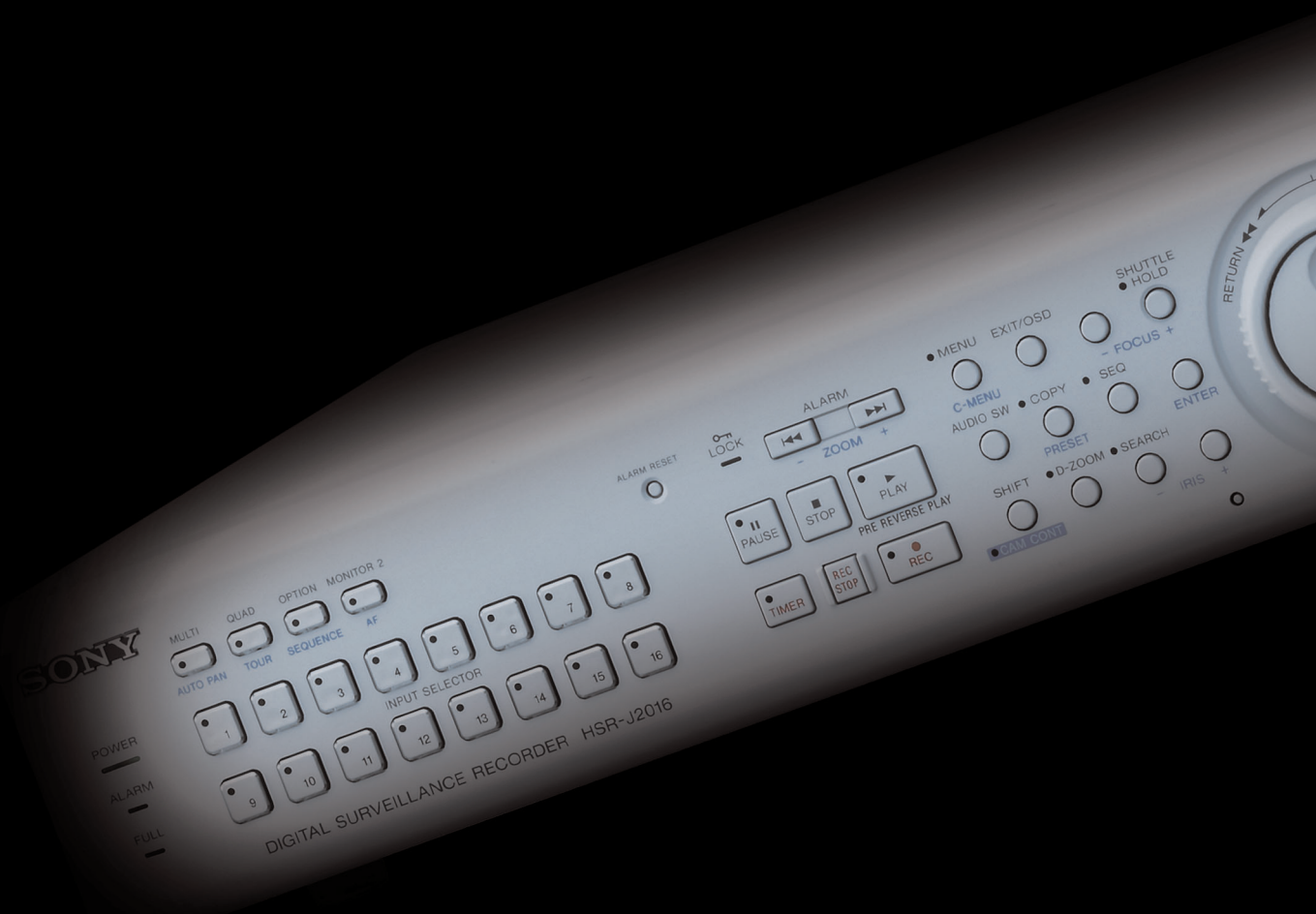


SONY®



Digital video recording
with extra intelligence



HSR-J Series
Digital Video Recorders

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High-capacity and Amazingly Clear and Detailed Image Recording with the Latest Sony Digital Video Recorder

FEATURES

The Sony HSR-J Series is the latest family of multi-channel Digital Video Recorders with a 500 GB HDD capacity (250 GB X2). These recorders adopt the JPEG 2000 compression format which uses a state-of-the-art compression method to record large amounts of image data. JPEG 2000 provides clearer and more detailed image quality compared to conventional JPEG images of the same data size. Moreover, the HSR-J Series features a high monitoring refresh rate of 25 fps.

