Sony's 3D Production System

SONY
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Sony Digital Cinema™
3D

HDCAM SR™

R SERIES

Following the rapid development of three-dimensional (3D) digital technologies, the environmental conditions and infrastructures required for high-quality 3D content creation are now improving year on year. Sony has a brilliant lineup of products for 3D shooting, editing, displaying, and more, along with a wide range of products for enhancing creativity at every stage of production. In other words, Sony provides a complete solution for the entire 3D production workflow, enabling greater production efficiency and creativity. This solution has been achieved through extensive, long-term research and meticulous development, and in response to emerging industry demands.
Sony's solution is effective in a broad range of applications including 3D movie production, and at sporting events, concerts, and in many other locations.

3D Shooting Solutions

Cameras:

Sony has a broad lineup of products for 3D shooting solutions including high-performance cameras, which are more compact and versatile than regular cameras. All of these products are provided to enhance the flexibility of 3D shooting.

■ HDFA-200 HD Optical Fiber Unit

Users can configure an unprecedentedly high-performance, highly compact 3D camera rig using the HDFA-200 combined with the HDC-P1. Signals can be transmitted from two cameras to a camera control unit (CCU), using a single optical fiber cable, and also power and genlock signals can be supplied to the two cameras. With the HDFA-200, right and left cameras can be controlled from a single remote control panel (the RCP-1500, RCP-1501, or RCP-1530).

■ HDC-P1 Multi-purpose Camera

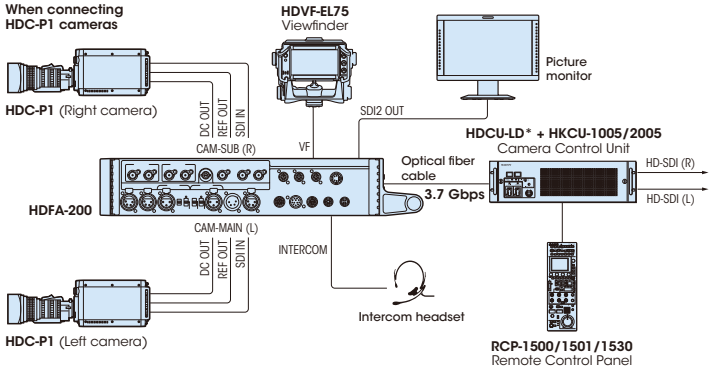
With its remarkably compact body, the HDC-P1 full-HD CCD POV-style camera is an excellent solution for a 3D camera rig.

■ HDC-1500R Series Cameras with the HKC-T1500 Adaptor

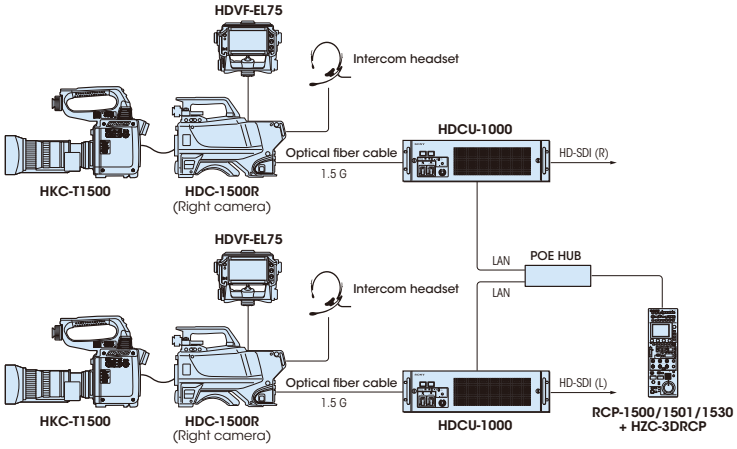
The lightweight HKC-T1500 Adaptor linked with the HDC-1500R Series camera is ideal for a 3D rig because of its flexibility.

■ HZC-3DRCP Camera Operating Software

HZC-3DRCP software installed in the RCP-1500, RCP-1501, or RCP-1530 Remote Control Panel enables operators to control a two-camera 3D system without using an HDFA-200. With this software, operators can control both right and left cameras simultaneously.



Sample 3D Camera Configuration for 3.7 Gbps Transmission by HDFA-200



Sample 3D Camera Configuration for 1.5 Gbps transmission

ACQUISITION

3D Camera System with 3D Rig

CORRECTION

Stereo Image Processor

MPE-200 with MPES-3D01 software

HDCAM-SR VTR

Recorders:

As previously mentioned, the HDCAM-SR format adopted by the SRW-1/SRPC-1 portable recorder is ideal for 3D content creation. This recorder provides the highly effective capture of 3D images from two cameras.
In Dual Stream mode, the images from two cameras can be recorded simultaneously. And in 3D Field Sequence mode, it's easy to monitor 3D images in the field using a compatible 3D monitor.

