

# SONY



**IPELA**

INTEGRATED VISUAL COMMUNICATION

## SNC-DF SERIES

Network Mini-dome Cameras

SNC-DF80P

SNC-DF50P

[www.sonybiz.net/nvm](http://www.sonybiz.net/nvm)



# SNC-DF Series

## Network Mini-dome Cameras

Reproducing extremely clear and detailed images – Sony Intelligent Mini-dome Cameras provide a high-level of security anytime, anywhere.



**S**ony introduces powerful new additions to its network mini-dome camera lineup, the SNC-DF80P and the SNC-DF50P, both of which support “Intelligent Video Analysis”<sup>1</sup>. This efficient and intelligent processing method based on the Sony DEPA platform can provide greater operational efficiency and a high level of security. The SNC-DF80P and the SNC-DF50P incorporate advanced compression technologies to transmit image data in three different formats: JPEG, MPEG-4, and H.264. These cameras also employ robust detection methods – Intelligent Motion Detection (IMD) and Intelligent Object Detection (IOD) to maximise the efficiency of the monitoring system. For easy setup, these cameras incorporate the Sony patented “Ball-Joint Lens Mount” mechanism providing quick and easy adjustment of the camera’s viewing angle during installation.

The SNC-DF80P is designed to be used both indoors and outdoors and features a vandal- and weather-resistant<sup>2</sup> body. This camera incorporates an advanced 1/3-type CCD with SuperExwave™ technology, providing extremely high sensitivity levels and producing clear images. Also, designed for 24/7 operation, the camera incorporates a Day/Night function, providing detailed images even in low-lighting conditions.

The SNC-DF50P is compact in size, employs a highly sensitive imager, and incorporates the Sony unique DynaView™ technology to reproduce images with wide dynamic ranges, making it ideal for use in extremely high-contrast environments.

With other convenient features such as a Voice Alert function, Date/Time Superimposition, and Privacy Zone Masking, these Sony intelligent mini-dome cameras are ideal for a wide variety of surveillance and monitoring applications.

1 Intelligent video analysis available when these cameras are used in conjunction with the Sony Network Recorders the NSR Series Ver. 4.0 or higher, the Sony Intelligent Monitoring Software IMZ-RS400 Series Ver. 4.0 or higher, or third party hardware and software designed to operate with these cameras to perform video analytics.

2 An optional YT-HU75 Heater Unit is required when the camera is used in temperatures less than -10 °C (13 °F).

## IPELA

Business is changing. The vision of integrated visual communication is becoming a reality with Sony IPELA – A suite of intelligent IP-based Network Video Monitoring and Videoconferencing products and solutions.

Sony IPELA utilises the rapidly expanding global IP broadband network and advanced high-resolution imaging technology to offer visual communications systems that enable customers to realise the Sony vision for the work place of the future, where better business decisions are made as a result of enhanced, real-time person-to-person and location-to-location communication.

Sony IPELA Network Video Monitoring solutions offer cost benefits and flexibility in the applications of Security, CCTV Surveillance, Remote Monitoring and Leisure. Complete solutions offer customers a choice of IP cameras, Network Video Recorders and Management Software.

### Reality

- High Frame Rate
- Dynamic Frame Integration

### Intelligence

- Intelligent Motion Detection
- Intelligent Object Detection

### Usability

- JPEG, MPEG-4, H.264 Compression Formats
- Dual Encoding Capability
- User-Friendly GUI

# Features

## The DEPA Platform – Intelligent Video Analysis

The DEPA solution is a combined function of the camera intelligence incorporated in the SNC-DF80P and SNC-DF50P and the rules or filters on the recorder or software to determine what is to be recorded or when to trigger an alarm. When the network cameras perform IMD or IOD, ‘tagged’ objects and their associated metadata, including object position data are sent to the NSR Series or the IMZ-RS400 Series. These products then use the metadata, together with filters, to analyze object movement and to perform a predefined action, such as image recording or alarm triggering. This method of distributed processing minimises the server workload, network bandwidth, and storage requirements.

## High-Quality Images

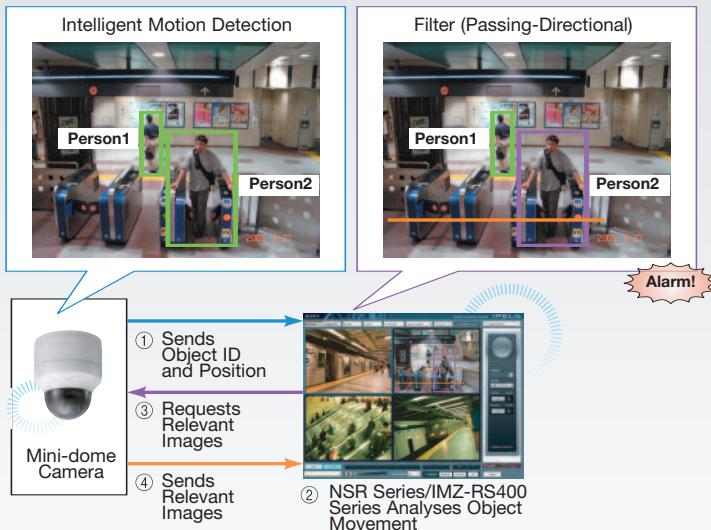
### SuperExwave Technology (SNC-DF80P)

The SNC-DF80P incorporates an advanced 1/3-type CCD with SuperExwave technology that achieves extremely high sensitivity levels. This camera provides a minimum illumination of 0.6 lx in colour and 0.06 lx in B/W at F1.3, allowing it to capture clear and detailed images even under low-light conditions. The high-quality CCD imager in combination with the camera’s state-of-the-art DSP technology produces a high-horizontal resolution of 540 TV lines via the analogue composite video output, which provides amazingly clear and detailed images.

### Wide Dynamic Range With DynaView Technology (SNC-DF50P)

The SNC-DF50P incorporates DynaView technology, which dramatically improves camera dynamic range by 128 times to reproduce clear images in extreme high-contrast environments. The camera captures the same image twice – first with a normal shutter speed, and then with a high shutter speed. The dark areas captured at normal shutter speed and the bright areas captured at high shutter speed are then combined into one image using an advanced DSP LSI. Additionally, as these high contrast scenes may have different lighting conditions, two white balance circuits, one for normal and the other for high shutter speed, are employed. This advanced technique reproduces high contrast images with proper colour.

## Distributed Enhanced Processing Architecture (DEPA)



## High-Quality Images

Image Comparison Between SNC-DF80 Camera and a Conventional Camera



SuperExwave image



Conventional Camera image

## DynaView Technology



At normal speed shutter



At high speed shutter



SNC-DF50 camera image

simulated images

## Sony Patented “Ball Joint Lens Mount” Technology

With the Sony patented “Ball Joint Lens Mount” mechanism incorporated into the vari-focal lens, the lens can be rotated freely in any direction. Unlike conventional cameras, only a “single action” is required to adjust pan and tilt angle, providing quick and easy adjustment of camera’s viewing angle during installation.

## Sony Patented Ball-Joint Lens Mount



## Flexible and Easy Installation

### Wall- or Ceiling-Mountable/Easy Viewing Angle Adjustment

Both the SNC-DF80P and SNC-DF50P can be easily wall- or ceiling-mounted<sup>3</sup>. Furthermore, because these cameras are equipped with an analogue composite output (RCA jack), the camera image can be monitored locally while the viewing angle is adjusted during installation. This makes focus and viewing angle adjustment accurate and easy.

3 A supplied mount bracket is required when the SNC-DF80 is wall- or ceiling-mounted.

### Flexible and Easy Installation



Ceiling Surface Mount  
(SNC-DF50)



Ceiling Flush Mount  
(SNC-DF50/YT-ICB45 Ceiling  
Mount Bracket)

## High Level of Security

### Intelligent Motion Detection (IMD)

The built-in IMD function can trigger a variety of actions such as the storage and transfer of images or can trigger an external device through its output relays. False alarms caused by noise and repeated motion patterns are minimised thanks to an advanced Sony algorithm. Plus, when used in conjunction with DEPA-enabled recorders or software, a multitude of filter functions, i.e. passing filter, appearance filter, are available to initiate alarms based on more specific movement.

### Intelligent Object Detection<sup>4</sup>

These cameras can detect objects that have been abandoned or become stationary for a specified duration within up to four designated detection areas. This feature is useful for detecting suspicious objects left in public places, or for detecting stalled cars or accidents on the road. Like IMD, filters can be used when configured with DEPA-enabled products.

4 The intelligent object detection function and the intelligent motion detection function cannot be used simultaneously.

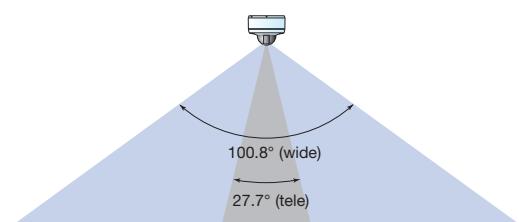
### Powerful 3.6x Zoom, Vari-focal Lens

These cameras come equipped with a 3.6x zoom, vari-focal lens that covers an extremely wide range of viewing angles from 100.8 ° (wide-angle) to 27.7 °(telephoto). This feature provides greater installation flexibility for a number of different applications and locations.

## JPEG Picture Quality Settings With Constant Bitrate Algorithm

Users can preset the JPEG picture quality from among ten levels. In addition, because these cameras incorporate a constant bitrate algorithm, they can limit the data bitrate while still maintaining high-quality images. This is useful for calculating the required storage capacity and bandwidth during installation.

### Powerful 3.6x Zoom, Vari-focal Lens



## Ruggedised Design (SNC-DF80P)

The SNC-DF80P vandal-resistant cameras are housed in a heavy-duty aluminum die cast enclosure with an impact resistant polycarbonate dome. In addition, not only does the camera comply with the IP66<sup>5</sup> standard, but it has been designed to be further resistant to water ingress by using a special inner conduit for the camera cables. For cold weather outdoor applications, the optional YT-HU75 Heater Unit is available. This allows the camera to be used in severe temperatures as low as -40 °C (-40 °F).

<sup>5</sup> Ingress Protection (IP) standard is a system for numerically classifying the degree of protection provided by enclosures of electrical equipment against solid objects and liquids. IP66 means there is no ingress of dust and the equipment is protected against powerful water jets.

## