean audio transitions at editing points. During audio insert editing, the previously recorded audio signal is read out by preread heads, cross-faded with the VTR audio input signal and recorded back onto the same track. This provides excellent audio cross-fade editing performance without audio clicks at edit points and provides high quality audio to complement the video performance.
Main features

**UNIQUE TECHNOLOGY AND ADVANTAGES**

- **Enhanced Digital Jog Audio**
  VTRs: DSR-2000P | DSR-1800P | DSR-1600P | DSR-1500AP | DSR-85P | DSR-70AP

  A digital jog audio function is included in the Master Series VTRs with a range of –1 to +1 (DSR-2000P) or –0.5 to +0.5 (DSR-1800P/1600P/1500AP/70AP) times normal speed. With its quick and smooth response, locating editing points is very easy. This is a particularly important feature for ENG applications that usually require audio-based editing.
  Moreover, this function is even available when using DV and DVCPro tapes.

- **ClipLink Operation**
  Camera: DSR-570WSP | DSR-370P | DSR-135P* | DSR-1P
  VTRs: DSR-2000P | DSR-1800P | DSR-1600P | DSR-1500AP | DSR-85P | DSR-70AP

  ClipLink is a unique Sony system that conveys shooting data into the digital production process. During acquisition with a camcorder equipped with this feature, the in-point/out-point time code data of each shot and its OK/NG status are recorded in the DVCAM Cassette Memory. At the same time, a still frame of each in-point, called an ‘Index Picture’*, is recorded on the DVCAM tape to provide visual information associated with the time code. ClipLink data can be imported automatically to JZ-1 videocassette logging software, modified and then be exported to almost any editing device. This greatly enhances subsequent editing operations.

  * The DSR-570WSP/370P require an optional board to record Index Pictures.

**VERSATILE DIGITAL INTERFACES**

- **SDI (Serial Digital Interface)**
  VTRs: DSR-2000P | DSR-1800P** | DSR-1600P** | DSR-1500AP** | DSR-85P** | DSR-70AP**

  With SDI, high-quality picture and sound can be transferred between DVCAM VTRs and SDI-equipped devices.

  * The SDI used in DVCAM VTRs supports digital component video signals.
  ** The DSR-1800P/1600P/1500AP/85P/70AP require an optional board for SDI.

- **SDTI (QSDI™)**
  VTRs: DSR-2000P | DSR-1800P** | DSR-1600P** | DSR-1500AP** | DSR-85P | DSR-70AP**

  SDTI (QSDI) is a digital interface that handles compressed video as well as the sub-code data and digital audio signals of the DV/DVCAM formats. It allows virtually degradation-free transfer of both video and audio signals between equipped VTRs and between these VTRs and the EditStation in a non-linear editing configuration.
  SDTI (QSDI) also makes it possible to transfer data at four times normal speed (DSR-85P only).

  * SDTI (Serial Data Transport Interface) is defined as SMPTE 305M. SDTI (QSDI) is the DV compressed signal interface defined as SMPTE 322M.
  ** The DSR-1800P/1600P/1500AP/70AP require an optional board for SDTI (QSDI).

- **AES/EBU**
  VTRs: DSR-2000P | DSR-1800P** | DSR-1600P** | DSR-1500AP** | DSR-85P

  DSR-2000P/1800P/1600P/1500AP/85P VTRs are fitted with digital audio interfaces conforming to the AES/EBU standard. With a sampling frequency of 48 kHz and 20-bit quantization, these interfaces ensure high quality audio.

  * The DSR-1800P/1600P/1500AP require an optional board for AES/EBU.

- **SDTI-CP (MPEG Out)**
  VTR: DSR-2000P**

  SDTI-CP provides a direct connection to MPEG IMX™ products (MPEG2 4:2:2P@ML, 50 Mb/s).

  * SDTI-CP is defined as SMPTE 326M.
  ** The DSR-2000P requires an optional board for SDTI-CP.
• **i.LINK™ (DV)**

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i.LINK enables a single cable to simultaneously carry digital video and audio signals, as well as data and control signals, with virtually no quality deterioration. This simple connection offers an ideal solution for connecting DVCAM equipment with consumer AV equipment and computer-related products.

* i.LINK stands for IEEE 1394-1995 standards and their revisions.
** Output only from the DSR-570WSP/370P. The DSR-2000P/1800P/1600P/70AP require an optional board for i.LINK.

**SOPHISTICATED MECHANISMS**

• **Quick, Responsive Mechanism**

| VTRs: | DSR-2000P | DSR-1800P | DSR-1600P | DSR-70AP |

Quick mechanical response is an essential requirement for professional video production. The Master Series VTRs provide this rapid response with a combination of highly reliable direct reel drive and drum motor mechanisms. The result is a tape drive with rapid response to Jog and Shuttle commands when searching for edit points, and a rapid start in Play mode.

• **Three-size Cassette Compartment**

| VTRs: | DSR-2000P | DSR-1800P | DSR-1600P | DSR-1500AP |

The Master Series VTRs incorporate a newly designed three-size cassette compartment to ensure compatibility with DV (25 Mb/s) format recorded tapes of all sizes and types. Thanks to this feature, it is possible to use standard and mini DV and DVCAM cassettes, as well as medium DVCPRO cassettes, without a mechanical adaptor.

• **Dual-size Cassette Compartment**

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The above camcorders and VTRs have a dual-size cassette compartment which accepts both standard and mini cassettes without a mechanical adaptor.

• **Dual Interface Mechanism**

| Camera: | DSR-1P |

The DSR-1P Dockable Recorder has both Pro 76-pin Digital and Pro 50-pin connectors with a unique seesaw construction. These allow direct connection of the DSR-1P to several alternative Sony digital (DXC-D30P*/D30WSP*/D35P/D35WSP) and analogue cameras (DXC-327B/637*/537A*/327A*).

* These cameras are no longer sold, but current owners can still connect with the DSR-1P.

• **High-speed Data Transfer Capability**

| VTR:   | DSR-85P |

The advanced drum mechanism and SDTI (QSDI) interface enable degradation-free data transfer and dubbing at four times normal speed.

• **Further operational efficiency by DSR-DU1**

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<td>DSR-50P</td>
<td>DSR-V10P</td>
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The DSR-DU1 is a compact videodisk unit that mounts on or interfaced with above camcorders. It provides up to three hours of DVCAM/DV stream recording as a file. Via an i.LINK (DV) connection, the camera output of the camcorder is recorded to the hard drive of the DSR-DU1 in parallel to the recording made on the camcorder’s tape. The DSR-DU1 is an extremely versatile device. When detached from the camcorder, it is very effective for field off-line logging or EDL creation, as a player for making dubs, or as a source feeder machine for i.LINK equipped non-linear editors. Moreover, when connected to an SBP2 compatible i.LINK equipped nonlinear editor*, the DSR-DU1 allows its DV files to be directly accessed from the non-linear editor. The Rec. start and stop time codes of each scene are also transferred to the editor, eliminating the logging process common to non-linear editing.

* Please contact your nearest Sony office or Authorized dealer for non-linear products that support DV file transfer between the DSR-DU1.

*1 DSR-135P refers to the combination of the DXC-D35P + DSR-1P.
Freeze Mix Function

The Freeze Mix function superimposes a previously recorded image on the view-finder, allowing the operator to easily frame or reposition a subject when a shot must be taken in the same framework as a previous take. Combined with the SetupLog™ function, a retake is a breeze.

Technical advantages of DSR-570WSP / DSR-370P / DSR-135P* / DXC-D35P

As most camcorders are now digital, it is important to understand that the real benefit of a professional DVCAM camcorder is in the way the Digital Signal Processing works.

The DSR camcorders were created with the sole purpose of producing perfect pictures. From the very first shot in a production, the operator now has the power to make a unique creative contribution during shooting. Using these models, so much more can now be done “in-camera” that is a defiance of conventional wisdom. The DSR camcorders deliver outstanding “in-camera” creativity!

Issued from the well-known DVW-700 Digital Betacam camcorder technology, the DSR-570WSP, DSR-370P and the DXC-D35P offer unique functionality giving the operator a unique opportunity to customise their camera settings, so that they precisely suit production requirements.

Here are some examples of the unique functions provided by the high end DVCAM camcorders.

**Colour Precision – TruEye™ Process**

The TruEye digital signal processing is one of the most innovative features that DSP allows and makes it possible to reproduce a far more natural colour than a conventional camera, even in severe shooting conditions.

Sony TruEye digital signal processing technology virtually eliminates hue distortion, particularly obvious in extreme lighting conditions, that results from conventional RGB analogue or digital processing. By processing video signal data at three levels – brightness, hue, and saturation – similar to how the human eye works, the TruEye™ process assists in the reproduction of natural skin tones.

**Contrast Control with the DynaLatitude™ function**

DynaLatitude, a unique feature for contrast control, minimises video level distortion. Based on video signal histograms, the DynaLatitude function aligns the contrast of each pixel individually to eliminate imbalances, such as overexposure of background image. Available for DSR-570WSP, DSR-370P and DXC-D35P.

**Black Stretch and Compress**

Contrast in the black area of an image can easily be adjusted using the Black Stretch/Compress control function. Black Stretch emphasises contrast in dark areas, while Black Compress enhances or deepens darkness.

**Black Halo Free**

On transition between 2 contrasted zones, the “Black Halo” phenomenon appears. It consists of excess of contrast on the border, the DSP process of the DVCAM camcorders eliminates this phenomenon.

**Freeze Mix Function**

The Freeze Mix function superimposes a previously recorded image on the view-finder, allowing the operator to easily frame or reposition a subject when a shot must be taken in the same framework as a previous take. Combined with the SetupLog™ function, a retake is a breeze.
Once again, based on the Digital Betacam camcorder technology, the DSR-570WSP, DSR-370P and DXC-D35P use a Multi Matrix function that allows a particular colour to be automatically grabbed and its hue, saturation and detail level modified independently from the rest of the picture.

For example in the case of a person’s face, it gives the subject a pleasing facial complexion, while maintaining the sharpness of other areas.

The designated active area of Skin Detail can be set with the SKIN SET button on the camera’s side panel. The colour range of the Skin Detail active area and Skin Detail level can also be controlled.

Other functions available:
- H detail frequency control
- R/G Vertical detail control
- Master Black
- Master Gamma
- Detail Frequency control
- Saturation and Hue control
- TLCS (Total Level Control System)
- Preset colour temperature with 32 steps
- SetupNavi™ (DXC-D35 and DSR-570WSP)
- SetupLog™

Control Software for DSR-570WSP & DXC-D35 camera series RMT-DXCDSR
This software, dedicated to setting all the parameters of the DXC-D35P/WSP and the DSR-570WSP, is a simple and powerful working tool. Based on an intuitive graphic interface, it has been designed to complement the digital advantages of Sony cameras with significant gains in productivity.

It enables the internal parameters of the camera to be changed rapidly and securely, in order to create user configuration files tailored to the scenes to be filmed or multi-camera matching.

The creativity parameters are stored in the camera’s 3 internal “USER” memories, whereas all the parameters being controlled are stored on hard disk or floppy.

This new software allows real time control of the creativity and operating parameters, immediately, simply and without risk, via a PC connected up to the camera.

Applications:
- Didactic
- Appropriate settings for rental equipment
- Extended picture adjustment
- Studio operations

Extra features included:
- Stretch point and compress point advanced settings
- Detail advanced settings
- White shading
- Flare management
Support services

DVCAM SILVER SUPPORT PACK

Sony understand that in today’s fast-changing environment, the need is for both equipment and a level of service that meet the crucial demands for higher productivity in professional video production.

