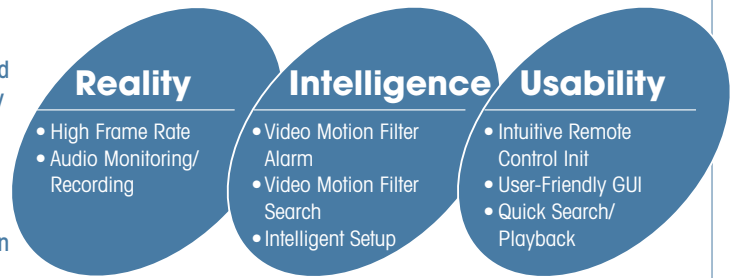Simulated Image

NSR Series

Network Surveillance Recorders

IPELA

Stunning video and audio brought to you by the **IPELA** series of visual communication products that encompass the three-pronged concept of Reality, Intelligence, and Usability. **IPELA** is the identity symbolizing the Sony vision for the workplace of the future, connecting people, places, and information with reality that has never before been achieved. **IPELA** products let you share, understand, and experience as if you are actually there, when in fact, you are miles away. It allows you to quickly grasp a situation to make better business decisions.

Reality
- High Frame Rate
- Audio Monitoring/ Recording

Intelligence
- Video Motion Filter Alarm
- Video Motion Filter Search
- Intelligent Setup

Usability
- Intuitive Remote Control Init
- User-Friendly GUI
- Quick Search/ Playback

Real audiovisual communication over networks – this is business communication of the future, this is business communication brought to you today, this is **IPELA** brand.

For Flexible Monitoring, Recording, and Searching With Intelligent Video Analytics – Sony Network Surveillance Recorders are the Answer

The Sony NSR Series[1] is an innovative and flexible range of Network Surveillance Recorders that support the Sony Distributed Enhanced Processing Architecture (DEPA™). DEPA allows the NSR series to work in conjunction with Sony Cameras to perform intelligent video analytics[2] – Video Motion Filter (VMF) or rules-based alarm recording and VMF searches. Both of these features employ metadata to provide high levels of operational efficiency and security. VMF Alarms allow users to define parameters and to fine tune alarm triggers for live monitoring/recording. Thus, crucial events are brought to the attention of security personnel and/or captured by the surveillance recorder. VMF Searches allow users to define search parameters on the recorded data for specific situations so that events of interest can be quickly located.

In addition to its sophisticated monitoring functions, the NSR Series of network surveillance recorders can be used in either a stand-alone system or a client/server configuration. It also supports a wide variety of cameras[1], thereby offering great flexibility and scalability for both small- and large-scale operations. The NSR Series is perfect for a wide range of security applications in locations such as banks, retail outlets, transportation centers, offices, and many others.

The NSR Series offers a broad spectrum of invaluable features – including intelligent setup, flexible recording and playback, quick search, multiple hot-spot monitoring, and a user-friendly Graphical User Interface (GUI). The powerful and flexible NSR Series of network surveillance recorders is ideal for numerous applications beyond security and surveillance.

Features at a glance

- Smart Monitoring and Smart Search using Sony Video Motion Filters[3]
- High Frame Rate and High-Capacity HDDs
- MPEG-4 and JPEG Support
- Intelligent and Quick Setup using the Setup Wizard
- Built-in Intelligent Motion Detection
- Multiple Hot-Spot Monitoring and Dual Monitor Support
- Manual, Scheduled, Alarm, and Pre-alarm Recording
- Recording List Search and Advanced Search
- Playback While Monitoring Live Images
- Intuitive and User-friendly GUI
- Camera PTZ Control
- Ergonomically Designed Remote Control Unit (Optional)

[3] This function is currently available only with the SNC-RX550, SNC-RZ50, and SNC-CS50 cameras.