To expand your recording capacity, the HSR-J Series can be connected to an external RAID unit via a SCSI interface. What's more, with a built-in multiplexing function, up to 9 cameras (HSR-J2009P) or up to 16 cameras (HSR-J2016P) can be connected to the unit and images obtained from these cameras can be recorded and monitored independently.

Equipped with a 100Base-TX Ethernet interface, the HSR-J Series enables you to monitor live images, access recorded images and control your surveillance system over a TCP/IP network.

The HSR-J Series offers all the benefits associated with digital HDD recordings – clear, crisp and undistorted images, that can be accessed quickly. And, since there are no tape transports and/or head service costs, maintenance costs for the HSR-J Series are lower compared to those for analogue time-lapse recorders.

With other convenient features such as Programmed Recording, Alarm Recording, Activity Detection, Intelligent Search and a built-in Compact Flash™ (CF) card slot, the HSR-J Series is ideal for a wide range of monitoring application in locations such as banks, airports, government facilities and more.

■ High-quality Images JPEG 2000 Compression

The HSR-J Series adopts the JPEG 2000 image coding system that uses state-of-the-art compression techniques based on wavelet technology. JPEG 2000 provides higher compression ratios and better image quality compared to conventional JPEG compression. For example, when recording in HIGH mode, HSR-J Series file sizes are 20% smaller than standard JPEG file sizes of the same image quality. What's more, JPEG 2000 files have resolution scalability, so smaller-sized data can be specified and extracted from a single compressed file, unlike JPEG, which requires different sized images to be stored separately. This feature is ideal when you need to download image data over a network with limited bandwidth.

With its smaller file size and resolution scalability, JPEG 2000 compression was chosen for the HSR-J Series to achieve efficient data recording and playback.

■ High-capacity 500-GB Storage (ATA/ATAPI-5 Standard HDDs)

The HSR-J Series incorporates a 500 GB capacity HDD (250 GB x 2), providing long recording times.

9-camera Operation*²:

- High-Mode Recording Time: approx. 462 hours, 19.25 days
- Mid-Mode Recording Time: approx. 680 hours, 28.3 days

16-camera Operation*³:

- High-Mode Recording Time: approx. 231 hours, 9.7 days
- Mid-Mode Recording Time: approx. 340 hours, 14.2 days

*² Based on 0.9 pictures/s, uses 99% of the recording area.

*³ Based on 1.25 pictures/s, uses 99% of the recording area.



(ROI Image Screen)

Region-of-Interest (ROI) Function

To further achieve efficiency in storage, the HSR-J Series supports a Region-of-Interest (ROI) function that enables specified areas of an image to be recorded with better quality than the rest of the image (e.g. background areas of less interest). Up to three areas can be specified. In addition, the HSR-J Series also supports an Active ROI function. This works in such a way that image quality is improved only when the activity detection function is triggered within specified ROIs.



HSR-J2009P
HSR-J2016P

High Refresh Rate

The HSR-J Series can record images at high refresh rates so crucial moments are not missed.

- Image Recording (VGA/QVGA): 100 frames/s^{*4}
- Live Image Monitoring: 25 frames/s

^{*4} This is the maximum recording frame rate. It is dependent on the number of connected cameras.

Network Capability

The HSR-J Series is equipped with a 100Base-TX Ethernet interface so you can remotely monitor and control your surveillance system over a TCP/IP network using networked PCs running a web browser^{*5}. Image data can also be transferred and downloaded via a network. Users can select image sizes, so smooth-moving images can be viewed even when network bandwidth is limited. Up to fifteen users can simultaneously monitor images. There are also four levels of password protection.