Setting new standards in innovation, quality and reliability
Keywords associated with the Sony DVCAM line-up are versatility and flexibility. From state-of-the art technology to sophisticated functionality, the DVCAM line-up addresses a broad range of professional video applications from electronic news gathering to corporate video productions.

As soon as equipment is switched on, it becomes absolutely mission critical. Any fault or inability to use it to its full potential will have an immediate impact on bottom-line effectiveness. Now, with the launch of a customer-focused operational and technical support pack, which has significant advantages and benefits, Sony has underscored another keyword-reliability.

Quite simply more
Because professional customers need professional service and support, Sony is offering enhanced support services for DVCAM products. From the 1st of July 2002, DVCAM products will be supplied with a 2-year Silver Support Pack, in addition to warranty, as standard. That means unique extra services, for twice as long.

Supported DVCAM Products
Digital Camcorders:
- DSR-570WSP
- DSR-370P
- DSR-250P
- DSR-1P
- DSR-PD150P
- DSR-PDX10P
Digital VTRs:
- DSR-2000P
- DSR-1800P
- DSR-1600P
- DSR-1500AP
- DSR-85P
- DSR-45P
- DSR-30P
- DSR-25
- DSR-11
- DSR-70AP
- DSR-50P
- DSR-V10P
Hard Disk Units:
- DSR-DU1
- DSR-DR1000P

DVCAM SILVER SUPPORT PACK

• 2 Years Support
The Silver Support Pack extends the support period from the standard 1-year warranty to two years. Not only that, but extra features and services are also included.

• Operational Phone Call Centre
Operational phone support is provided to give advice and help so that the user can get the most out of their DVCAM equipment and maximise its performance. Our telephone support is available from Monday to Friday and in 5 languages – English, French, German, Italian and Spanish.

• Collection Anywhere
In the event of equipment failure, Sony will arrange collection of the faulty unit directly from, and delivery of the repaired unit directly to the customer’s location – anywhere in mainland EU, Norway or Switzerland. That makes it simpler, quicker and even more convenient for the customer.

• Repair within 7 days
Sony will collect, repair and return the unit to the customer’s preferred location within 7 working days. So, minimum downtime, increased confidence and the ability to plan your business are guaranteed.

• Loan
If the faulty equipment cannot be repaired in time, the DVCAM hotline will contact the customer and arrange to have a loan unit delivered. Arrangements will be made to collect the loan unit as soon as confirmation is received that the repair has been carried out satisfactorily.

5 additional reasons to choose Sony DVCAM:
The Sony DVCAM advantage

System downtime means lost opportunities, even with the world’s most reliable products. In today’s competitive world that means time, hassle, increased cost and lost revenue. Why risk it? Technical support needs are an important consideration. With the Sony Silver Support Pack for DVCAM products, you are free to concentrate on the creative aspects of your job.

Remember:
Professional customers need professional support!
DSR-570WSP
DSR-370P

Common Features

- Highly mobile one-piece design
- DSP (Digital Signal Processing)
- Studio Multicore CCU operations up to 300m
- TruEye™ process for faithful colour reproduction
- DynaLatitude™ process minimises video level distortion
- Skin Detail and Skin Tone with auto detection of active area
- Black Stretch and Compress control functions
- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Total Level Control System (TLCS) for automatically extended range of iris control
- Auto Tracing White Balance (ATW) function
- Black Halo free
- EZ Mode and EZ Focus for quick camera setup
- DynaFit™ shoulder pad for comfortable molding to any shoulder
- Variable colour temperature settings: 3200 K (19 steps in the range from 2200 K to 4300 K) or 5600 K (13 steps in the range from 4600 K to 12000 K)
- Video light connector for optional light equipment
- Menu control by Jog Dial operation
- Camera Setup File System
- SetupLog™ function for automatic recording of camera setting data
- Pool Feed operation *1
- i.LINK (DV output) interface providing a single cable connection to simultaneously transfer data and control signals as well as digital video and audio signals, with virtually no generation loss
- 26-pin VTR interface
- Full colour picture playback without an external adaptor
- Edit Search function
- Time code superimposed during playback and record
- Freeze Mix function
- ClipLink operation *2
- Compact and lightweight BP-M50/100 Ni-MH Batteries or BP-L40A/L60A/L90A Lithium-ion Batteries
- CA-WR855 Camera Adaptor for the WRR-855B Wireless Receiver
- Compact crew package with the LC-DS300SFT Soft Carrying Case or LC-DS500 Hard Carrying Case
- DXF-51 5” Studio viewfinder
- Common Setup File for DSR-570WSP and DSR-370P
- Audio level monitoring through the side panel
- External VTR control & monitoring via i.LINK connector
- CA-370 Intercom adapter

*1 The optional DSBK-501P Analogue Composite Input Board is required.
*2 The optional DSBK-301A Index Picture Board is required.

DSR-570WSP
One-piece Camcorder

- 16:9 - 4:3 Switchable Camcorder
- Compact and lightweight: 6.3 kg (13 lb 14 oz) including viewfinder, microphone, lens, battery and tape
- Low power consumption: 24 W (without viewfinder)
- Three 2/3-inch Power HAD WS™ 16:9 CCDs providing high quality images with low smear level, high sensitivity, high S/N ratio (61 dB) and high horizontal resolution (980/850 TV lines in 16:9/4:3 mode)
- Hyper Gain (36 dB or 42 dB selectable)
- Aspect ratio switchable between 4:3 and 16:9
- SetupNavi™ function for camera setup file storage
- Sensitivity: F11 at 2000 lx
- Minimum illumination = 0.5 lx
- Optional remote software available
- Flexible safety zone marker
  - In 4:3 mode: OFF, 13:9, 14:9, 15:9, 16:9
  - In 16:9 mode: OFF, 4:3, 13:9, 14:9, 15:9
- Silver Support supplied as standard (see page 14)

Studio Diagram
**DSR-370P**
One-piece Camcorder

- Compact and lightweight: 6.0 kg (13 lb 4 oz) including viewfinder, microphone, lens, battery and tape
- Low power consumption: 21 W (without viewfinder)
- Three 1/2-inch Power HAD™ CCDs for low smear level, high sensitivity, high S/N ratio (60 dB) and high horizontal resolution (800 TV lines)
- Hyper Gain (36 dB)
- 4:3 aspect ratio
- Sensitivity: F11 at 2000 lx
- Minimum illumination = 0.5 lx
- Flexible safety zone marker 4:3 mode:
  - OFF, 13:9, 14:9, 15:9, 16:9
- SetupNavi™ function for camera setup file storage
- Silver Support supplied as standard (see page 14)

**Lenses for DSR-370P**

**VCL-719BX (for DSR-370PK1 pack)**
- Zoom ratio: 19:1
- Focal length: 6.7mm x 127mm
- Zoom control: Servo/manual switchable
- Iris control: Servo/manual switchable
- Maximum relative aperture: F1.4 (6.7 to 89mm) to F2.0 (120mm)
- Minimum object distance: Wide: 772x579mm, Tele: 42x32mm
- Mount type: Sony 1/2-inch type bayonet mount
- Weight: 1.45kg (including lens hood)
- Dimensions (WxHxD): 139.8 x 99.5 x 218.9mm (including objections)

**VCL-716BX (for DSR-370PK2 pack)**
- Zoom ratio: 16:1
- Focal length: 7.3mm x 117mm
- Zoom control: Servo/manual switchable
- Iris control: Servo/manual switchable
- Maximum relative aperture: F1.9 (7.3 to 98mm) to F2.3 (117mm)
- Minimum object distance: Wide: 823x617mm, Tele: 51x39mm
- Mount type: Sony 1/2-inch type bayonet mount
- Weight: 1.2kg (including lens hood)
- Dimensions (WxHxD): 123 x 102 x 205mm (including objections)

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**DSR-250P**
One-piece Camcorder

- Compact and lightweight: 4.4 kg (9 lb 11 oz)
- Newly developed 1/3-inch CCDs for accurate colour reproduction
- Capable of both interlace scan, for moving images, and progressive scan, for still images or shooting moving subject*1 and exporting a frame of the image as a still picture
- DSP (Digital Signal Processing)
- New, high-resolution 1.5-inch black & white viewfinder
- 2.5-inch (200,000 dot) colour LCD monitor
- 12x lens*1 with Super SteadyShot™ system
- 16:9 recording mode available (electronically processed)
- Superb picture quality of the DVCAM format
- Recording and playback capability with standard and mini-size DVCAM and DV tapes (SP mode only)
- Three XLR audio input connectors for professional microphones (one at front, two at rear)
- Audio dubbing capability (48 kHz/16-bit or 32 kHz/12-bit selectable)
- Long recording time: 184 minutes with a standard-size cassette in DVCAM mode, or 270 minutes in DV SP mode
- Time/date data superimposition on output pictures
- Digital still camera functions with Memory Stick™
- Light output (DC 12 V, max. 30 W) and additional DC 12 V out for optional accessories
- Time code preset capability
- i.LINK (DV In/Out) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- Supplied RMT-811 Remote Commander
- Silver Support supplied as standard (see page 14)

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*1 When recording moving images in progressive scan mode, the motion will display some jitter since the picture is read/output every 1/12.5 second.

*2 Digital zoom of 24x or 48x available via menu selection.
**DSR-1P Dockable Recorder**

- Compact and lightweight: 3.1 kg (6 lb 13 oz) including battery
- Ideal operation as a digital camcorder by docking with the DVC-35P Digital Video Camera
- Dual-size cassette mechanism: both standard- and mini-size cassettes accepted
- Dual interface mechanism: Pro 76-pin Digital and Pro 50-pin interfaces for direct connection with both Sony digital and analogue cameras
- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- ClipLink operation
- Full colour picture playback capability without a playback adaptor
- Record review function
- Frame accurate back-space editing
- Built-in SMPTE/EBU time code generator/reader
- Time base stabiliser
- Full VTR function control (Fast Forward/Rewind/Play/Stop/Eject)
- Comprehensive 8-digit LCD
- Silver Support supplied as standard (see page 14)
**DSR-PD150P**

**Compact Camcorder**

- Compact and lightweight: 1.5 kg (3 lb 5 oz) including battery and tape
- Newly developed 1/3-inch CCDs for accurate colour reproduction
- Capable of both interface scan, for moving images, and progressive scan, for still images or shooting a moving subject*1 and exporting a frame of the image as a still picture
- DSP (Digital Signal Processing)
- Two XLR audio input connectors for professional microphones
- Supplied RMT-811 Wireless Remote Commander
- 2.5-inch (200,000 dot) colour LCD monitor
- 12x lens**2 with Super SteadyShot system
- Manual control and a full range of auto modes
- 16:9 recording mode available (electronically processed)
- Superb picture quality of the DVCAM format
- Playback and record capability of DV recorded tapes**2 (SP mode)
- 40 minutes recording time with a mini-size cassette
- Time/date data superimposition on output pictures
- Digital still camera functions with Memory Stick
- InfoLITHIUM™ battery system displays the remaining capacity of the battery (accurate to the minute)
- Audio dubbing capability (48 kHz/16-bit or 32 kHz/12-bit selectable)
- i.LINK (DV In/Out) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- Silver Support supplied as standard (see page 14)

*1 When recording moving images in progressive scan mode, the motion will display some jitter since the picture is read/output every 1/12.5 second.