[1] The NSR Series is compatible only with Sony network cameras or analog cameras used in conjunction with the Sony video network station.
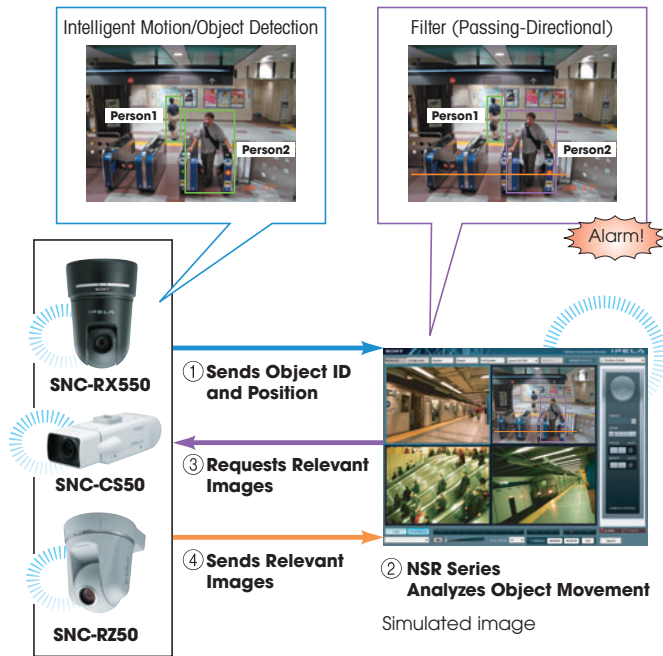
[2] Intelligent Video Analytics is currently available only when the NSR Series is used in conjunction with the SNC-RX550, SNC-RZ50, SNC-CS50, SNC-DF50N and the SNC-DF80N cameras.

Features

The DEPA Platform – Intelligent Video Analytics

The NSR Series is the core of the Sony IP surveillance solution based on the DEPA™ platform. The intelligent video analytics available with these network recorders works in conjunction with the Intelligent Motion Detection (IMD) and Intelligent Object Detection (IOD) functions of the Sony DEPA-enabled Network Cameras (SNC-RX550, SNC-RZ50, SNC-CS50, SNC-DF50N and SNC-DF80N). The architecture of the DEPA solution is designed so that the network cameras perform the IMD and IOD functions and the appropriate metadata generated by these cameras is sent to the NSR Series recorder. The recorder then uses the metadata and filters to analyze object movement. This method of distributed processing minimizes server workload, network bandwidth, and storage capacity and – compared to conventional surveillance operations – makes the system more stable and efficient.

Distributed Enhanced Processing Architecture (DEPA)

Smart Monitoring

Intelligent Video Motion Filter Alarm[*4]

Users can define parameters (set filters) in the NSR Series for use in conjunction with the IMD and IOD functions of Sony DEPA-enabled network cameras. Up to six filters can be used to limit alarm triggers to specific object movements or situations. In addition, filters can be defined with more detailed parameters to trigger alarms based on object size, direction, and/or speed, which excludes objects that should not trigger an alarm[*5].

[*4] This function is currently available only with the SNC-RX550, SNC-RZ50, SNC-CS50, SNC-DF50N and SNC-DF80N cameras.

[*5] Object direction and speed settings are available only with the Passing, Appearance, and Disappearance filters.

Filter	Camera Alarm Setting (IMD/IOD)	Application
Passing	IMD	Alarm is triggered when an object crosses a "virtual borderline."
Appearance	IMD	Alarm is triggered when an object enters a "virtual area."
Disappearance	IMD	Alarm is triggered when an object exits a "virtual area."
Capacity	IMD	Alarm is triggered when a pre-specified number of objects are in a "virtual area."
Existing	IMD	Alarm is triggered when an object loiters in a "virtual area" for longer than a pre-specified time period.
Unattended/ Removed	IOD	Alarm is triggered when an object is left unattended, or is removed from a "virtual area" for longer than a pre-specified time period.

