

SONY®

DVCAM™


DVCAM for News Applications



F o r

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

R e s u l t s



The DVCAM™ Newsgathering System -
Compelling, Compatible and **Complete.**

As the world leader in ENG camcorders, Sony knows just how torturous field operations can be. In reliability, ruggedness, size, weight and power consumption, Sony understands what it takes. And Sony DVCAM equipment delivers.

DVCAM recording delivers 4:1:1 (NTSC)/4:2:0 (PAL) component digital picture quality. DVCAM offers the low hardware and media costs that today's news departments need. And DVCAM post production meets the demands of ENG with Pre-read, Jog Shuttle, Jog Audio and Variable Speed.

DVCAM equipment is compatible with the system you have today – and the systems you'll have tomorrow. You'll find a



After years of refinement and improvement. After new introductions in camcorders, editors and studio VTRs. After years of success in every application, Sony's DVCAM system has emerged as a new choice in Electronic Newsgathering (ENG).



wide range of interfaces including analog composite and component, SDI, SDTI (QSDI™) and i.LINK™ connections. You'll find a bridge to the MPEG World, with an optional SDTI-CP 50 Mb/s output board. And you'll find full playback compatibility with DVCPRO 25 and consumer DV (SP mode) tapes.

No wonder Sony's DVCAM gear is the world's best selling professional DV implementation, with marquee broadcasters worldwide choosing DVCAM equipment. If DV-based quality and affordability are on your agenda, Sony DVCAM equipment should be in your hands.

A Variety of Broadcasters Around the World Are Enjoying the Benefits of Sony DVCAM



CHEX TELEVISION
ROGERS television
(Canada)



BBC (UK)



Xin Jiang TV Station
(China)

CNN
Court TV
Fisher Broadcasting
(USA)



TELE 24 (Switzerland)

Real Madrid TV
(Spain)



NHK
(Japan Broadcasting
Corporation)
(Japan)



Powerful Line-up for News Applications

LINE-UP

Sony DVCAM offers a powerful model line-up for applications from acquisition to editing - the DSR-500WS and DSR-300A Camcorders; the unique RM-VJ1 controller for reporter use; the DSR-70 Portable Editing Recorder and the Master Series Studio Editing Recorders and Players. This varied line-up provides solutions ranging from compact and highly mobile shooting/editing packages to complete studio editing packages, optimizing operational efficiency and providing outstanding video and audio performance.



Field Acquisition

The DSR-500WS and DSR-300A camcorders demonstrate high mobility, operational convenience and system versatility in the field, in addition to the superb quality of the DVCAM format. They also have the proven reliability inherited from Betacam SP™ camcorders, allowing you to shoot smoothly in any condition.

Connect the RM-VJ1 hand-held controller directly to one of these camcorders and you can make a report-to-camera or conduct an interview without the need for a camcorder operator.



Field Editing

The DSR-70 laptop editing recorder provides versatile and flexible functionality to meet a variety of editing environments including simple cut editing with the DSR-500WS or DSR-300A camcorder via an i.LINK interface, twin-deck VTR-to-VTR editing with two DSR-70 units, and an upwardly compatible system with the Betacam SX® DNW-A25 Portable Editing Recorder. After simple field editing, the i.LINK interface allows you to capture still images with a laptop computer and transmit them from the field to the studio via the Internet. So even if you are not able to send a live video feed from your location, you can still provide an image when the news breaks.



Studio Editing

In studio editing operations, the Master Series Recorders (DSR-2000/1800/1500) and Player (DSR-1600) are high-performance machines that provide a full range of functions that are vital for news applications. Excellent jog audio, noiseless digital slow-motion, playback capability of all DV (25 Mb/s) material*, and a highly responsive mechanism, just to name a few. Of course, the system versatility of the DSR-2000 enables it to remain integrated into existing systems as they migrate from analog to digital. The DSR-1500 can function as a low-cost screening option for viewing tapes of all DV format material*. The DSR-70 also brings you excellent operational convenience with its laptop style of editing.

* The DSR-2000 supports DVCAM, DVCPRO and DV (SP and LP) formats.
DSR-1800/1600/1500 VTRs support DVCAM, DVCPRO and DV (SP) formats.

Powerful Line-up for News Applications

LINE-UP

Acquisition



DSR-500WS/500WSP

- Three 2/3-inch Power HAD WS™ CCDs • Switchable 4:3 and 16:9 aspect ratio modes • DSP (Digital Signal Processing)
- DynaFit™ shoulder pad molds to suit any operator • i.LINK (DV output) interface • Pool feed operation • ClipLink™ operation



DSR-300A/300AP

- Three 1/2-inch Power HAD™ CCDs • DSP (Digital Signal Processing) • DynaFit shoulder pad molds to suit any operator
- i.LINK (DV output) interface • Pool feed operation • ClipLink operation



DXC-D35/D35P + DSR-1/1P

- Three 2/3-inch Power HAD CCDs
- DSP (Digital Signal Processing)
- ClipLink operation



DSR-250/250P

- Three 1/3-inch CCDs • Built-in full-color 2.5-inch LCD monitor • DVCAM/DV (SP mode) format playback and recording
- Super SteadyShot™ for image stabilization
- Memory Stick functions • i.LINK, LANC interface



DSR-PD150/PD150P

- Three 1/3-inch CCDs • Built-in full-color 2.5-inch LCD monitor • DVCAM/DV (SP mode) format playback and recording
- Super SteadyShot for image stabilization
- Memory Stick functions • i.LINK, LANC interface



DSR-PD100A/PD100AP

- Three 1/4-inch CCDs with progressive/interface scan switchable • Built-in full-color 3.5-inch LCD monitor • Super SteadyShot for image stabilization • Still image recording on tape and Memory Stick • i.LINK, LANC interface



RM-VJ1*/VJ1P*

- Removable hand-held interview microphone • Hand-held 2.5-inch color LCD monitor • Remote control of DSR-500WS/300A camcorder functions (lens and VTR)

* Not available in some areas. For details, please contact your nearest Sony office.

Field Editing



DSR-70/70P

- Compact, all-in-one package • Twin-deck editing using two DSR-70 units or a DSR-70 and a DNW-A25 Betacam SX Portable Editing Recorder • Two-camera switching recording • SDI, SDTI (QSDI), i.LINK interfaces
- Switchable 4:3 and 16:9 aspect ratio modes
- ClipLink operation



DSR-50/50P

- Compact, lightweight, portable design • DVCAM/DV (SP mode) format playback and recording • Built-in 2.5-inch full-color LCD monitor • NTSC/PAL playback capability • i.LINK interface, 26-pin camera connector

Studio Editing



DSR-2000/2000P (Editing Recorder)

- Playback compatibility with all DV (25 Mb/s) family formats
- Excellent digital jog sound • Noiseless slow-speed playback (x ±1 normal speed in 1% increments) • Preread editing capability • SDI, SDTI (QSDI), SDTI-CP (MPEG), i.LINK, AES/EBU interfaces • Direct link to MPEG-based systems via SDTI-CP interface • ClipLink operation



DSR-1800/1800P (Editing Recorder)

- Playback compatibility with DV (25 Mb/s) family formats
- Excellent digital jog sound • Noiseless slow-speed playback (x ±0.5 normal speed in 1% increments) • SDI, SDTI (QSDI), i.LINK, AES/EBU interfaces • Auto repeat/Power-on playback function • ClipLink operation



DSR-1600/1600P (Editing Player)

- Playback compatibility with DV (25 Mb/s) family formats
- Excellent digital jog sound • Noiseless slow-speed playback (x ±0.5 normal speed in 1% increments) • SDI, SDTI (QSDI), i.LINK, AES/EBU interfaces • Auto repeat/Power-on playback function • ClipLink operation



DSR-1500/1500P (Editing Recorder)

- Compact, half-rack design • Flexibly configurable with versatile optional interface boards • Playback compatibility with DV (25 Mb/s) family formats • Excellent digital jog sound • Noiseless slow-speed playback (x ±0.5 normal speed in 1% increments) • SDI, SDTI (QSDI), i.LINK, AES/EBU interfaces • ClipLink operation



DSR-85/85P (High-speed Editing Recorder)

- Playback compatibility with DV (SP mode) format • High-speed data transfer at four times via SDTI (QSDI) • SDI, SDTI (QSDI), AES/EBU • ClipLink operation

Key Solutions for News Applications

KEY SOLUTIONS

Sony offers a wide range of solutions for news applications, maximizing the advantages provided by the unique functionality of the DSR Series.