**2 Digital zoom of 24x or 48x available via menu selection.

**3 Only mini-size DVCAM and DV cassettes can be used.

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**DSR-PDX10P**

**Handycam®-style Camcorder**

- Very compact body (the smallest 3 CCD DVCAM camcorder)
- 3 1/4.7-inch Mega pixel Advanced HAD CCD type
- 14 Bits DXP Processing (Digital Extended Processor)
- Enhanced 16:9 capability (real 16:9 shooting quality)
- 2 XLR audio input connectors for professional microphones
- USB Streaming (capability to stream Video and Audio through USB port) available in camera and VCR mode
- 3.5 inch type 240,000 colour LCD monitor with touch panel function (Spot focus, Spot AE, Playback Zoom, Memory play)
- 180,000 dot precision Black and White LCD Viewfinder
- Optical Super SteadyShot™
- TC and User bit preset capability
- DVCAM and DV (SP mode) recording and playback formats
- High resolution picture recording (640x480 / 1152x864 dots)
- MPEG movie recording up to 85 mins on a 128 MB Memory Stick
- i.LINK and Analogue In/Out interfaces
- Oplayo™ Composer Pro Lite 2.0 software supplied allowing the streaming of content for many devices such as PC, PDA or mobile phone
- Silver Support supplied as standard (see page 14)
Since its introduction, the DVCAM format has become widely accepted in the world of video production – from industrial to broadcast markets. Recognising the increasing demands for DV-based production in broadcast applications, Sony introduced the DSR-2000P in 1999, complete with compatibility with all DV family formats and professional features, such as excellent editing performance and high-quality jog audio, inherited from analogue formats. Building on the advanced technologies of the DVCAM format and professional features of the flagship DSR-2000P, Sony now presents the entire lineup of Master Series VTRs, our top-of-the-line DVCAM videocassette recorders and players. The Master Series VTRs (DSR-2000P, DSR-1800P, DSR-1600P, DSR-1500AP and DSR-70AP) now bring the features and benefits introduced with the DSR-2000P to a wider market, from industrial to broadcast for a wider range of applications and needs.

**DSR-2000P**

**DSR-1800P**

**DSR-1600P**

**DSR-1500AP**

**DSR-70AP**

**Common Features**

- Superb picture quality of the DVCAM format
- Playback capability of DV (25 Mb/s) recorded tapes including DV tapes recorded in SP mode and DVCPRO tapes*1 without a mechanical adaptor or menu settings changes
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Four-channel audio editing capability*2
- Audio cross-fade function for clean audio transitions at editing points*2
- Excellent jog audio capability
- DMC (Dynamic Motion Control) provides noiseless slow-motion playback
- High-speed picture search over a range of 60 times normal speed, in both forward and reverse*6
- Versatile digital interfaces*3: SDI, SDTI (QSDI), i.LINK (DV In/Out) and AES/EBU digital audio
- Extensive analogue interfaces: composite, component, S-Video and XLR audio
- RS-422A remote control interface
- Frame accurate editing capability
- ClipLink operation
- Full tape dubbing with ClipLink Log Data via SDTI (QSDI) and RS-422A interfaces*4
- 16:9 aspect ID signal recording
- Video process control for greater control of both analogue and digital outputs
- Built-in SMPTE/EBU time code and VITC generator/reader
- Built-in signal generator (colour bars, black burst, 1 kHz tone, silent signal)*6
- Flexible input selection between video and audio*5
- Universal powering system (AC 100 V to 240 V)
- Three-size cassette compartment to ensure compatibility with DV(25Mb/s) recorded tapes

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*1 SDTI (QSDI) and i.LINK (DV In/Out) interfaces do not support DVCPRO playback.

*2 DSR-2000P/DSR-1800P only.

*3 Optional Input/Output Boards required. Please check Feature Comparison of Studio VTRs (p.25) for details.

*4 DSR-2000P/DSR-1800P/DSR-1500AP/DSR-70AP only.

*5 i.LINK cannot be combined with other signal interfaces. When SDTI (QSDI) is selected as the audio input, the video signal is assumed to be SDTI (QSDI). However, when it is selected as the video input, other signal interfaces can be selected for the audio.

*6 DSR-2000P/1800P/1600P only.
DSR-2000P
Editing Recorder

- Playback capability of DV tapes recorded in LP mode
- Preread editing capability*1 to perform sound-on-sound capability, audio mix/swap and over-dubbing of audio with no delay between video and audio as well as A/B roll editing*2 with two VTRs
- VTR-to-VTR editing without external controllers
- Wide range of digital slow speed from -1 to +1 times normal speed
- Optional SDTI-CP digital interface board (MPEG Out)
- Channel condition monitoring function
- Audio level control in both recording and playback modes
- Dial menu operation
- Key Inhibit and Rec Inhibit functions to prevent accidental operation
- DSBK-200 Control Panel for remote operation from a distance of up to 10 metres (approx. 33 ft.)
- Silver Support supplied as standard (see page 14)

*1 Not available through SDTI (QSDI) and i.LINK interfaces.
*2 MIX and WIPE only.

DSR-1800P
Editing Recorder

- Preread playback capability to perform audio mix/swap and over-dubbing without any delay between video and audio signals
- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- Channel condition monitoring function
- Jog dial on front panel
- Silver Support supplied as standard (see page 14)

DSR-1600P
Editing Player

- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- Channel condition monitoring function
- Jog dial on front panel
- Silver Support supplied as standard (see page 14)

DSR-1500AP
Editing Recorder

- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- Recording and playback capability of the DV format (SP mode only)
- Compact, half-rack size
- Menu keys on front panel for picture search
- Silver Support supplied as standard (see page 14)
Lineup features

STUDIO VTRs

DSR-45P
Recorder

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)*1
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette
- Full range of analogue Video IN/OUT: Component, Composite, S-Video
- Four channel independent Audio IN/OUT with XLR connectors for Audio OUT
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- RS-422A remote control interface
- RS-232C interface for basic control from a PC
- LANC and Control S interface
- Time code IN/OUT
- Time code/ User bit preset
- Time code IN through DV IN
- Duplication function (including the duplication of Cassette Memory data)
- Compact size (half-rack size width, 2U height)
- Low power consumption (22W during playback)
- Built-in 2-inch type (123,200 dot) colour LCD monitor
- Tape counter
- Wireless remote controller RMT-DS5 supplied
- Silver Support supplied as standard (see page 14)

*1 When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.

*2 The DSR-45P is not equipped with the synchronisation capability, therefore is recommended to be used only as a source feeder in A/B roll editing.
DSR-30P Recorder

- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- i.LINK (DV In/Out) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- Auto repeat function
- One-program playback function to automatically rewind to the beginning of a tape and enter Standby mode
- Power-on playback/recording capabilities
- External timer recording
- Duplication mode with original time code
- Function lock to avoid accidental operation
- Built-in control tray with a Jog/Shuttle dial with a range of 1/5 to 18 times normal speed, in both forward and reverse
- Index Points search function (when using a cassette with IC Cassette Memory)
- Clear frame picture
- RMT-DS30 Wireless Remote Controller (supplied accessory) for control of basic functions
- Headphone/microphone connections
- Silver Support supplied as standard (see page 14)

DSR-25 Recorder

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)*1
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette
- Recording and playback capability of both NTSC/PAL signals*2
- i.LINK (DV) interface for simultaneous transfer of audio, video, and command signals
- LANC and Control S interface
- Time code/ User bit preset
- Time code IN through DV IN
- Duplication function (including the duplication of Cassette Memory data)
- Power-on recording and playback capabilities
- Compact size (half-rack size width, 2U height)
- Low power consumption (16 W during playback)
- Built-in 2-inch type (123,200 dot) colour LCD monitor
- Tape counter
- Wireless remote controller RMT-DS11 supplied
- Silver Support supplied as standard (see page 14)

*1 When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.

*2 The DSR-25 is not equipped to convert signals from NTSC to PAL, or vice versa.

DSR-11 Recorder

- Superb picture quality of the DVCAM format
- Recording and playback capability of DV format tapes (SP mode only)*1
- NTSC/PAL compatible*1 in both Rec and Play mode
- Composite and S Video inputs
- i.LINK (DV In/Out) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- Unique design enables both horizontal and vertical installation
- LANC and Control S terminals
- Auto repeat function
- DC power operation
- Supplied RMT-DS11 Wireless Remote Commander
- Silver Support supplied as standard (see page 14)

*1 The DSR-11 does not convert signals from NTSC to PAL, or vice versa.
DSR-70AP
Portable Editing Recorder

- Compact, all-in-one package features a 6.4-inch VGA LCD monitor, a full cut-editing controller with a Jog/Shuttle dial and audio speaker
- Wide range of digital slow speeds from -0.5 to +0.5 times normal speed
- High-speed colour picture search over a range of 32 times normal speed, in both forward and reverse
- Audio mix/swap recording
- Clip link operation: cue up to Mark In/Cue address, change of Mark In/Out points, change of OK/NG status and creation of new Mark In/Out points
- Edit List Memory Function
- Double Deck Editor by docking two DSR-70AP units or a DSR-70AP and a DNW-A25 Betacam SX® portable editing recorder
- SDI and i.LINK interfaces are provided by a single DSBK-160A optional board
- Two-camera switching recording*1
- Sequential recording for up to 6 hours in the double deck configuration
- Parallel-run recording to control two docked DSR-70AP units in parallel for simultaneous recording
- Two-way power supply system (AC/DC) for operation with either AC*2 or DC power
- Silver Support supplied as standard (see page 14)

*1 The optional DSBK-180 Dual Video Input Board is required.
*2 AC adaptor is required.

Note: Optional interface boards (DSBK-140/150/160A/170) cannot be used in combination with each other. However, these boards can be used together with the optional DSBK-180.

DSR-50P
Portable Recorder

- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Four-channel independent digital audio recording
- 2.5-inch (200,000 dot) colour LCD monitor
- Duplication options (tape copy, tape copy with original time code, or tape copy with cassette memory data)
- Compact & lightweight design: 3.9 kg (8 lb 9 oz) without battery and tape
- Playback capability of both NTSC and PAL recorded tapes*1
- i.LINK (DV In/Out) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- 26-pin Camera Connector
- Analogue Component Output
- Timecode IN/OUT
- Silver Support supplied as standard (see page 14)

*1 The output signal level is not standard and therefore recommended for simple monitoring only, with a monitor of the same colour system as the original source.
DSR-V10P
DVCAM Video Walkman® Recorder
• Superb picture quality of the DVCAM format
• Playback capability of DV recorded tapes (SP mode only)
• 40 minutes recording time with a mini-size cassette*1
• Compact and lightweight: 970 g (2 lb 2 oz) without battery and tape
• Built-in 5.5-inch LCD monitor
• InfoLITHIUM battery system displays the remaining capacity of the battery (accurate to the minute)
• i.LINK (DV In/Out) interface providing a single cable connection to simultaneously transfer audio, video and command signals
• LANC interface for simple editing with a LANC-equipped recorder or editing system
• Assemble editing with up to 99 events x four programs with the optional DSRM-E1 Edit Adaptor
• Auto repeat function
• Duplication mode with original time code
• Hands-free shooting capability with the optional CVX-V1P/3P/V18NSP Mini Camera
• Silver Support supplied as standard (see page 14)  
*1 The DSR-V10P accepts only mini-size DVCAM and DV cassettes.

Flexicart
Multi-cassette System
• Accepts a maximum of six DSR-2000P/1800P/1600P units*1
• Designed to be modular and reconfigurable with optional VTRs and cassette bin units to meet differing applications
• Multiple inputs and outputs
• Fully automated, simultaneous record, playback and time delay
• Standard traffic and automation interface
• PC-driven, user-friendly Windows® environment  
*1 Available for standard-size cassettes only.