Intelligent Video Motion Filters

Intelligent Motion Detection (IMD)

The NSR Series features a built-in IMD function that can trigger an alarm or perform a variety of other actions such as locking doors or turning on lights. By using an advanced Sony algorithm, the system can minimize false alarms caused by noise and repetitive motion patterns. Several detection areas can be set within each camera's field of view.
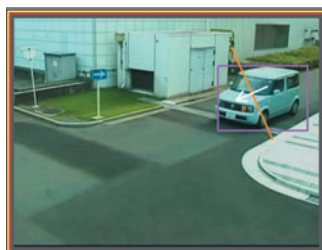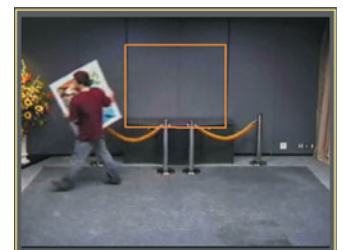

Wrong Way on One Way Street

Disabled Vehicle

People Counting

Stolen Picture

Flexible and High-Quality Image Recording

High Frame Rate

The NSR Series supports a high frame rate, which allows high-quality images to be recorded from multiple cameras.

NSR-100	480 fps (16 cameras x 30 fps)
NSR-50	240 fps (8 cameras x 30 fps)
NSR-25/NSR-25/500	120 fps (4 cameras x 30 fps)

NSR-Series Recording Frame Rate[6]

[6] The recording frame rates shown in the table represent the total frame rate per recorder unit when recording images at JPEG, Level 5 using the SNC-RZ30, and without live image monitoring.

MPEG-4/JPEG Support

With recording and playback support for cameras that encode in both MPEG-4 and JPEG, the NSR Series provides you with more options when configuring your video network monitoring system.

Flexible Recording Modes

The NSR Series has a number of recording modes such as manual, scheduled, and alarm/pre-alarm recording, which provides operators with several different options when deciding what to record.

Large-Capacity HDDs and High Reliability

The NSR Series employs large-capacity Hard Disk Drives (HDDs) that enable each recorder to store vast amounts of image data.

NSR-100	1000 GB
NSR-50	500 GB
NSR-25	250 GB[7]
NSR-25/500	500 GB

[7] Recordable area is 210 GB. Recording capacity can be expanded up to 500 GB (420 GB recordable area) using an optional NSBK-HD250 HDD Kit.

In addition, the NSR Series adopts Disk on Module (DOM) that offers quick and easy recovery of data in the event that an HDD becomes corrupted.

RAID Drives

The NSR-100 and NSR-50 employ RAID, which makes these systems reliable in the event of an HDD failure.
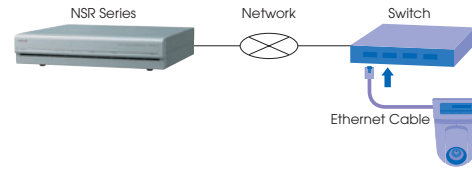
	RAID 5	SPAN	RAID 1	RAID 0
NSR-100	670 GB	N/A	450 GB	900 GB
NSR-50	N/A	430 GB	210 GB	N/A

Recordable Area

Easy to Use "Intelligent Setup"

The NSR Series is easy to configure when installing a video monitoring system.
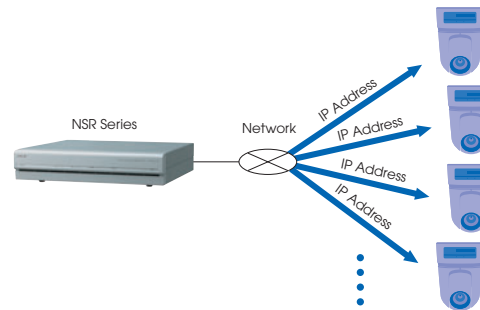
1. Connect the IP camera(s) to a hub or switch on a network.

2. Run the Setup Wizard, and the recorder will automatically recognize any camera(s) installed on the same network segment.