MPE-200 Stereo Image Processor

The MPE-200 is a versatile multi-image, high-speed processor in which a broad range of 3D development software can be installed.

■ MPES-3D01 Stereo Image Processor Software

Installed in the MPE-200, this software allows users to analyze 3D images with a built-in waveform monitoring function, and make fine adjustments to image appearance through digital signal processing. This greatly reduces the cumbersome, time-consuming task of mechanical fine adjustment of 3D camera rigs.

■ MPES-2D3D1 2D/3D Converter Software

This 2D/3D converter software installed in the MPE-200 allows the user to convert 2D images into natural 3D in real time using Sony's unique sophisticated algorithm. Impressive high performance, together with versatile and user-friendly operability, makes this solution ideal for incorporating 2D elements into a 3D production.

■ MPES-3DQC1 3D Quality Control Software

With this software, users can evaluate in real time the mathematical values of finished 3D content. This can help to correct any errors, or prove that values are - in fact - correct.

3D Monitor:

For 3D video monitoring, Sony offers two types of high-performance professional LCD monitor: a 42-inch*1 and 24-inch*2 solution.
These professional monitors incorporate a micro-polarizer screen attached to the LCD panel, and are supplied with passive glasses. Thanks to these lightweight circular polarizer 3D-system glasses, users can view excellent flicker-free 3D images. This helps them to engage in 3D production operations with less stress.

The hallmarks of these monitors are their highly acclaimed Sony-unique ChromaTRU color matching technology, and a full-HD (1920 x 1080) resolution professional LCD panel with an excellent wide viewing angle - developed without compromise because user convenience has top priority.
With their dual-stream HD-SDI*3 interface, these two professional monitors support 1080/59.94i, 1080/50i, 1080/24PsF, and 1080/23.98PsF formats.

*1 1067-mm (42-inch) viewing area, measured diagonally.
*2 613-mm (24-inch) viewing area, measured diagonally.
*3 An optional dual-stream HD-SDI input adaptor is required.

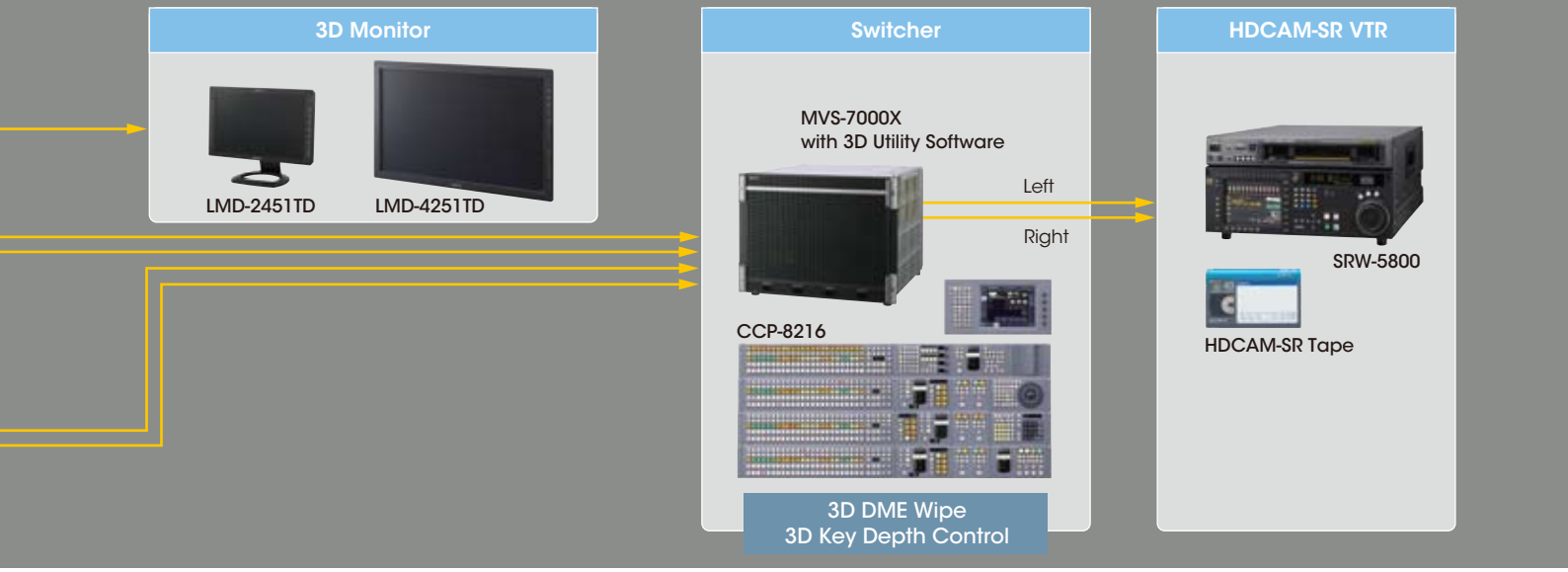
3D Editing Solutions

In addition to the SRW-1/SRPC-1 portable recorder, the SRW-5800 digital videocassette recorder mentioned previously, and the SRW-5100 digital videocassette player, are ideal for 3D content workflow.
Both the SRW-5800 and the SRW-5100 enable highly effective editing procedures in linear or non-linear editing rooms.