Solution 1

Sturdy, Reliable Construction – *Suitable for ENG Use in Tough Conditions*

DSR-500WS/500WSP/300A/300AP DSR-70/70P

The DSR-500WS, DSR-300A camcorders and the DSR-70 laptop editing recorder show their abilities in tough conditions because they are rugged enough to be handled as ENG gear. The DSR-500WS and DSR-300A are compact, lightweight yet highly reliable camcorders, offering superior durability

in the field. The DSR-70 incorporates the same chassis as the Betacam SX laptop editing products – the primary ENG gear utilized by broadcasters around the world. It has a high-quality 6.4-inch VGA LCD monitor as well, making it easy to see in any situation.

Solution 2

Excellent Digital Jog Audio – *Good for Audio-based News Editing*

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

With the digital jog audio function of the Master Series VTRs, the sound in frame by frame search is intelligible, making it easy to refine your edit points. This function is particularly important for news applications that frequently require editing decisions to be made on audio content. And since it is available when playing back DVCPRO and DV tapes as well, this function is even more beneficial.



Solution 3

Noiseless Digital Slow Motion – *Increase Production Creativity*

DSR-70/70P

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

A wide range of digital slow-motion speeds (DSR-2000: ± 1 x, Others: ± 0.5 x) provides clean and noiseless slow-motion pictures with DVCAM, DVCPRO and DV tapes. This is an important feature in program editing, for example of sporting events, to relive the dramatic scenes provided by these high-quality, slow-motion pictures. All studio VTRs support Dynamic Motion Control*.

* The DSR-1800/1600/1500 decks require an external controller.

Solution 4

Playback Compatibility with DV (25 Mb/s) Family Formats – *Utilize DV Material Directly*

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

Having to use incoming material recorded in different formats can be a real battle against time in news operations. By automatically detecting the format, the Master Series VTRs provide playback compatibility with DV (25 Mb/s) format recorded tapes (DV SP mode, DVCAM and DVCPRO) without requiring a mechanical adaptor or menu adjustments. The DSR-2000 even supports DV LP mode playback. It is also possible to use these tapes directly as editing source material, eliminating the need for dubbing to other formats. Thanks to this remarkable playback functionality, you can make use of a wide range of video sources for maximum creativity and productivity.



Key Solutions for News Applications

Sony offers a wide range of solutions for news applications, maximizing the advantages provided by the unique functionality of the DSR Series.

Solution 5


i.LINK Interface[†] – *Simple yet Professional Editing with Just a Single Connection*

[DSR-500WS/500WSP/300A/300AP*](#) [DSR-70/70P**](#) [DSR-2000/2000P/1800/1800P/1500/1500P**](#)

Based on the IEEE 1394 standard, the i.LINK interface provides a simple method of interconnecting DVCAM equipment and also for integrating it with consumer AV models and computer-related products. This interface uses a single-cable connection to simultaneously carry digital video and audio signals, as well as auxiliary data and control signals, with virtually no quality deterioration.



By combining the DSR-500WS or DSR-300A camcorders with the DSR-70 editing recorder, you can easily perform simple cut editing with frame accuracy on location. For example, after simple editing, you can capture a still image via an i.LINK interface with a laptop computer and then transmit it from the location to the studio via the Internet. This is extremely useful when there is an urgent requirement for the transmission of an image from a remote location. Directly after bringing the camcorders back to the studio, you can begin the final editing by using the i.LINK interface connection to the DSR-2000/1800/1500 editing recorders.

* Output only from the DVCAM camcorders. ** Optional i.LINK interface boards are required for the VTRs. i.LINK stands for IEEE 1394-1995 standards and their revisions.  is the logo for products that implement i.LINK.

Solution 6

SDTI-CP (MPEG) Interface – *Connect to the MPEG World, the Mainstream in the DTV Era*

[DSR-2000/2000P](#)

MPEG-2 has become an international standard for broadcast-quality digital video distribution. Sony has proposed the "MPEG World" to achieve true interoperability of MPEG-2 data and spread the real benefit of an end-to-end MPEG-2 solution in broadcasting facilities. The DSR-2000 has an optional SDTI-CP* (MPEG) output board so that all DV (25 Mb/s) recorded tapes can be exported to MPEG-based systems. Sony also provides the ability to feed DV material to an AV server like the MAV-555 Multi-access Video Disk Recorder via the SDTI-CP interface. This direct link makes the DSR-2000 a powerful bridge between the DV World and the MPEG World.