<table>
<thead>
<tr>
<th>Applicable VTRs</th>
<th>VTR Mount Kit</th>
<th>Cassette Bin Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSR-2000P</td>
<td>BKFC-54</td>
<td>BKFC-210*</td>
</tr>
<tr>
<td>DSR-1800P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSR-1600P</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 BKFC-210 DV Hand Kit: a robotics hand for handling DVCAM standard-size cassettes.

<table>
<thead>
<tr>
<th>Configuration (VTR/Bin Unit ratio)</th>
<th>VTRs</th>
<th>Bin Units (4U high)</th>
<th>Standard-size Cassette Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>7</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td>2</td>
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<td>6</td>
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<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>105</td>
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<td></td>
<td>5</td>
<td>4</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
<td>63</td>
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</table>
HARD DISK UNITS

DSR-DU1
Hard Disk Unit

- Compact hard drive unit (2.5-inch, 40GB hard drive) for use with DVCAM and Sony DV camcorders*1
- Camera output can be recorded to the DSR-DU1’s hard drive in parallel to the recordings made on the camcorder’s tape via i.LINK(DV) connection.
- Recording in 25Mb/s DVCAM/DV stream for up to three hours.
- Capable of docking directly to the rear of DVCAM camcorders*2 by use of the CA-DU1 optional Camera Adaptor.
- The camera adapter’s slot-in mechanism allows easy and quick replacement of the DSR-DU1.
- The DSR-DU1’s DV video/audio files can be accessed from a compatible i.LINK equipped non-linear editor*3.
- Compact and Lightweight
- i.LINK interface with AV/C and SBP2 protocols
- Cache recording (8 seconds)
- Interval recording
- 525(NTSC)/625(PAL) Switchable*4
- REC Trigger controlled from the REC On/Off button of Sony i.LINK(DV) equipped camcorders*5
- Supplied remote controller for Rec, Cue and Rec Tally controls
- Flexible DC operation (DC 12 V*, DC 8.4 V)
- Shooting Data (Time codes of the rec in and out points, Cue points from the DSR-DU1 and the supplied remote controller)
- Silver Support supplied as standard (see page 14)

*1 Please contact your nearest Sony office or Authorised dealer for compatible DV camcorders.
*2 DSR-570WSP/370P/500WSP/300AP/250P.
*3 Please contact your nearest Sony office or Authorised dealer for non-linear products that support DV file transfer between the DSR-DU1.
*4 Signal conversion from 525(NTSC) to 625(PAL), or vice versa is not possible.
*5 To use this function with camcorders other than the DSR-570WSP/370P, tape should be set in the cassette compartment.
*6 To use DC 12V, the optional CA-DU1 is required.

DSR-DR1000P
Hard Disk Recorder

(Preliminary information)

- DVCAM recording for over 6 hours (80GB hard drive)
- Compact & lightweight (Half-rack size, 6 kg)
- Simultaneous recording & playback
- Clip segment playback for playout of designated video segment
- DMC playback with the range of ± x2 times normal speed
- Continuous loop recording
- Pre-alarm recording (automatic recording triggered by an external alarm signal)
- Interval recording
- i.LINK interface with AV/C and SBP2 protocols
- Versatile interfaces (i.LINK, SDI, Component, Y/C, Composite, AES/EBU, Analogue audio, TC I/O, RS-422A, Ethernet)
- VTR-like control panel with a Jog/Shuttle dial
- Network capability (file transfer using FTP via 100Base-T Ethernet)
- SNMP (Simple Network Management Protocol) enabled
- Silver Support supplied as standard (see page 14)
PURPLE VAIO and PURPLE DESKTOP

This low cost editing solution from Sony is based on the same award-winning interface used in the Sony ES-3 and will suit any editor looking for a DV based editing solution. Supplied either as a Desktop or Laptop solution, there is sure to be a system to suit your needs today and into the future.

FEATURES

• Easy to use
By using a fully customisable interface, Purple is able to adapt to your every need. Editors can have their own set of keyboard shortcuts and the interface is streamlined allowing you to start working as quickly as possible.

• Uncompromising picture quality
Using native DV / DVCAM compression, Purple does not re-compress your pictures during the editing process. The supplied i.LINK interface also provides a simple and convenient way of controlling your VTR or camera and transferring your video, audio and timecode data to the PC.

• Reliable and powerful
Purple is installed on the Windows 2000 operating system which has a number of benefits, the most important being reliability. In the unlikely event of a system crash Purple will never lose your work as it is constantly being saved.
Additionally, Purple fully supports the Windows 2000 multi-tasking capabilities, which means that processes such as rendering can be carried out in the background. Any rendering tasks are started automatically so that you can always concentrate on the edit in hand.
The Desktop version also makes full use of multi-processor workstations and the optional “InTime” board will reduce rendering times dramatically.

• Flexible
Purple can edit more than just DV sourced material, by utilising third party converters from Miranda and Dazzle, you can also digitise material from other digital or analogue formats.
Ultimately this means that your Purple system can also be used as a low cost offline editor, as your finished edit can be exported to an online suite via EDL or OMF files.

The number of Video and Audio layers are infinite, as are the number of effects that can be applied to a video clip. All this combined with a totally non-destructive undo function makes Purple the most versatile and flexible system on the market today.

• Open platform
By supporting many of today’s Effect plugins such as Boris FX, Ultimatte and Vortex FX Purple is an extremely open editing solution. Additionally, standard network infrastructures are also supported, allowing you to quickly share your material with other creative people.
The X-send function allows the editor to export both media and timeline information directly into other packages like Adobe After FX, Pinnacle’s Commotion and Discreet Logic’s Media Cleaner. Multimedia engines such as AVI and QuickTime are also fully integrated and a wide choice of still files can also be used.

• Advanced audio tools
No NLE system today can be complete without a comprehensive set of audio tools. Purple supports realtime mixing of 8 audio channels and audio filters such as a 3 band parametric equaliser, a maximizer and reverb are also supplied as standard.
Additional audio can be imported from CD and a Voice over can be carried out in realtime whilst the existing audio tracks are monitored.

• The Complete Solution.
Whether it is the mobile laptop system, or the scalable desktop version, Purple, combined with the DVCAM family of VTR’s and Camera’s provides you with the most complete end to end solution in the world today.
JZ-1

The JZ-1 Logging Software allows users to create logging data using a PC and a RS-422 DVCAM VTR. Operation is both quick and simple, and is based on a very straightforward GUI. For DVCAM the JZ-1 has the ability to capture ClipLink data and export it into a variety of formats (Edit Decision Lists - EDLs) compatible with most non-linear systems on the market. JZ-1 can also be used with IMX and Betacam VTRs to improve the workflow in editing suites.
From an application standpoint, the DVCAM format incorporates all the attributes expected in a broadcast and professional format, such as native SMPTE time code, ± 0 frame accuracy in insert editing, and the robustness in the format to withstand the wear and drop in imagery dB resulting from use in the harsh ENG and production environment. Not to be forgotten, the DVCAM line has Sony’s professional service infrastructure behind each product. In times of dire need, this aspect of customer support can be the most critical for those utilizing a professional product. It is no wonder that discerning professionals select DVCAM for their operation.
<table>
<thead>
<tr>
<th>Feature</th>
<th>DSR-570WSP</th>
<th>DSR-370P</th>
<th>DSR-250P</th>
<th>DSR-PD150P</th>
<th>DSR-PDX10P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCD size</td>
<td>3CCD 2/3 inch</td>
<td>3CCD 1/2 inch</td>
<td>3CCD 1/3 inch</td>
<td>3CCD 1/3 inch</td>
<td>3CCD 1/4.7 inch</td>
</tr>
<tr>
<td>CCD type</td>
<td>16:9</td>
<td>4:3</td>
<td>4:3</td>
<td>4:3</td>
<td>16:9</td>
</tr>
<tr>
<td>16:9 commutation capability</td>
<td>4/3 Commutation</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>(with high resolution capability)</td>
</tr>
<tr>
<td>PowerHAD CCD</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Standard lens</td>
<td>Recommended Canon: YJ18x9KRS, Fujinon: A15x8.7BRM-28</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Interchangeable lens</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Super SteadyShot</td>
<td>••</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Resolution</td>
<td>980 in 16/9 &amp; 850 in 4/3</td>
<td>800 lines</td>
<td>530 lines</td>
<td>530 lines</td>
<td>530 lines</td>
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<tr>
<td>Minimum illumination</td>
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<td>0.5 lux</td>
<td>2 lux</td>
<td>2 lux</td>
<td>7 lux</td>
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<tr>
<td>S/N Ratio</td>
<td>61 dB Typical</td>
<td>61 dB Typical</td>
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<td>BW CRT</td>
<td>BW CRT</td>
<td>High resolution BW LCD</td>
<td>High resolution BW LCD</td>
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<td>Tape size</td>
<td>Std and Mini DV/DVCAM</td>
<td>Std and Mini DV/DVCAM</td>
<td>Std and Mini DV/DVCAM</td>
<td>Mini DV and DVCAM</td>
<td>Mini DV and DVCAM</td>
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<td>Recording mode</td>
<td>DVCAM</td>
<td>DVCAM</td>
<td>DV or DVCAM</td>
<td>DV or DVCAM</td>
<td>DV and DVCAM</td>
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<td>Playback</td>
<td>UV and DVCAM</td>
<td>UV and DVCAM</td>
<td>DV and DVCAM</td>
<td>DV and DVCAM</td>
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<td>Time code preset</td>
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<td>Yes 3.5-inch</td>
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<td>Memory Stick (MSA-4A/8A/16A/32A/64A/128A)</td>
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<td>•</td>
<td>•</td>
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<td>•</td>
</tr>
<tr>
<td>Manual iris</td>
<td>Yes (Ring)</td>
<td>Yes (Ring)</td>
<td>Yes (Ring)</td>
<td>Yes (Dial)</td>
<td>Yes (Dial)</td>
</tr>
<tr>
<td>Manual zoom</td>
<td>Electric or manual</td>
<td>Electric or manual</td>
<td>Electric or manual</td>
<td>Electric or manual</td>
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<td>Focus ring</td>
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<td>Dynafit Shoulder pad</td>
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<tr>
<td>Mass</td>
<td>6.3kg</td>
<td>6kg</td>
<td>4.4kg</td>
<td>1.5kg</td>
<td>0.95kg</td>
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<td>Studio operations CCU control capability</td>
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<td>•</td>
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<tr>
<td><strong>Advanced DSP Features</strong></td>
<td></td>
<td></td>
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<tr>
<td>TruEye Process</td>
<td>•</td>
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<td>Dynalatitude Process</td>
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<td>Skin Detail</td>
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<td>SkinTone</td>
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<td>TSCS (Total Level Control System)</td>
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<td>EZ Mode</td>
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<tr>
<td>EZ Focus</td>
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<td>Camera Setup File</td>
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<td>Setup Navigation</td>
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<td>Setup Log</td>
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<td>•</td>
<td>•</td>
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<td>Freeze Mix</td>
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<td>ClipLink</td>
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<td>Photo mode</td>
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<tr>
<td>High resolution still pictures</td>
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<td>• (1152x768)</td>
<td>• (1152x768)</td>
<td>• (1152x768)</td>
<td>• (1152x768)</td>
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<td>Long MPEG movie recording on MS</td>
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<tr>
<td><strong>Output connectors</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Composite</td>
<td>Yes (2xBNC)</td>
<td>Yes (2xBNC)</td>
<td>Yes (RCA+BNC)</td>
<td>Yes (Jack)</td>
<td>Yes (Jack)</td>
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<tr>
<td>S-video</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Y, R-Y, B-Y component</td>
<td>Yes w 26-pin</td>
<td>Yes w 26-pin</td>
<td>•</td>
<td>•</td>
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<tr>
<td>i-LINK IEEE-1394</td>
<td>Yes (6-pin)</td>
<td>Yes (6-pin)</td>
<td>Yes (6-pin)</td>
<td>Yes (4-pin)</td>
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<td>USB Connector (streaming)</td>
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<td>•</td>
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<tr>
<td>Audio RCA x 2</td>
<td>•</td>
<td>•</td>
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<td>DC-12V - 4-pin</td>
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<tr>
<td>Adjustable Time Code</td>
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<td>•</td>
<td>•</td>
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<tr>
<td><strong>Input connectors</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Composite</td>
<td>Yes (option DSBK-501)</td>
<td>Yes (option DSBK-501)</td>
<td>Yes (RCA)</td>
<td>Yes (RCA)</td>
<td>Yes (RCA)</td>
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<tr>
<td>S-Video</td>
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<td>Remote (RS-232)</td>
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<td>Gen Lock</td>
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<td>LANC</td>
<td>•</td>
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<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Lens connector</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Audio XLR</td>
<td>Yes (1 front + 2 rear)</td>
<td>Yes (1 front + 2 rear)</td>
<td>Yes (1 front + 2 rear)</td>
<td>Yes (2)</td>
<td>Yes (2)</td>
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<tr>
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<td>Power through 4-pin XLR</td>
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<td>•</td>
<td>•</td>
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<td>Specific power plug</td>
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<td>•</td>
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<tr>
<td>i-LINK IEEE-1394</td>
<td>Yes (6-pin)</td>
<td>Yes (4-pin)</td>
<td>Yes (4-pin)</td>
<td>Yes (4-pin)</td>
<td>Yes (4-pin)</td>
</tr>
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</table>
## DIGITAL CAMCORDERS