3. IP address assignment and camera registration are performed automatically.

4. An appropriate (default) monitoring layout is automatically generated based on the number of registered cameras.

Simulated image

Simultaneous Camera Parameter Settings

Users can set various parameters such as frame rate, image quality, and video codec for multiple cameras or camera groups simultaneously, making setup more efficient.
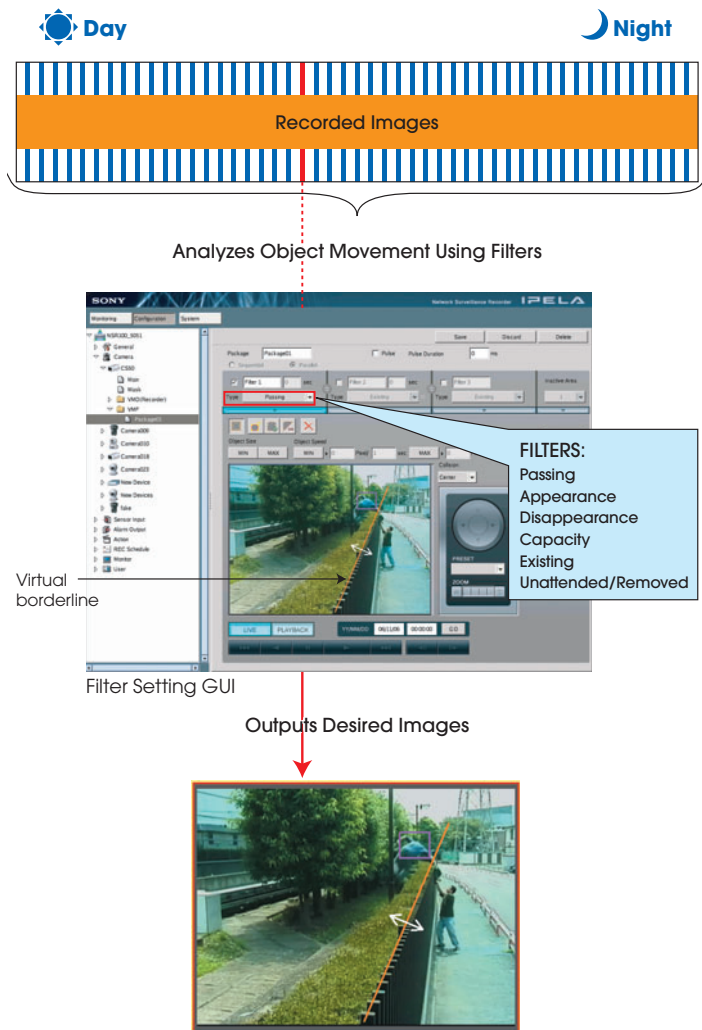
Smart Search

Intelligent Video Motion Filter Search[8]

Filters that are used by the NSR Series when monitoring and recording images from Sony DEPA-enabled cameras can also be employed during searches. Users can therefore retrieve images quickly and effectively. For example, a virtual borderline can be drawn to search for people entering restricted areas, or virtual areas can be set up to check for people or objects entering or leaving the specified area, drastically reducing the review/audit times.

[8] This function is currently available only with the SNC-RX550, SNC-RZ50, SNC-CS50, SNC-DF50N and SNC-DF80N cameras. Metadata related to IMD or IOD must be recorded in order to perform a video motion filter search. Current Sony network cameras cannot output IMD and IOD data simultaneously.

Day   **Night**

Recorded Images

Analyzes Object Movement Using Filters

Virtual borderline

FILTERS:
Passing
Appearance
Disappearance
Capacity
Existing
Unattended/Removed

Filter Setting GUI

Outputs Desired Images

Intelligent Video Motion Filter Search

Recording List Search

Users can search recently recorded images on the NSR Series from a recording list shown on the right-hand side of the GUI.

Advanced Search

Users can locate recorded images on the NSR Series by designating cameras, date, time, and recording/alarm type. This feature is ideal for advanced searches of any image that has been previously recorded.
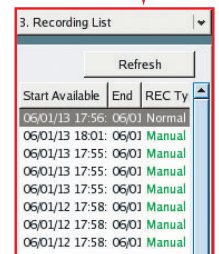
Search Functions
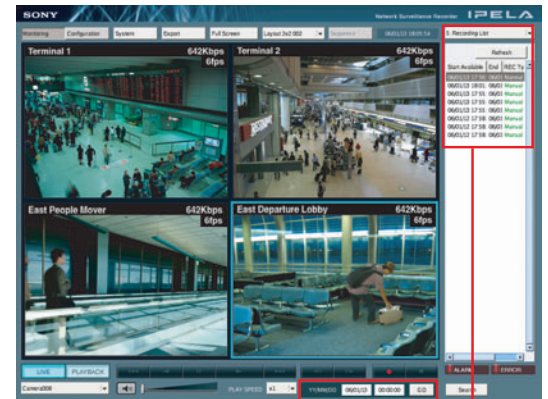
Simulated image