* SDTI-CP is defined as SMPTE-326M.

[†] i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connector. All products with an i.LINK connector may not communicate with each other. Please confirm interoperability with third party manufacturers. For more information contact Sony at 1-800-686-7669.

Solution 7

Preread Editing – *Save Money when Editing*

[DSR-2000/2000P](#)

Preread editing, a key advantage of the DSR-2000 studio VTR, enables you to perform full A/B roll editing with just two VTRs. You can also add titles and do audio sweetening with just a single VTR.

Solution 8

Quick, Highly Responsive Mechanism – *Immediate Response Shortens Editing Time*

[DSR-70/70P](#)

[DSR-2000/2000P/1800/1800P/1600/1600P/1500/1500P](#)

Quick mechanical response is an essential requirement for news applications, as they demand immediacy. The DSR-70 and DSR-2000 editing recorders 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. This innovative design frees you from the frustration and irritation of slow operation.

Solution 9**Variety of Unique Camcorder Features – Flexibility for Field Operation****DSR-500WS/500WSP/300A/300AP**

The DSR-500WS and DSR-300A camcorders offer flexible operation in the field. For example, using the analog composite input, these camcorders can be configured as recorders, allowing them to perform Pool Feed operation. This option is a great help when only a few camera operators are delegated to a press conference. Other features include an LED light on the viewfinder that lights up the iris ring area of the lens for operation in dark places (high/low/off selectable).

The Hyper Gain function raises the gain level to +36 dB (+42 dB with the DSR-500WS), allowing immediate exposure in extremely low light conditions. The DPR (Dual Pixel Readout)

technology, combined with a conventional electronic gain-up function, results in a high signal-to-noise ratio. Color temperature is selectable in 32 steps ranging from 2,200K to 12,000K with the combination of the built-in filter and menu. This is very useful when shooting scenes with mixed color lighting.

The RM-VJ1 is a compact, mobile and highly reliable hand-held remote controller with a professional microphone and LCD screen. It connects directly to control camcorder functions. This unique-style controller greatly enhances operational convenience for one-person applications such as video journalism.

Solution 10**Compact and Long-recording DVCAM Cassettes – Maximum Efficiency for News and Documentary Acquisition****DSR-500WS/WSP/300A/300AP DSR-70/70P DSR-2000/2000P/1800/1800P/1600/1600P/1500/1500P**

DVCAM cassettes are available in two sizes, standard and mini, providing recording times of up to 184 minutes and 40 minutes, respectively. Both cassettes are very compact and lightweight, so it is easy to carry plenty of assignments. Also, their low cost will help you to minimize production costs. While DVCAM cassettes are optimized for use with DVCAM recorders, consumer DV cassettes can be used in an emergency.



Mini-size cassette



Standard-size cassette

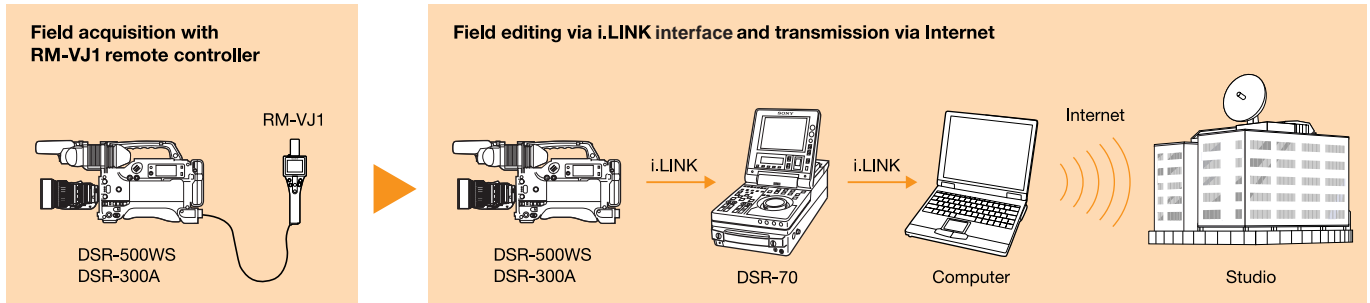
**Solution 11****The DVCAM Format – High-quality Video and Audio Recording in News Applications****DSR-500WS/500WSP/300A/300AP DSR-70/70P DSR-2000/2000P/1800/1800P/1600/1600P/1500/1500P**

The DVCAM format takes full advantage of digital component recording to provide high picture quality and superb multi-generation performance. It also offers superior digital audio performance, combining two-channel (48 kHz/16-bit) or four-channel (32 kHz/12-bit) mode operation with a wide dynamic range and an excellent signal-to-noise ratio. The four-channel recording mode is ideal for audio over-dubbing applications.