### Accessories

<table>
<thead>
<tr>
<th></th>
<th>DSR-570WSP</th>
<th>DSR-370P</th>
<th>DSR-250P</th>
<th>DSR-PD150P</th>
<th>DSR-PDX10P</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-1B adaptor</td>
<td>Yes with DC-L1</td>
<td>Yes with DC-L1</td>
<td>Yes with DC-L1</td>
<td>supplied (AC-L10)</td>
<td>supplied (AC-L10)</td>
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<tr>
<td>AC Adaptor</td>
<td>AC-DN1/2</td>
<td>AC-DN1/2</td>
<td>AC-DN1/2</td>
<td>AC-DN1/2</td>
<td>AC-DN1/2</td>
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<tr>
<td>Batteries</td>
<td>BP-L40A/L60/L90/L60/L50/L50/100</td>
<td>BP-L40A/L60/L90/L60/L50/L50/100</td>
<td>BP-L40A/L60/L90/L60/L50/L50/100</td>
<td>NPF-330/550/750/960</td>
<td>NPF-FM50 / NPF-QM71 / NPF-QM91</td>
</tr>
<tr>
<td>1-LINK cable</td>
<td>CCFD-3L (4P-4P)</td>
<td>CCFD-3L (4P-4P)</td>
<td>CCFD-3L (4P-4P)</td>
<td>VMC-IL415/4435 (4P-4P)</td>
<td>VMC-IL415/4435 (4P-4P)</td>
</tr>
<tr>
<td>Diving / Snorkling case</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Audio HF transmitter</td>
<td>WRT-822B</td>
<td>WRT-822B</td>
<td>WRT-805B or WRT-822B</td>
<td>WRT-805B</td>
<td>WRT-805B</td>
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<tr>
<td>Wide angle</td>
<td>Canon YH12x5.6 KRS</td>
<td>Fujinon A12x6.8</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Rain cover</td>
<td>LCR-1</td>
<td>LCR-1</td>
<td>LCR-1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Camcorder light</td>
<td>Anton Bauer Ultra Light2 20W (UL2-6)+ (DIFFUSION FILTER ud-f)</td>
<td>Anton Bauer Ultra Light2 20W (UL2-6)+ (DIFFUSION FILTER ud-f)</td>
<td>Anton Bauer Ultra Light2 20W (UL2-6)+ (DIFFUSION FILTER ud-f)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Audio HF receiver</td>
<td>WRR-855B (+CA-WR855)</td>
<td>WRR-855B (+CA-WR855)</td>
<td>WRR-805A/B or WRR-855B (+BTA 801)</td>
<td>WRR-805A/B</td>
<td>WRR-805A/B</td>
</tr>
<tr>
<td>Remote panel</td>
<td>Yes RM-M70/2F</td>
<td>Yes RM-M70/2F</td>
<td>photo type</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Tripod adaptor</td>
<td>VCT-U14 supplied</td>
<td>VCT-U14 supplied</td>
<td>option : VCT-U14</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Hard carrying case</td>
<td>LC-421/ LC-DS500</td>
<td>LC-421</td>
<td>LC-421</td>
<td>LCH-VX2000</td>
<td>—</td>
</tr>
<tr>
<td>Soft carrying case</td>
<td>LC-300</td>
<td>LC-300</td>
<td>LC-300</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Large viewfinder</td>
<td>DXF-51 + accessories*</td>
<td>DXF-51 + accessories*</td>
<td>DXF-51 + accessories*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Silver Support included</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

* Spare part ref. for assembling kit = A-8278-177-A.

### Recommended Wireless Systems

#### DSR-570WSP / DSR-370P

- **WRR-855B** Receiver
- **WRT-88** Transmitter*
- **ECM-88BC** Lavaliere Mic

- **WRR-805 A/B** Receiver
- **WRT-805B** Transmitter**
- **ECM-77BMP**

<table>
<thead>
<tr>
<th>Feature</th>
<th>DSR-570WSP / DSR-370P</th>
<th>DSR-250 / DSR-PD150P / DSR-PDX10P</th>
</tr>
</thead>
<tbody>
<tr>
<td>UHF operating frequency</td>
<td>Dependent on version / region</td>
<td>Dependent on version / region</td>
</tr>
<tr>
<td>Frequency response</td>
<td>100 Hz – 15 kHz</td>
<td>100 Hz – 15 kHz</td>
</tr>
<tr>
<td>Signal to noise</td>
<td>48 Hz – 20 kHz</td>
<td>48 Hz – 20 kHz</td>
</tr>
<tr>
<td>RF Power output</td>
<td>&gt;60 dB A-weighted</td>
<td>&gt;60 dB A-weighted</td>
</tr>
<tr>
<td>Current consumption</td>
<td>50 mW</td>
<td>10 mW</td>
</tr>
<tr>
<td>Battery life</td>
<td>6 hours @ 50 mW</td>
<td>6 hours from 2 x AA cells (typical)</td>
</tr>
<tr>
<td>Max SPL</td>
<td>120 dB</td>
<td>120 dB</td>
</tr>
<tr>
<td>Weight</td>
<td>280 g</td>
<td>140 g incl batteries</td>
</tr>
<tr>
<td>Dimensions W x H x D (mm)</td>
<td>88 x 118 x 31</td>
<td>63 x 83 x 17</td>
</tr>
<tr>
<td>Mounting/adaptor brackets</td>
<td>CA-WR855, BTA-801 or A8278-057A</td>
<td>R805SD or A8278-057A</td>
</tr>
<tr>
<td>Cable Length</td>
<td>2.5 m</td>
<td>2.5 m</td>
</tr>
</tbody>
</table>

* Or use WRT-847B Handheld Transmitter with either CU-F780, CU-G780, CU-E700, CU-E872 or CU-F117 Capsule

** Or use WRT-807B Handheld Transmitter
## Feature Comparison

### DIGITAL VTRs

#### Cassette Size

<table>
<thead>
<tr>
<th>Model</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard-size</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Mini-size</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>DVCPRO Medium-size</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

#### Recording/Playback Capability

<table>
<thead>
<tr>
<th>Capability</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV-SP Recording</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
</tr>
<tr>
<td>DV-SP Playback</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>DV-LP Playback</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>DVCPRO Playback</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>NTSC Recording</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>NTSC Playback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>•</td>
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</tbody>
</table>

#### Digital Interface

<table>
<thead>
<tr>
<th>Interface</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDI</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>SDTI (QSDI)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>SDTI-CP</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>i.LINK (DV In/Out)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>AES/EBU</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
</tbody>
</table>

#### Analogue Interface

<table>
<thead>
<tr>
<th>Interface</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
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</thead>
<tbody>
<tr>
<td>Composite</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Component</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>S-Video</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Analogue Audio (4ch)</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Analogue Audio (2ch)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Time Code In/Out</td>
<td>•</td>
<td>•</td>
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<td>•</td>
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</table>

#### Control Interface

<table>
<thead>
<tr>
<th>Feature</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
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</thead>
<tbody>
<tr>
<td>RS-422A</td>
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<td>RS-232C</td>
<td></td>
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<td>•</td>
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<tr>
<td>LANC</td>
<td></td>
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<tr>
<td>Control S</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>26-pin Camera</td>
<td></td>
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</tbody>
</table>

#### Key Function

<table>
<thead>
<tr>
<th>Feature</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Tracking</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Pre-read Editing</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>(Video/Audio)</td>
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<td></td>
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<td>•</td>
<td>•</td>
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<tr>
<td>VTR-to-VTR Editing</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Audio Pre-read Editing</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Channel Condition Indicator</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Jog/Shuttle Dial</td>
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<td>•</td>
<td>•</td>
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<tr>
<td>4ch Audio Insert independently</td>
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<td>•</td>
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</tr>
<tr>
<td>Audio Cross Fade</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Assemble/Insert Editing</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>16:9 Aspect ID Recording</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Analogue-like Jog Audio</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Professional Slow Motion Picture</td>
<td>•</td>
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</tr>
<tr>
<td>Quick Response Mechanism</td>
<td>•</td>
<td>•</td>
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<td>•</td>
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</tr>
<tr>
<td>x4 Speed Transfer</td>
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<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Power On Playback/Recording</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Time Counter Display on Front Panel</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Digital Slow Range</td>
<td>x±1.0</td>
<td>x±0.5</td>
<td>x±0.5</td>
<td>x±0.5</td>
<td>x±0.24</td>
<td>x±0.5</td>
</tr>
</tbody>
</table>

#### Power

<table>
<thead>
<tr>
<th>Power Source</th>
<th>DSR-2000P</th>
<th>DSR-1800P</th>
<th>DSR-1600P</th>
<th>DSR-1500AP</th>
<th>DSR-65P</th>
<th>DSR-70AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC (100-240V)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
</tr>
<tr>
<td>DC (12V)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Battery Operation</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

* Standard
* Option
* Input only
* Output only
* As player only
* Needs DSM-326P
* 7.2 V (with battery), 8.4 V (with AC adaptor)
* The same filter as Digital BETACAM
* Power On Playback only
* Not frame accurate
* 1% step
* 1% step
* 1% step