3D Live Solutions

In addition to solutions for 3D cinema production, Sony also delivers 3D content creation solutions for live use such as shooting at stadium sporting events and concerts.
The acclaimed lineup of production switchers - the MVS-8000G, MVS-8000X, and all-new MVS-7000X - provides a simple 3D live production system with high operability.
By installing optional software, the MVS-8000G can handle 3D signals easily without complex link setting. Crosspoint assignment for right-eye and left-eye signals can be set as a pair of signals. Also, users can easily adjust the parallax value and disparity value of these signals.
The MVS-8000X is the high-end model of the MVS-8000 Series of production switchers with 3D, 3 Gbps, and 1080p real-time processing capabilities. The MVS-7000X can be upgraded to HDTV, 1080p/59.94/50, 3D, and 3 Gbps production capabilities.
These switchers can stream right-eye and left-eye images in full-HD 1920 x 1080, and output these images to a 3D monitor or 3D projector.

EDITING

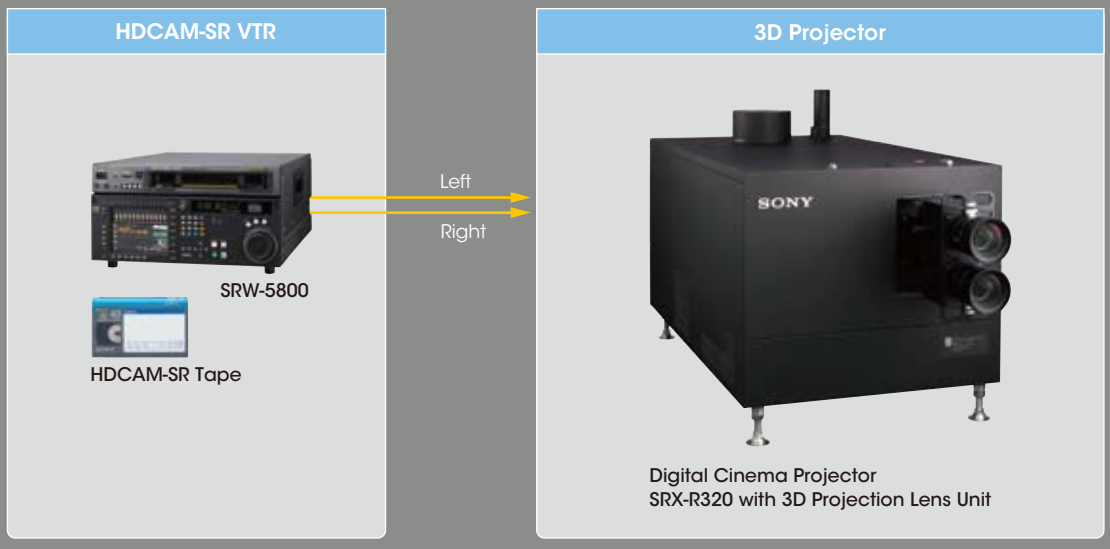


3D Cinema Projection System Solution

Sony offers an ultra-high-resolution projector system that efficiently delivers 3D images to the screen. The SRX-R320*1 4K SXRD projector combined with the LMT-300 Media Block server achieves crisp 3D images*2 on screens up to 15 meters (50 feet)*3 in width at 4.5 ft-L brightness. This solution allows full 2K resolution for the left eye and right eye simultaneously, resulting in a high-brightness, high-quality stereoscopic cinema presentation that - in particular - offers more faithful reproduction of motion in 3D. The LMT-300 Media Block is a digital cinema server that can play back DCI DCP (Digital Cinema Package) files, and enables the SRX-R320 to project digital cinema programs.

*1 A 3D projection lens unit is required. For detailed information, please contact your nearest Sony office.
*2 To produce 3D images on screen, 3D filters are required (available from 3D system integrators).
For detailed information on 3D filters, please contact your nearest Sony office.
*3 Screens up to 15 meters (50 feet) wide are supported, when 3D images are presented in Side Masking mode.
Screen up to 12 meters (40 feet) wide are supported, when 3D images are presented in Top-bottom Masking mode.
For detailed information on supported screen sizes, please contact your nearest Sony office.

3D SCREENING



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The HDC-1500R, HDC-P1, HKC-T1500, HDFA-200, MPE-200, SRW-5800, MVS-8000G, SRX-R320, and LMT-300 are produced at Sony EMCS Corporation's Tokai Technology Center and at the Sony UK Ltd. Digital Technology Center Pencoed, which have received ISO14001, the Environmental Management System certification.

ISO 14001
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