Sony's advanced Metal Evaporated tape technology enables DVCAM tapes to record with exceptional picture and sound quality. In addition, the Sony DLC (Diamond Like Carbon) protective layer provides high tape durability to withstand the tough environments encountered in field operations.

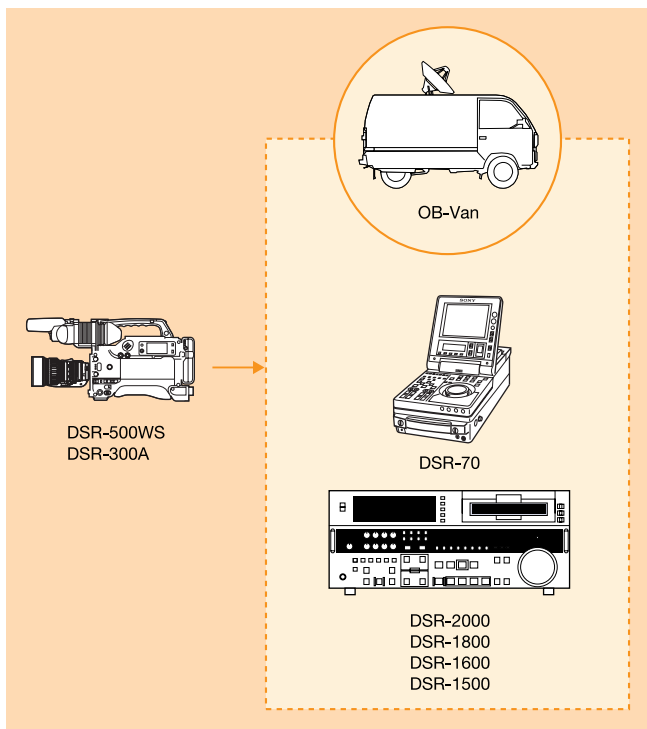
A Variety of System Examples for News and Documentary

Newsgathering and Still Image Transmission System



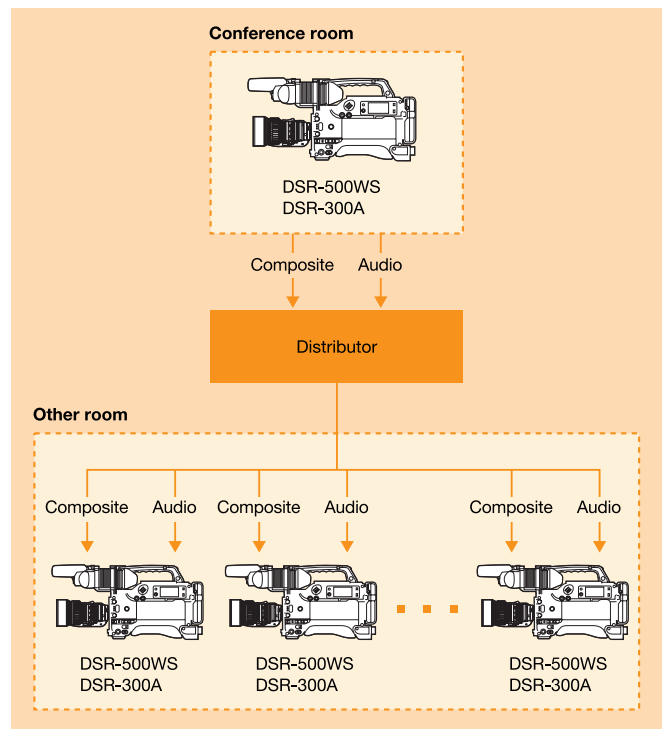
- Minimum package for shooting and editing
- Innovative acquisition style for video journalists - interview/report using the RM-VJ1 Remote Controller while viewing images and controlling camcorder functions
- i.LINK interface provides:
 - Single cable connection with virtually no deterioration of picture and sound quality
 - Internet transmission of urgently required still images via an i.LINK-equipped PC
- Time-saving for on-line editing