^{*5} Requires Microsoft® Windows® 98 or higher operating system and Microsoft Internet Explorer 5.5 or higher web browser.

Built-in Multiplexing Capability

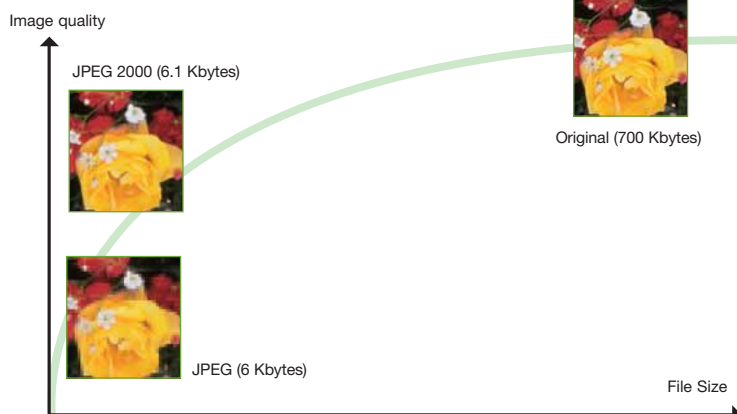
Using a built-in multiplexing capability, up to 9 camera images (HSR-J2009P) or up to 16 camera images (HSR-J2016P) can be recorded and monitored independently. Multiple monitoring patterns, such as full screen, 4, 9, and 16-division^{*6} split screens are available, and live camera images can be sequentially switched at intervals of 1 to 30 seconds. In addition to these monitoring patterns, you can set up an "Option Screen,"^{*7} a larger sub screen in the lower right corner of the display, that can be used to display either a live camera image or recorded image.

^{*6} 16-division split screen is supported only on the HSR-2016P.

^{*7} A live camera image cannot be displayed in the Option Screen during playback.

JPEG 2000 Compression

(JPEG 2000 vs JPEG Image Comparison)



External RAID Unit Connectivity

Equipped with an SCSI interface, the HSR-J Series can be connected to an external RAID unit^{*8}. This feature is ideal when recording for a long period of time and for backing up data. Users can easily access image data recorded to the external RAID unit using the HSR-J Series search function.

^{*8} When using an external RAID unit, please make sure to use an Uninterruptible Power Supply (UPS). The RAID unit and the HDDs built into this unit cannot be used simultaneously. Please contact your nearest Sony office or authorised dealer for more details.

Easy Setup and Easy Operation

The HSR-J Series offers an "Easy Setup" menu, which gives users quick access to normal recording settings, such as frame rate, recording duration, picture quality and timer recordings on a single menu page. Once the appropriate parameters have been input, the system is automatically configured.

For easy connections, a Video OUT and a USB port are located on the front panel allowing users to quickly connect to external devices such as a monitor and recorder.

Comprehensive Recording and Playback Features

Alarm Recording

With its flexible alarm recording settings, the HSR-J Series provides a high level of functionality during alarm incidents. When the recorder detects an alarm, either internally (via its built-in activity detection sensor) or externally, the unit will automatically switch to alarm recording mode. A pre-alarm mode, which plays back images recorded before the alarm was triggered, is also available.

Network Capability

(GUI Screen)



■ HSR-2009P



Front Panel



Rear Panel

■ HSR-2016P



Front Panel



Rear Panel

■ Timer Recording

Timer recording can be activated on a weekly or daily basis, with a maximum of eight timer settings.

■ Programmed Recording

The HSR-J Series has a programmed recording function that allows you to preset up to four programs and recall them easily via the menu. Within each of the four programs, you can specify the preferred camera inputs and the recording rate of each camera. These programs can also be used in combination with timer and alarm recording features.

■ Playback During Recording

The HSR-J Series allows you to view previously recorded images without having to stop recording.

■ Intelligent Search Function

The HSR-J Series features six search functions that allow you to quickly locate and review required segments: alarm log search, alarm search, alarm thumbnail search, time/date search, archive area search and activity detection search.