Quick Search

Recording List Search

Flexible Playback

Playback While Live Image Monitoring

Users can play back recorded images on the NSR Series from multiple cameras while monitoring live images. For example, when a camera triggers an alarm, an operator can simultaneously view both live and recorded images from that same camera. Also, a group of cameras covering a specific area can be played back simultaneously so that events from different angles or adjacent cameras can be viewed at the same time. This is very useful for monitoring the path of a moving person or vehicle, as it provides more comprehensive coverage.
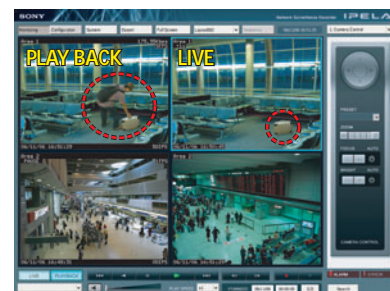
Simulated image

Flexible and User Friendly Operation

Easy-to-Use GUI

The NSR Series features an intuitive and user-friendly GUI that allows the set up of viewer windows in a number of combinations. Also, users can view the recording schedule graphically, providing a great amount of relevant information at a glance.

Multiple Hot-Spot Monitoring and Dual Monitor Support

A specific monitor window within the multi-camera view (i.e. a larger window within the multi-camera window) of the NSR Series can be assigned as the Hot-Spot area. In addition, the NSR Series features dual-RGB outputs, allowing the configuration of a system with dual monitors. In this configuration, up to nine Hot-Spot monitor windows can be assigned to the second monitor so that crucial events are not missed. The images of these Hot Spots can either be selected manually or displayed on an alarm trigger.

Dual Monitors   Hot spot images

Ergonomically Designed Remote Control Unit

An optional RM-NS10 Remote Control Unit – which connects to an NSR Series recorder via a single USB cable – allows users to control both the recorder and the networked cameras. A wide range of operations can be performed from this unit, including camera Pan/Tilt/Zoom (PTZ) control, image search, image playback, and camera selection. Also, because the RM-NS10 is equipped with a joystick and a feature-rich control panel, it can be operated intuitively by users who are familiar with CCTV remote controllers.

RM-NS10 Remote Control Unit

Camera Pan/Tilt/Zoom (PTZ) Control

Sony Pan/Tilt/Zoom network cameras can be controlled remotely over a network using the NSR Series. When a point in the image is clicked, the camera automatically pans and/or tilts to make that point the center of the image. In addition, by dragging out a specified area of the image, the camera will zoom into that area.

Remote Operation

From a single PC running the supplied RSM Controller software, up to 100 NSR Series recorders can be controlled from a remote location. The RSM Controller software enables basic operations to be performed, such as live image monitoring, recording, playback, and image search. What's more, it can also export AVI files.

Other Convenient Features

- Analog Camera Support Using an Optional SNT-V704

- Privacy Zone Masking

- Audio Recording, Monitoring, and Playback

- Compatibility with External Storage Systems

- File Export to CD-R, DVD-R, CompactFlash™ Card, and USB Flash Memory[10]

- User Privileges to Limit Access

- Hot-Swap Capability[11]

- Uninterruptible Power Supply (UPS) Support via the RS-232C Interface
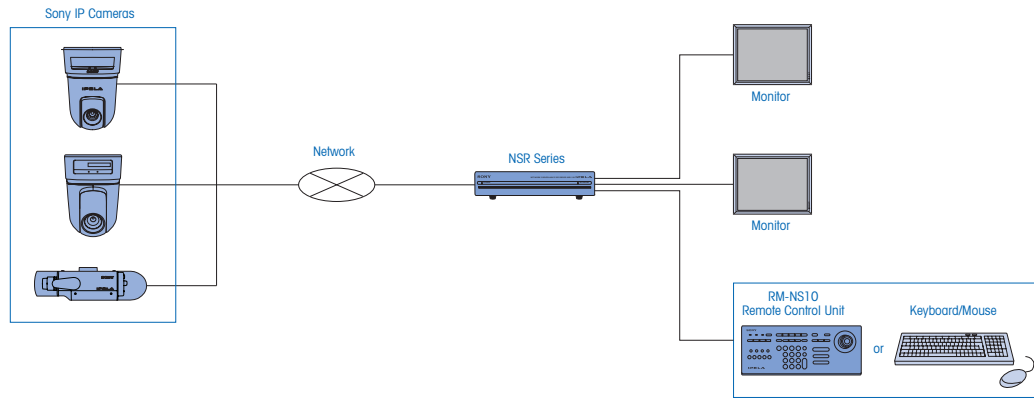
[9] The mask movement might be slightly delayed with high-speed camera PTZ movements.