Live Event Broadcast System



- Noiseless and clean slow-motion pictures
- Easy to operate using Jog dial
- High picture and sound quality
- Audio playback level control
- Quick search

Pool Feed Operation System

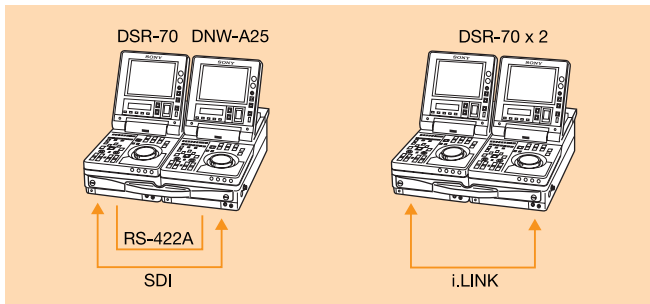


- Ideal when only a few camera operators are delegated to a press conference

Applications

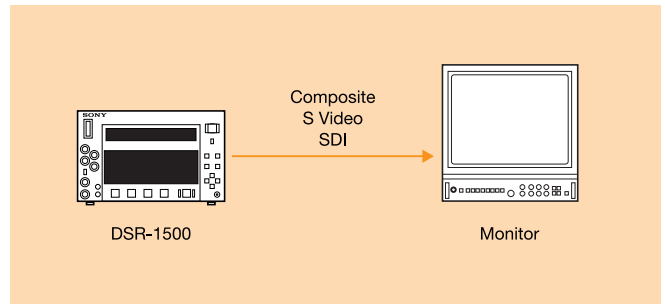
APPLICATION EXAMPLES

Field Editing System



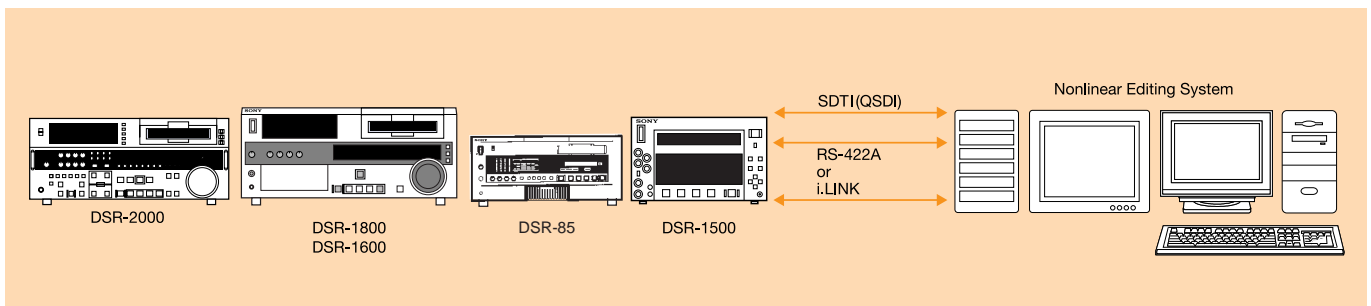
- Portable and compact cut-editing system package
- i.LINK provides single cable connection with virtually no deterioration of picture and sound quality
- DV/DVCAM to Betacam SX format editing, providing upward compatibility with broadcast systems
- Space saving for editing in confined spaces, such as an OB vehicle with a desktop style