---

---

---
<table>
<thead>
<tr>
<th>DIGITAL VTRs</th>
</tr>
</thead>
<tbody>
<tr>
<td>** Cassette Size **</td>
</tr>
<tr>
<td>DSR-50P</td>
</tr>
<tr>
<td>Standard-size</td>
</tr>
<tr>
<td>Mini-size</td>
</tr>
<tr>
<td>DVCPRO Medium-size</td>
</tr>
</tbody>
</table>

| ** Recording/Playback Capability ** |
| DSR-50P | DSR-V10P | DSR-45P | DSR-30P | DSR-25 | DSR-11 |
| DV-SP Recording | * | * | * | * | * | * |
| DV-SP Playback | * | * | * | * | * | * |
| DV-LP Playback | * | * | * | * | * | * |
| DVCPRO Playback | * | * | * | * | * | * |
| NTSC Recording | * | * | * | * | * | * |
| NTSC Playback | * | * | * | * | * | * |

| ** Digital Interface ** |
| SDI | SDI (QSDI) | SDI-CP | i.LINK (DV In/Out) | AES/EBU |
| * | * | * | * | * |

| ** Analogue Interface ** |
| Composite | Component | S-Video | Analogue Audio | Time Code In/Out |
| * | * | * | * | * |
| 4ch | 2ch | 4ch | 2ch | 2ch |

| ** Control Interface ** |
| RS-422A | RS-232C | LANC | Control S | 26-pin Camera |
| * | * | * | * | * |
| * | * | * | * | * |

| ** Key Function ** |
| Non-Tracking | Pre-read Editing (Video/Audio) | VTR-to-VTR Editing | Audio Pre-read Editing |
| * | * | * | * |

| ** Channel Condition Indicator ** |
| Jog/ Shuttle Dial | 4ch Audio Insert Independently | Audio Cross Fade |
| * | * | * |

| ** Assemble/Insert Editing ** |
| 16:9 Aspect ID Recording | Analogue-like Jog Audio |
| * | * |

| ** Professional Slow Motion Picture ** |
| Quick Response Mechanism |
| * |

| ** 4x Speed Transfer ** |
| Power On Playback/Recording | Time Counter Display on Front Panel |
| * | * |

| ** Digital Slow Range ** |
| Digital Slow Range | x ±1/10, 1/3 | x ±1/3 | x ±1/10, 1/3 | x ±1/10, 1/5 | x ±1/10, 1/3 | x ±1/10, 1/3 |

| ** Power ** |
| AC | DC | Battery Operation |
| * (220-240V) | * (12V) | * (BP-L series) |
| * (220-240V) | * (12V) | * (NP-F series) |

33
Optional Accessories & Peripheral Equipment

**BATTERIES, CHARGERS & AC ADAPTERS**

- **BP-L40A/L60A/L90A**  
  Li-ion Rechargeable Battery Pack
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P*  
  - VTRs: DSR-70AP | DSR-50P

- **NP-1B**  
  Rechargeable Battery Pack
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P*  
  - VTRs: DSR-70AP | DSR-50P

- **NP-F550**  
  Rechargeable Battery Pack
  - Camera: DSR-PD100P

- **NP-F750**  
  Rechargeable Battery Pack
  - Camera: DSR-PD100P
  - VTR: DSR-V10P
  - Hard Disk: DSR-DU1

- **AC-DN1**  
  AC Adaptor
  - Cameras: DSR-570WSP | DSR-370P

- **AC-DN2B**  
  AC Adaptor
  - Cameras: DSR-570WSP | DSR-370P | DSR-250P
  - VTR: DSR-70AP
  - Hard Disk: DSR-DU1

- **DC-520**  
  Battery Adaptor for NP-1B
  - Cameras: DSR-135P* | DSR-1P

- **DC-L1**  
  Battery Adaptor for NP-1B
  - Cameras: DSR-570WSP | DSR-370P | DSR-1P

- **BC-L120/L120CE**  
  Battery Charger for BP-L40A/L60A/L90A, NP-1B, BP-90A
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P*  
  - VTRs: DSR-70AP | DSR-50P

- **BP-M50/M100**  
  Ni-MH Rechargeable Battery Pack
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P*  
  - VTRs: DSR-70AP | DSR-50P

- **BC-M50**  
  Battery Charger for BP-L40A/L60A/L90A/BP-M50/M-100
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P*  
  - VTRs: DSR-70AP | DSR-50P

- **NP-QM71/QM91**  
  Rechargeable Battery Pack for DSR-PDX10P

- **AC-SQ950D**  
  AC/DC Adaptor Charger for DSR-PDX10P
  - Camera: DSR-PD100P
CABLES & REMOTE CONTROL UNITS

RCC-5G/10G/30G
Remote Control Cable (5 m/10 m/30 m)

VTRs: DSR-2000P | DSR-1800P | DSR-1600P | DSR-1500AP | DSR-85P | DSR-45P | DSR-70AP
Cameras: DSR-570WSP | DSR-370P

CCA-7
Camera Remote Control Cable
Cameras: DSR-135P*

CCQX-3
Connecting Cable
Camera: DSR-135P*

CCZ-A2/A5/A10
Connecting Cable (26-pin - 26-pin)
Cameras: DSR-570WSP | DSR-135P*

CCZQ-A2/A5/A10
Connecting Cable (26-pin - 14-pin)
Camera: DSR-135P*

VMC-IL4408/IL4415/IL4435
i.LINK Cable (4-pin to 4-pin, 0.8 m/1.5 m/3.5 m)
Cameras: DSR-PD150P | DSR-PDX10P

CCF-3L
DV Cable (6-pin with lock to 6-pin)
Cameras: DSR-570WSP | DSR-250P | DSR-PD150P | DSR-PDX10P

CCFD-3L
DV Cable (6-pin with lock to 4-pin)
Cameras: DSR-570WSP | DSR-250P | DSR-PD150P | DSR-PDX10P

VMC-IL4615/IL4635
i.LINK Cable (4-pin to 6-pin, 1.5 m/3.5 m)
Cameras: DSR-570WSP | DSR-250P | DSR-PD150P | DSR-PDX10P

VTRs: DSR-1500AP | DSR-85P | DSR-45P | DSR-25 | DSR-11 | DSR-50P

VMC-IL6615/6635
i.LINK Cable (6-pin to 6-pin, 1.5 m/3.5 m)

EC-0.5C2
Microphone Cable
Cameras: DSR-570WSP | DSR-135P* | DSR-PDX10P

CCA-7
Camera Remote Control Cable
Cameras: DSR-570WSP | DSR-135P*

VMC-IL6415/6435
i.LINK Cable (6-pin to 6-pin, 1.5 m/3.5 m)
Cameras: DSR-570WSP | DSR-370P | DSR-135P*


VTR: DSR-50P

RM-LQ1
Remote Control Unit
Cameras: DSR-570WSP | DSR-370P | DSR-135P*

Cameras: DSR-570WSP | DSR-370P | DSR-135P*


FS-20
Foot Switch
Camera: DSR-250P
VTR: DSR-50P


UVR-60P
TBC Remote Control Unit
**Optional Accessories & Peripheral Equipment**

**RECORDING MEDIA**

**PDV-12CL**  
Cleaning Cassette Tape (Standard size)  
Cameras: DSR-570WP | DSR-370 | DSR-135P*  
VTRs: DSR-200P | DSR-135P*  
DSR-25 | DSR-11 | DSR-70P | DSR-50P

**PDV-34ME/64ME/94ME/124ME/184ME**  
Digital Video Cassette (Standard size)  
Cameras: DSR-570WP | DSR-370 | DSR-135P*  
VTRs: DSR-200P | DSR-135P*  
DSR-1500AP | DSR-85P | DSR-70P | DSR-50P  
DSR-25 | DSR-11 | DSR-70P | DSR-50P

**PDV-64MEM/124MEM/184MEM**  
Digital Video Cassette (Master tape/Standard size)  
Cameras: DSR-570WP | DSR-370 | DSR-135P*  
VTRs: DSR-200P | DSR-135P*  
DSR-25 | DSR-11 | DSR-70P | DSR-50P

**PDVM-12CL**  
Cleaning Cassette Tape (Mini size)  
Cameras: DSR-570WP | DSR-370 | DSR-135P*  
VTRs: DSR-200P | DSR-135P*  
DSR-25 | DSR-11 | DSR-70P | DSR-50P

**PDVM-12ME/22ME/32ME/40ME**  
Digital Video Cassette (Mini size)  
Cameras: DSR-570WP | DSR-370 | DSR-135P*  
VTRs: DSR-200P | DSR-135P*  
DSR-25 | DSR-11 | DSR-70P | DSR-50P

**PDVM-12N/22N/32N/40N**  
Digital Video Cassette (Non IC type Mini Size)  
Cameras: DSR-570WP | DSR-370 | DSR-135P*  
VTRs: DSR-200P | DSR-135P*  
DSR-25 | DSR-11 | DSR-70P | DSR-50P

**MSAC-FD2**  
Floppy Disc Adaptor for Memory Stick  
Cameras: DSR-250P | DSR-PD150AP | DSR-PDX10P

**MSAC-PC2**  
PC Card for Memory Stick  
Cameras: DSR-250P | DSR-PD150AP | DSR-PDX10P
DSBK-120P
SDI Input/Output Board
VTR: DSR-45P

DSBK-140
SDTI (QSDI) Input/Output Board
VTR: DSR-70AP

DSBK-150
SDTI (QSDI) Input/Output Board
VTR: DSR-70AP

DSBK-1501
Digital Input/Output Board
VTR: DSR-1500AP

DSBK-1504P
Analogue Input Board
VTR: DSR-1500AP

DSBK-160A
SDI/I.LINK Input/Output Board
VTR: DSR-70AP

DSBK-180P
Dual Video Input Board
VTR: DSR-70AP

DSBK-1801
SDI/AES/EBU Input/Output Board
VTR: DSR-1800P

DSBK-1803
SDTI (QSDI) Input/Output Board
VTR: DSR-1800P

DSBK-190
SDTI (QSDI) Input/Output Board
VTR: DSR-2000P

DSBK-210
SDTI-CF Output Board
VTR: DSR-2000P

DSBK-301A
Index Picture Board
Cameras: DSR-570WSP | DSR-375P

DSBK-501P
Analogue Composite Input Board
Camera: DSR-570WSP
Optional Accessories & Peripheral Equipment

**Mounting & Carrying Accessories**

- **VCT-1170RM**
  - Video Tripod with Remote Control
  - Cameras: DSR-PD150P | DSR-PDX10P

- **VCT-U14**
  - Tripod Adaptor
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P* | DSR-1P

- **CAC-4**
  - Chest Pad
  - Cameras: DSR-135P* | DSR-1P

- **AS278-057-A**
  - Adaptor bracket for WRR-805A/B
  - Cameras: DSR-570WSP | DSR-370P

- **R-805S/D**
  - Mounting bracket for WRR-805A/B
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P* | DSR-250P | DSR-PD150P | DSR-PDX10P

- **RMM-131**
  - Rack Mount Kit
  - VTRs: DSR-2000P | DSR-1800P | DSR-1600P | DSR-80P

- **BKNW-225**
  - Docking Kit
  - VTR: DSR-70AP

- **LC-DN220**
  - Carrying Case
  - VTR: DSR-70AP

- **LC-421**
  - Carrying Case (Hard type)
  - Cameras: DSR-370P | DSR-135P*

- **LC-DS300SFT**
  - Carrying Case (Soft type)
  - Cameras: DSR-570WSP | DSR-370P

- **LC-D500**
  - Carrying Case (Hard type)
  - Cameras: DSR-570WSP | DSR-370P

- **LCH-VX2000**
  - Hard Carrying Case
  - Camera: DSR-PD150P

- **LCR-1**
  - Rain Cover
  - Cameras: DSR-570WSP | DSR-370P | DSR-135P*
Specifications