[10] Audio files cannot be exported. The NSR-25 can export files to CD-R media and USB memory only.
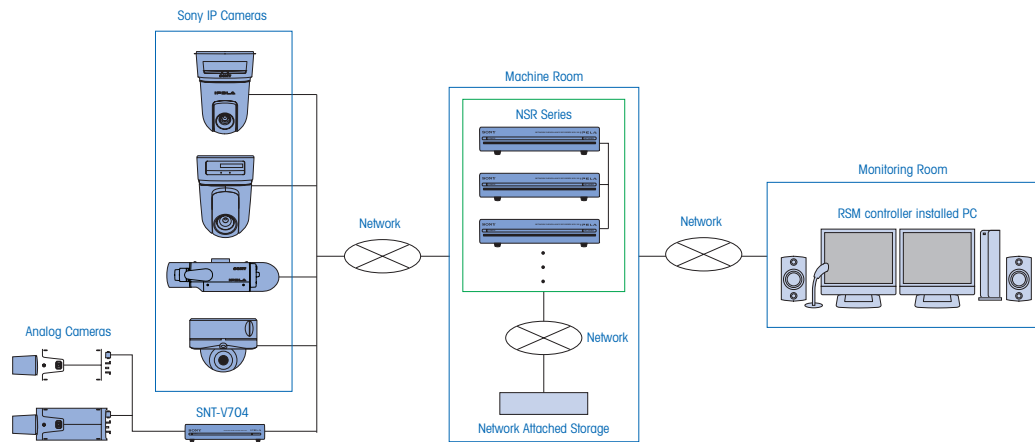
[11] This feature is available only with the NSR-100. HDDs can be hot swapped when the unit is set to RAID 5 or RAID 1.

System Configuration

Stand Alone Configuration

Sony IP Cameras

Network

NSR Series

Monitor

Monitor

RM-NS10
Remote Control Unit

Keyboard/Mouse

or

Client-Server Configuration

Sony IP Cameras

Machine Room

NSR Series

Monitoring Room

RSM controller installed PC

Network

Network

Network

Analog Cameras

SNT-V704

Network Attached Storage

Optional Accessories

RM-NS10
Remote Control Unit
Dimensions (WxHxD):
15 1/4 x 4 7/8 x 6 1/2 inches
(387 x 121 x 165 mm)
Weight: 1 lb 14 oz (860g)
Camera Adaptor
(Multi-core)

NSR-RM1
Rack Mount Kit

NSBK-250
HDD Expansion Unit
(for NSR-25)

SNT-V704
Video Network
Station
Dimensions (WxHxD):
8 3/8 x 1 11/16 x 8 inches
(210 x 42 x 202 mm)
Weight: 2 lb 10 oz (1.2 kg)
Microphone Holder

RMM-V704
Rack Mount Kit
(for 2 SNT-V704)