■ Activity Detection Function

The HSR-J Series is equipped with an activity detection sensor that is designed to recognise changes in luminance. The sensor is based on a 10 x 14 grid on the monitor, and ten levels of sensitivity are selectable. If a change in luminance is detected in the assigned area of the grid, an alarm is triggered and recording is activated.

■ Activity Search On Recorded Data

The HSR-J Series can perform an activity search within recorded data. Users can set an activity grid within the recorded material to search only the scenes where activity was detected.

■ Two-Channel Audio Recording and Playback

Two channels of audio can be recorded and played back.

■ Smart Data Storage and Backup

The HDDs of the HSR-J Series are partitioned into two areas – a recording area and an archive area. Normal recorded images and alarm recording images can be recorded to the recording area^{*9}. The recording capacity for this area can be freely allocated to meet your needs. The archive area can be used for backing up all image data. In addition, an auto copy function^{*10} can be used to automatically archive alarm recording data to prevent accidental erasing of this critical data.

^{*9} Normal recorded images and alarm recording images cannot be recorded simultaneously.

^{*10} When using the auto copy function, the maximum recording frame rate is 50 fps.

■ Camera PTZ Control Functions^{*11}

The HSR-J Series allows users to easily and quickly control a camera's PTZ (pan/tilt/zoom) function using the JOG, SHUTTLE, and Operation buttons located on the front panel.

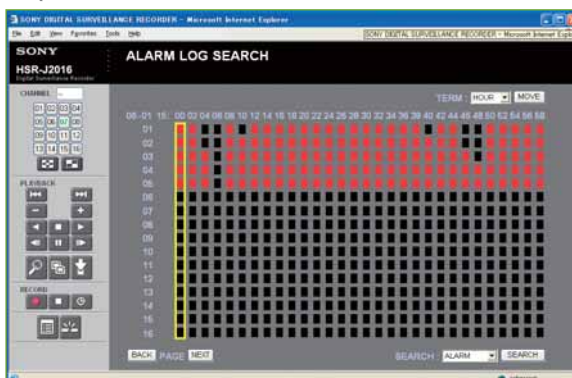
^{*11} Please contact your nearest Sony office or authorised dealer for types of compatible cameras.

■ Data Copy Feature

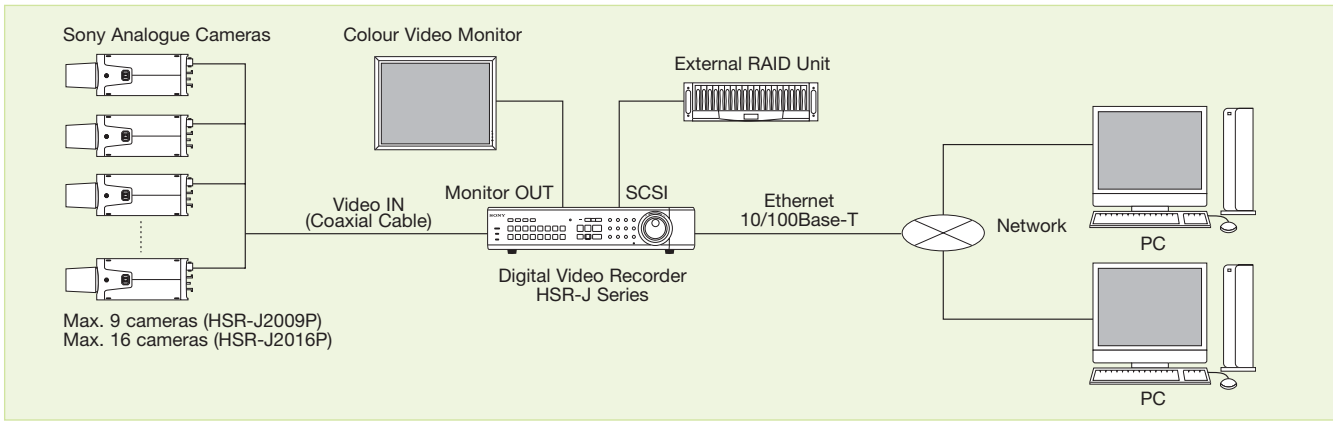
Data recorded on the HDDs can be easily copied to a variety of removable media. A built-in Compact Flash (CF) card slot on the front panel of the HSR-J Series enables you to download images onto a CF card or Memory Stick™ media card using a CF card adapter. A USB port is available to connect external CD-R/RW/DVD+R/DVD+RW drives so that data can be copied to disc media. In addition, when the HSR-J Series is connected to a network, users can download recorded images to a PC.

■ Intelligent Search Function

(Alarm Log Search GUI screen)



SYSTEM CONFIGURATION

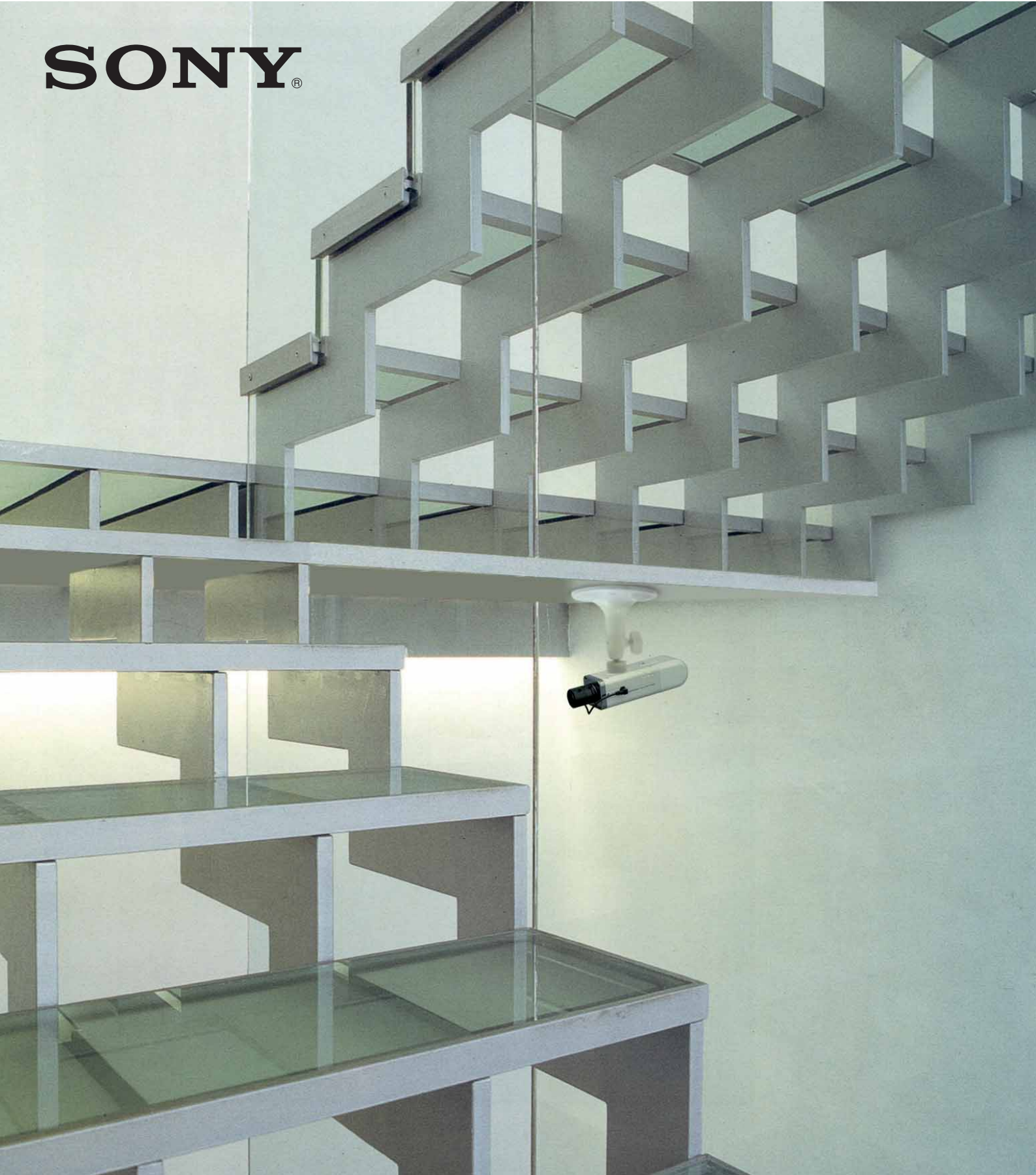


SPECIFICATIONS

	HSR-J2009P	HSR-J2016P
GENERAL		
Mass	7.1 kg (15 lb 10 oz)	7.2 kg (15 lb 14 oz)
Dimensions	420 (W) x 96 (H) x 376 (D) mm (16 5/8 x 3 7/8 x 14 7/8 inches)	
Power requirements	AC 220 V, 50/60 Hz	AC 220 V, 50/60 Hz
Power consumption	40 W	48 W
Operating temperature	5 to 40°C (41 to 104°F)	
Operating humidity	Less than 80%	
Built-in HDD capacity	500 GB (250 GB x 2)	
Card slot	Compact Flash type II	
VIDEO		
Input	9 channels, VBS, VS (BNC type) 1.0 Vp-p, 75 Ω , unbalanced	16 channels, VBS, VS (BNC type) 1.0 Vp-p, 75 Ω , unbalanced
Output	9 channels, VBS, VS (BNC type) 1.0 Vp-p, 75 Ω , unbalanced	16 channels, VBS, VS (BNC type) 1.0 Vp-p, 75 Ω , unbalanced
Monitor output	VBS, VS 1.0 Vp-p, 75 Ω , unbalanced (BNC type x 2), S-VIDEO (Mini DIN 4-pin x 1)	
Video output	RCA x 1	
Video compression	JPEG 2000	
Picture quality mode	Hyper : 42 KB/picture* Super : 34 KB/picture* High : 26 KB/picture* Mid : 16 KB/picture* Low : 10 KB/picture*	
Picture resolution	720 x 288 pixels (field mode)	720 x 288 pixels (field mode)
Horizontal resolution	More than 500 TV lines (Hyper mode)	
Signal-to-noise ratio	48 dB (typical, Hyper mode)	