DSR-570WSP / DSR-370P / DSR-135P Camcorders

General

- **Power consumption:** DC 14.4 V (14.1 V to 14.7 V)
- **Operating temperature:** -10 °C to 40 °C (14 °F to 104 °F)
- **Storage temperature:** -30 °C to 60 °C (-22 °F to 140 °F)
- **Humidity:** 20% to 80% RH with no condensation

Input/Output Connectors

- **Audio input:** XLR 3-pin female
- **S-Video input:** DIN 4-pin
- **Analogue Video input:** BNC
- **Analogue Video output:** BNC
- **Genlock Video input:** BNC
- **Genlock Video output:** BNC
- **VF: Stereophone mini jack, DC OUT: 7-pin (DC OUT: 7-pin) Audio CH-1/2: Phono, -10 dBu, 47 kΩ
- **Balanced Audio CH-1/2:** XLR 3-pin female x2
- **Ext Audio CH-1/2:** XLR 3-pin female x2
- **Mic In:** XLR 3-pin female
- **Remote:** 3-pin mini jack
- **Mic Selector:** 3-pin mini jack
- **WRR Out:** 7-pin
- **TC In:** BNC
- **TC Out:** BNC
- **Mic Level:** 3200 K, 5600 K+1/8 ND

Camera Section

- **Shutter speed selection:** OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s
- **Gain selection:** -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB
- **Sensitivity:** F11 at 2000 lx (3200 K, 89.9% reflectance) (typical)
- **Vertical resolution:** 480 TV lines (without EVS), 530 TV lines (with EVS)
- **Sync system:** Internal and external with VBS or BS signal
- **Vertical frequency:** 50 Hz
- **Horizontal frequency:** 15.625 kHz
- **Optics:** F1.4 medium index prism system
- **Image device:** 3-chip 2/3-inch, Interline-Transfer CCD 3-chip 1/2-inch, Interline-Transfer CCD 3-chip 2/3-inch, Interline-Transfer CCD

Audio performance*2

- **Gain selection:** -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB
- **Dynamic range:** More than 80 dB
- **K-factor (K2T, KPB):** Less than 2.0%
- **Bandwidth:** Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB
- **Chrominance:** 25 Hz to 2.0 MHz +1.0/-2.0 dB

Video performance*2

- **Gain selection:** -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB
- **Dynamic range:** More than 80 dB
- **K-factor (K2T, KPB):** Less than 2.0%
- **Bandwidth:** Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB
- **Chrominance:** 25 Hz to 2.0 MHz +1.0/-2.0 dB

**Specifications**

- **Tape speed:** 28.221 mm/s
- **Power consumption:** 26.1 W (with VF), 24 W (without VF) 23.1 W (with VF), 21 W (without VF) 24.8 W (with VF)
- **Dimensions (W x H x D):** 121 x 192 x 280 mm 121 x 192 x 270 mm 121 x 206 x 344 mm
- **Weight:** 1.0 kg (without battery) 1.0 kg (without battery) 1.0 kg (without battery)
- **Battery:** Lithium ion battery (type CR2032)
- **Operating Instructions:** Dockable

**Supplied Accessories**

- **Shoulder strap**
- **Connector Cap**
- **Battery Terminal: 5-pin**
- **Earphone: Mini jack**
- **Remote:** 10-pin
- **Mic In:** XLR 3-pin female
- **S-Video: DIN 4-pin
- **DV Out: 6-pin, IEEE1394-based
- **SDR-1P Dockable Recorder**

DSR-1P Dockable Recorder

- **Oscillator:** 1.0 Vp-p, -10 dBu, 47 kΩ
- **S-Video: DIN 4-pin
- **Y: 1.0 Vp-p, sync negative, 75 Ω
- **C: 0.3 Vp-p (burst level)
- **RGB: 1.4 Vp-p
- **Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB**
- **Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB**
- **S-Video: DIN 4-pin
- **Y: 1.0 Vp-p, sync negative, 75 Ω
- **C: 0.3 Vp-p (burst level)
- **RGB: 1.4 Vp-p
- **Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB**
### General

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<tr>
<th>DSR-250P</th>
<th>DSR-150P</th>
<th>DSR-PDX10P</th>
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<tr>
<td>Power requirements</td>
<td>DC 12 V(11 V to 17 V)</td>
<td>DC 7.2 V (Battery), DC 8.4 V (AC adaptor)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>10.5 W (with VF), 12.1 W (with VF and LCD)</td>
<td>4.7 W (with VF), 5.4 W (with LCD)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0°C to 40°C (32°F to 104°F)</td>
<td>0°C to 40°C (32°F to 104°F)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-20°C to 66°C (-4°F to 149°F)</td>
<td>-20°C to 66°C (-4°F to 149°F)</td>
</tr>
<tr>
<td>Tape speed</td>
<td>Approx. 28.2 mm/s (DV CAM mode)</td>
<td>Approx. 1.88 mm/s (DV SP mode)</td>
</tr>
</tbody>
</table>

#### Recording/Playback time
- DSR-250P: 184 minutes (DV CAM mode), 270 minutes (DV SP mode)
- DSR-PD150P: 40 minutes (DV CAM mode), 60 minutes (DV SP mode with P2/SD-40ME)
- DSR-PDX10P: 40 minutes (DV CAM mode), 60 minutes (DV SP mode, with P2/SD-40ME)

#### Mass
- DSR-250P: Approx. 4.4 kg (9 lb 11 oz) (camcorder only)
- DSR-PD150P: Approx. 1.5 kg (3 lb 5 oz) camcorder only (approx 950 g)
- DSR-PDX10P: Approx. 999 g (35 oz) camcorder only (approx 950 g)

#### Dimensions (W x H x D)
- DSR-250P: 214.7 x 251.25 x 508.8 mm
- DSR-PD150P: 128 x 180 x 405 mm
- DSR-PDX10P: 93 x 99 x 202 mm

#### Supplied Accessories
- Lite Hood Cap
- Carrying Belt
- Lens Hood
- Hood Cap, Carrying Belt
- RMT-811 Remote Commander and R6 Batteries (2)
- AC-L10 AC Adaptor
- USB Cable
- S-Video IN/OUT: Mini-DIN 4-pin x 1
- Audio IN: XLR 3-pin (male) x 1
- USB Driver

### Lens

#### Shutter speed selection
- DSR-250P: 1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100, 1/120, 1/150, 1/300, 1/425, 1/3 to 1/10000 s
- DSR-PD150P: 1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000 s

#### White balance
- Auto/Manual
- Auto/Manual (Exposure ring)
- Auto/Manual (Exposure dial)
- Auto/Manual

#### Focus
- Auto/Manual (ring)/Infinity/One push auto
- Auto/Manual
- Auto/Manual

#### Filter diameter
- 58 mm (2 3/8 inches)
- 37 mm

#### Zoom
- 12:1 Variable Speed (1.2-22 s) zoom lens
- 12:1 Variable speed (1.83 to 26.5 s) zoom lens

### Camera

#### Image device
- Three 1/3-inch CCDs, 450,000 pixels
- Three 1/4.7-inch CCDs, 1,070,000 pixels

#### Signal system
- CCIR Standard, PAL colour system

#### Scanning system
- Progressive/Interlace Scan

#### Image compression
- JPEG

#### Input/Output Connectors
- Video IN/OUT: RCA pin x 1, Luminance signal: 1 Vp-p, 75 Ω, unbalanced, sync negative
- Audio IN/OUT: RCA pin x 2,425 m
- Audio IN: XLR 3-pin (female) x 3
- Audio IN: XLR 3-pin (male) x 1
- External DC IN: 12 V, max. 30 W
- Headphone: Stereo mini jack (0.35 mm) x 1

#### Others
- LAN: Power cord (for AC-10 AC Adaptor)
- Headphone: Stereo mini jack (0.35 mm) x 1

### Supplied Accessories
- Picture Gear 4.1
- Monaural Microphone
- Special Stereo AV Cable, Lens Hood, Carrying Belt
- LANC: Stereo mini jack (0.25 mm) x 1
- Headphone: Stereo mini jack (0.35 mm) x 1
- External DC IN: 9.4 V for AC-10 AC Adaptor
- Headphone: Stereo mini jack x1
- External DC In: 9.4 V
- AC-L10 AC Adaptor
- USB Cable
- USB drive
- RMT-811 Remote Commander and R6 Batteries (2)
- AC-L10 AC Adaptor
DSR-45P / DSR-30P / DSR-25 / DSR-11 Studio VTRs

General

<table>
<thead>
<tr>
<th>DSR-45P</th>
<th>DSR-30P</th>
<th>DSR-25</th>
<th>DSR-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>PAL</td>
<td>NTSC-PAL Switchable</td>
<td></td>
</tr>
<tr>
<td>Power requirements</td>
<td>AC 220 V to 240 V, 50/60 Hz</td>
<td>AC 220 V to 240 V, 50 Hz</td>
<td>AC 100 V to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>22 W</td>
<td>27 W</td>
<td>15 W</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>5 °C to 40 °C (41 °F to 104 °F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-20 °C to 60 °C (-4 °F to 140 °F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tape speed</td>
<td>DVCAM mode: 28.221 mm/s</td>
<td>DV SP mode: 18.831 mm/s</td>
<td></td>
</tr>
<tr>
<td>Recording/Playback time</td>
<td>Standard size: 104 min. with PDV-184ME/184N/184MEM</td>
<td>Mini size: 40 min. with PDV-184ME/184N/184MEM</td>
<td></td>
</tr>
<tr>
<td>Tape rewind time</td>
<td>Less than 2 min.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search speed</td>
<td>When controlling via optional DSRM-20: Still: x1/10, 1/5, 1, 2, 4, 8, 16 times; Cue/Review (±10 or 18 times) Jog mode: x1/10, 1/5, 1, 2, 4, 8, 16 times</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass</td>
<td>Approx. 4.5 kg (10 lb 2 oz)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>(W x H x D, including projections)</td>
<td>(8 3/8 x 3 7/8 x 15 1/2 inches)</td>
<td></td>
</tr>
<tr>
<td>Video Signal Inputs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rec mode</td>
<td>DVCAM/DV (SP mode only)</td>
<td>DVCAM</td>
<td></td>
</tr>
<tr>
<td>Reference Video (BNC x1)</td>
<td>Black burst: 75 Ω, sync negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video (DSR-45P/25: BNC x1)*1</td>
<td>Composite, 1.0 Vp-p, 75 Ω, sync negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video (DSR-30P: BNC x1, Phono jack x1)*1</td>
<td>DVCAM/DV (SP mode only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video (DSR-11: Phono jack x1)</td>
<td>Y: 1.0 Vp-p, 75 Ω, sync negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component (DSR-45P/25/11: Mini DIN 4-pin x1)*2</td>
<td>C: 0.3 Vp-p (subcarrier burst), 75 Ω</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component (DSR-30P: Mini DIN 4-pin x2)</td>
<td>Y: 1.0 Vp-p, 75 Ω, sync negative</td>
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<td></td>
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<tr>
<td>Component (DSR-11: Mini DIN 4-pin x2)</td>
<td>C: 0.3 Vp-p (subcarrier burst), 75 Ω</td>
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<tr>
<td>Monitor (BNC x1)</td>
<td>Composite, 1.0 Vp-p, 75 Ω, sync negative</td>
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<tr>
<td>Audio Signal Inputs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audio (DSR-45P/25/11: Phono jack x2/stereo L/R)</td>
<td>2 Vrms (full bit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audio (DSR-30P: Phono jack x2/stereo L/R, front x1/rear x1)</td>
<td>—</td>
<td></td>
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</tr>
<tr>
<td>Audio (DSR-11: Phono jack x2)</td>
<td>—</td>
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<tr>
<td>Digital Input/Output</td>
<td></td>
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</tr>
<tr>
<td>LINK (S-video) (4-pin x1)</td>
<td>IEEE1394-based</td>
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<tr>
<td>Others</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>RS-422A: D-sub 9-pin male x1</td>
<td>Control S (SIRCS) In: Stereo mini jack x1</td>
<td></td>
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</tr>
<tr>
<td>Control S (SIRCS) In: Mini jack x1</td>
<td>MINC: Stereo mini-jack x1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component (DSR-45P/25/11: RCA pin x2/stereo L/R)</td>
<td>R-Y/B-Y: 0.7 Vp-p (with 100 % colour burst)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor (RCA pin x2, stereo L/R)</td>
<td>2 Vrms (full bit)</td>
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<tr>
<td>Digital Input/Output</td>
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<tr>
<td>LINK (S-video) (4-pin x1)</td>
<td>IEEE1394-based</td>
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<tr>
<td>Others</td>
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<td></td>
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</tr>
<tr>
<td>RS-422A: D-sub 9-pin female x1</td>
<td>Control S (SIRCS) Out: Mini jack x1</td>
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<td></td>
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<tr>
<td>Control S (SIRCS) Out: Stereo mini jack x1</td>
<td>MINC: Stereo mini-jack x1</td>
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</tr>
<tr>
<td>Component (DSR-45P/25/11: RCA pin x2/stereo L/R)</td>
<td>R-Y/B-Y: 0.7 Vp-p (with 100 % colour burst)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor (RCA pin x2, stereo L/R)</td>
<td>2 Vrms (full bit)</td>
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Supplied Accessories