Specifications

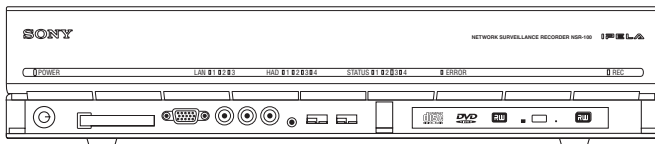|	NSR-100			NSR-50		NSR-25
Video/Recording						
Number of IP Cameras Supported*1	64 Max.			32 Max.		20 Max
Video Compression	MPEG-4 or JPEG					
Maximum Recording Rate*2	480 fps			240 fps		120 fps
Hard Disk Drives Physical Capacity	1,000 GB (250 GB x 4)			500 GB (250 GB x 2)		250 GB
Interface	Serial ATA					
RAID Level/Recording Capacity (approx.)	Hardware RAID (Hot Swappable when set to RAID 5 or RAID 1)			Software RAID		–
	RAID 5 (Default) 670 GB	RAID 1 450 GB	RAID 0 900 GB	SPAN (Default) 430 GB	RAID 1 210 GB	
Network File System (for NAS)	Supports NFS Version 3 protocol					
Video Interface						
Monitor OUT #1	RGB connector x2 (Front and Rear Panel, cannot be used simultaneously)					RGB connector x1
#2	RGB connector x1					
Video Output	S-Video*3 x1					–
Analog Composite OUT	RCA-pin*3 x2 (Front and Rear Panel)					–
Audio Interface						
Line OUT	RCA-pin, L/R x1 stereo pair (front and rear)					RCA-pin, L/R x1 stereo pair (rear)
Sensor/Alarm						
Sensor in	8-channel photo-coupler (DC3.3-24V)					
Alarm out	8-channel relay (Max. 24V 1A)					
Other Interfaces						
Ethernet	1000Base-T/100Base-TX/10Base-T x3 (auto)					1000Base-T/100Base-TX/10Base-T x1 (auto)
USB	Front x2, Rear x2					Rear x2
Serial interface	RS-232C x1 (for UPS)*4					
General						
Dimensions (W x H x D)	17 x 3 1/2 x 16 1/2 (430 x 87 x 417 mm) excluding protrusions					
Weight	Approx. 30 lb 14 oz (14 kg)			Approx. 26 lb 7 oz (12 kg)		Approx. 24 lb 4 oz (11 kg)
Power requirements	100 to 127/200 to 240 V AC (50/60 Hz)					
Power consumption	300 W (typical)			200 W (typical)		170 W (typical)
Operating temperature	41 to 104º F (5 to 40º C)					
Operating humidity	10 to 80% (non-condensing)					
Supplied accessories	Front panel key, Installation guide, Remote control unit operation card, Recovery CD, Manual/Tool/Source codes CD (Includes the Media File Player and RSM Control Software) , Rubber feet (4)					

*1 The number shown is the maximum number of cameras that can be registered to the recorder; however, depending on the system configuration, monitoring environment, and camera settings such as frame rate, image quality, and VMD, the maximum number of cameras that can be operated simultaneously may be less.

*2 Recording frame rates shown in the table represents the total frame rate per recorder unit when recording images at JPEG, Level 5 using the SNC-RZ30, and without live image monitoring.
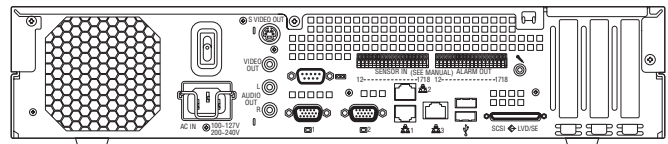
*3 S-Video and RCA-pin cannot be used simultaneously.

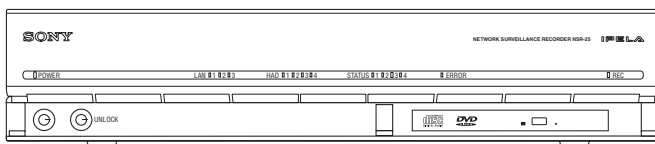*4 Please contact your local Sony sales office for a list of recommended UPS systems.
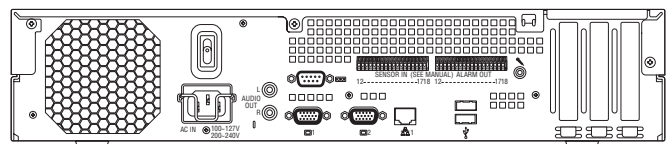
Panel Layout

NSR-100/NSR-50 Front panel (Panel open)

NSR-100/NSR-50 Rear panel

NSR-25 Front panel (Panel open)

NSR-25 Rear panel

SONY

Sony Electronics Inc.
1 Sony Drive
Park Ridge, NJ 07656
www.sony.com/security