Low-cost Screening System



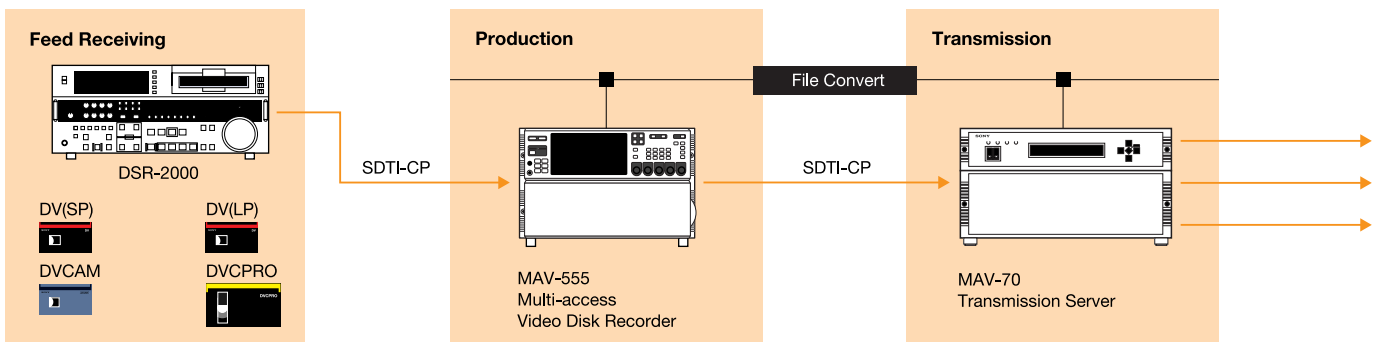
- Compact size for desktop use
- Playback of DVCAM, DVCPRO and DV (SP mode) cassettes
- Quick response

i.LINK/SDTI (QSDI)-based Nonlinear Editing System



- Superior multi-generation picture and sound quality with i.LINK or SDTI (QSDI) interfacing
- Efficient editing with ClipLink operation

Feed Receiving for MPEG-based Network



- Direct link to MPEG-based networks by use of SDTI-CP interfacing
- Ability to upload DV (SP/LP mode), DVCAM and DVCPRO recorded tapes as editing source material

DVCAM in Action – Customer Applications

CUSTOMER APPLICATIONS

Component digital picture quality. Outstanding cost performance. Ruggedness and high reliability. Comprehensive systemization. The reasons for choosing Sony DVCAM gear are powerful. And some of broadcasting's most powerful names have chosen Sony DVCAM camcorders and VTRs – often using them side by side with Sony Betacam SX equipment.

USA



CNN empowers correspondents.

Ken Tiven, VP of research & development at CNN says, "DVCAM camcorders let us equip correspondent-only news bureaus at a fraction of the cost. And the DVCAM component digital picture integrates well in post production."

Fisher Broadcasting makes a choice.

"Although some of Fisher's stations had already begun the transition to other manufacturer's DV-based formats, we have made the decision to alter our course and make a group-wide transition to Sony's digital formats." according to Pat Holland, vice president of technology for Fisher Broadcasting.

Court TV makes a case.

"When we report on a trial, we also like to go out and cover stories in the surrounding city," says Joe Schwinghammer, director of engineering at Court TV. "The DVCAM camcorder's small size, ease of operation and excellent picture quality allow even our producers to shoot terrific-looking footage."

Japan



NHK (Japan Broadcasting Corporation) chooses DVCAM.

NHK has chosen DVCAM equipment for use in their local branches nationwide. The DSR-300A has been selected for newsgathering, while the DSR-60 and DSR-20 are being utilized for distribution. The combination of the DSR-300A and DSR-20 meets NHK's need of quickly transmitting material for on-air use to the main studio from local branches. The mobility and excellent picture quality of DVCAM are highly valued in the race against time that is electronic newsgathering.

United Kingdom

BBC rules the airwaves.

Reflecting a changing philosophy toward electronic newsgathering, the BBC has committed to Sony DVCAM as the digital video format for BBC News and BBC English Regions. Compatibility between DVCAM and consumer DV tapes means that footage shot by correspondents, producers and even the public can be easily interlaced with professionally shot footage. The DSR-70P portable laptop editor further enhances this process by enabling the editing of news stories at the site by the news crew. While back at the studio, the DSR-2000P VTR's functionality was a major attraction for coverage of News in England, particularly its ability to process any 25 Mb/s DV-based material and use all DV cassette sizes.

Sony Global ENG Service Network

ENG SERVICE NETWORK

Over the past two decades, Sony has been providing expeditious and high-quality technical support to all of our professional customers on a global basis. It is our aim to serve you promptly and professionally, and we hope to become an indispensable partner in your business operations. Sony will provide you with full access to a wide range of services and benefits designed to make ownership of our products as enjoyable, affordable and trouble-free as possible. At present, Sony has 111 service/technical support sites in 59 countries. And we are continually expanding to ensure the very best in customer satisfaction.



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Information is subject to change without notice. Check for the latest updates

*on the **Sony Global ENG Service Network** home page:*

http://www.world.sony.com/Electronics/ENG_NET/index.html

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