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<td>Operating Instructions</td>
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<tr>
<td>RMT-DS611 Wireless Remote Commander</td>
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<td>Size AA (R6) Batteries for Remote (2)</td>
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<td>Interface manual for programmers (RS-232C)</td>
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<td>RMT-DS530 Wireless Remote Controller</td>
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<td>Size AA (R6) Batteries for Remote (2)</td>
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<td>LANC Cable</td>
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<td>Cleaning Cassette</td>
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<td>Operating Instructions</td>
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<td>RMT-DS550 Wireless Remote Controller</td>
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<td>Size AA (R6) Batteries for Remote (2)</td>
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<td>RMT-DS611 Wireless Remote Commander</td>
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<td>Size AA (R6) Batteries for Remote (2)</td>
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<td>Operation Manual</td>
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</tbody>
</table>

*1 Shared between composite IN and REF-IN.
*2 The audio output level of the DSR-45P will be reduced by half when connected to an Unbalanced XLR input device.
*3 Recommended remote control unit: DSRM-20
*4 Priority on front LANC.

DIGITAL VTRs
Specifications

VTR REAR CONNECTOR PANELS

DSR-2000P / DSR-1800P / DSR-1600P / DSR-1500AP / DSR-DR1000P

DSR-2000P
EDITING RECORDER

DSR-1800P
EDITING RECORDER

DSR-1600P
EDITING PLAYER

DSR-1500AP
EDITING RECORDER

DSR-DR1000P
HARD DISK RECORDER
<table>
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<tr>
<th>Model</th>
<th>Description</th>
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<tr>
<td>DSR-85P</td>
<td>HIGH-SPEED EDITING RECORDER</td>
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<tr>
<td>DSR-45P</td>
<td>RECORDER</td>
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<td>DSR-30P</td>
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<td>DSR-25</td>
<td>RECORDER</td>
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<tr>
<td>DSR-11</td>
<td>RECORDER</td>
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</tbody>
</table>
DSR-70AP Portable Editing Recorder

Specifications

General

- **Power requirements:** 15 W
- **Power input:** XLR 4-pin (male) +12 V
- **System:** PAL
- **Operating temperature:** 5 °C to 40 °C (41 °F to 104 °F)
- **Storage temperature:** -20 °C to 60 °C (-4 °F to 140 °F)
- **Humidity:** Operating: 5 °C to 40 °C (41 °F to 104 °F)
- **Weight:** 3.9 kg (8 lb 9 oz), excluding battery and tape

Audio

- **Analogue Audio (CH-1,2) +4/0/-60dBu, high impedence, balanced**
- **S-Video (DIN 4-pin x1)**

Video

- **Video Output:**
  - Component (BNC x3)
  - Video Composite (BNC x2)
  - S-Video (DIN 4-pin)

Supplied Accessories

- LCD Protection Cover
- Cleaning Cassette

Other

- Carrying Belt
- Connector Cap (per interface)
- Operating Instructions
- Warranty Card

DSR-50P Portable Recorder

Specifications

General

- **System:** PAL
- **DC input:** XLR 4-pin (male), +12 V
- **Power consumption:** 15 W
- **Power supply:** 12 V
- **Operating temperature:** 5 °C to 40 °C (41 °F to 104 °F)
- **Dimensions:** (W x H x D) 211 x 149 x 443 mm (8 3/8 x 5 7/8 x 17 1/2 inches)
- **Weight:** 5.8 kg (12 lb 12 oz)

Video

- **Rec mode:** DVCAM/DV (SP mode only)

Audio

- **Rec mode:** 48.0 kHz/16-bit (DVCAM/DV)
  - 48.0 kHz/12-bit (DVCAM/DV)
  - 32.0 kHz/16-bit (DVCAM/DV)

Input/Output Terminals

- **Video IN:** Composite: 1.0 Vp-p, 75 Ω, Sync negative
  - SIF (3-pin mini DIN): Y: 1.0 Vp-p, 75 Ω, Sync negative
  - C: 0.3 Vp-p (Subcarrier burst) 75 Ω
- **Audio IN:** XLR 3-pin (male), 0.7 Vp-p, 75 Ω, 0.7 Vp-p, 75 Ω
- **Reference IN:** BNC, Black Burst 75 Ω, Sync negative (use Video IN)
- **Video OUT 1 (Monitor) Composite:** Y: 1.0 Vp-p, 75 Ω, Sync negative
- **Component OUT:** BNC x 3
- **Audio OUT:** RCA pin x4, –10 dB
- **Timecode IN:** BNC, 0.5 to 18 Vp-p, 10 Hz
- **Timecode OUT:** BNC, 2 Vp-p, 600 Ω, 7.2 Vp-p, 75 Ω
- **Control IN:** Stereo mini jack
- **Remote Control:** Stereo mini jack
- **Headphone jack (left side):** Stereo standard jack, -19 dBu, with Level Control

Other

- Colour LCD monitor: 2.5-inch, 200,000 dots
- Supplied accessories: LCD Protection Cover, Cleaning Cassette
DSR-V10P  DVcam Video Walkman Recorder

**General**
- **Power requirements**: DC 7.2 V (batteries), DC 8.4 V (AC adapter)
- **Power consumption**: 1.8 W
- **Dimensions**: W x H x D 225 x 180 x 57 mm (8 13/16 x 7 1/16 x 2 1/4 inches)
- **Mass**: 970 g (2 lb 2 oz) (without battery and tape)
- **Power consumption**: 11.5 W (LCD on)
- **Power requirements**: DC 7.2 V (with battery), DC 8.4 V (with AC Adaptor)
- **Dimensions**: Main unit: 148 x 103 x 48 mm (5 7/8 x 4 1/16 x 1 7/16 inches)
- **Mass**: 500 g (1 lb 1 oz)

**Video**
- **Input/Output Terminals**
  - Video output: S-Video (Mini DIN 4-pin x1)
  - Video input: 1/4-inch, unbalanced, sync negative
- **Audio**
  - Audio input/output:
    - Video: RCA pin x1
    - Audio: 0.327 V, impedance 470Ω, unbalanced, sync negative

**Supplied Accessories**
- Warranty card
- Operation manual
- LLINK cable (4-pin to 4-pin)
- Remote controller (RM-LG2)
- Battery (CR2032)

**DIGITAL VTRs / FLEXICART / LENSES**

**CVX-V1P / CVX-V3P / CVX-V18NSP** (Colour Video Cameras for DSR-V10P)

**General**
- **Power requirements**: DC 7.2 V (with battery), DC 8.4 V (with AC adapter)
- **Power consumption**: 1.8 W
- **Dimensions**: Camera head 35 x 110 x 60 mm (1 7/16 x 4 3/8 x 2 3/8 inches)
- **Mass**: Camera head CVX-V3P: 75 g (2.6 oz)  CVX-V18NSP: 343 g (12 oz)
- **CCU (without battery)**
  - CVX-V1P: 135 g (4.8 oz)
  - CVX-V3P: 135 g (4.8 oz)
  - CVX-V18NSP: 153 g (5 oz)

**Audio**
- **Audio signal**
  - Recording: 48 kHz/16-bit, 32 kHz/12-bit, 24 kHz/16-bit, 16 kHz/16-bit, 44.1 kHz/16-bit
  - Playback: 48 kHz/16-bit, 32 kHz/12-bit, 24 kHz/16-bit, 16 kHz/16-bit
- **Audio input/output**
  - Audio: -7.5 dB (0 dBu=0.775 Vrms)

**Others**
- **LANC**: Stereo mini jack x1

**Supplied Accessories**
- AM-C100 AC/Adaptor/Charger
- DR-415 DVCAM Cable
- Carrying case
- Operating Instructions

**DSRM-E1P** (Edit Adaptor for DSR-V10P)

**General**
- **Power requirements**: DC 7.2 V supplied from DSR-V10P, DC 8.4 V (with AC Adaptor)
- **Power consumption**: Approx. 1.8 W
- **Dimensions**: Main unit: 73 x 65 x 40 mm (2 3/4 x 2 1/2 x 1 9/16 inches)
- **Mass**: Main unit: 250 g (0.85 oz)

**Connections**
- **Video output**
  - Video: RCA pin x1
  - Audio: 0.327 V, impedance 470Ω, unbalanced, sync negative

**FLEXICART** Multi-cassette System

**General**
- **Power requirements**: AC 100/105/200/205/240 V, 50/60 Hz
- **Power consumption**: 300 W
- **Dimensions**: W x H x D 324 x 457 x 138 mm (12 7/8 x 18 x 5 7/16 inches)

**Connections**
- **Video**
  - Video Input: S-Video (Mini DIN 4-pin)
  - Video Output: 1/4-inch, unbalanced, sync negative

**Supplied Accessories**
- Remote Video In (BNC)
- Remote control interface: REMOTE1: RS-232C D-sub 25-pin
  - REMOTE2: RS-232C D-sub 9-pin
  - Parallel interface: D-sub 25-pin

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**DSR-DU1** Hard Disk Recorder

**General**
- **Power requirements**: DC 7.2 V (battery), DC 8.4 V (AC adapter)
- **Power consumption**: 1.6 W
- **Dimensions**: W x H x D 105 x 91 x 142 mm (4 1/8 x 3 5/8 x 5 5/8 inches)
- **Mass**: 1.6 kg (3 lbs 11 oz)

**Input/Output Terminals**
- **UV IN/OUT**: LLINK x1 (IEEE1394 4-pin)
- **Remote control**: 4-pin stereo mini jack x1
- **DC IN**: x1

**Supplied Accessories**
- Warranty card
- Operation manual
- LLINK cable (4-pin to 4-pin)
- Remote controller (RM-LG2)
- Battery (CR2032)

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**Supplied Accessories**
- Warranty card
- Operation manual
- Maintenance Manual
- Installation Manual