AUDIO		
Mic input	1 channel Monaural (Mini jack), -60 dBs, 10 kΩ , unbalanced	
Line input	2 channels Monaural (Phono jack), -8 dBs, 27 kΩ , unbalanced	
Line output	1 channel Monaural (Phono jack), -8 dBs, 600 Ω , unbalanced	
Signal-to-noise ratio	38 dB (typical)	
Distortion	Less than 4% at 1 kHz	
NETWORK INTERFACE		
Ethernet	100Base-TX/10Base-T	
Network protocol	TCP/IP, HTTP, DHCP, SMTP, PPP, NTP	
ALARM AND CONTROL INPUT/OUTPUT		
SCSI	68-pin half pitch D-sub	
USB	Version 2.0, x 2	
RS-485 (A, B)	RJ-11	
Alarm in	Normal open (Low active), x 9	Normal open (Low active), x 16
Sensor alarm out	5 V, 5.7 kΩ (Low active), x 9	5 V, 5.7 kΩ (Low active), x 16
Remote1/Remote2	Push-lock terminal	
Clock set in	Normal open (Low active)	
Clock set out	DC 5 V, 5.7 kΩ (Low active)	
External timer in	Normal open (Low active)	
Alarm out	DC 5 V, 5.7 kΩ (Low active)	
Alarm reset out	Normal open (Low active)	
Non rec out	DC 5 V, 5.7 kΩ (Low active)	
Warning out	DC 5 V, 5.7 kΩ (Low active)	
Disk full out	DC 5 V, 5.7 kΩ (Low active)	
SUPPLIED ACCESSORIES		
	AC power cord, AC power cord tie, Rack mount kit, Installation manual, Operation manual (CD-R)	

*Each image includes header information of 2 KB.

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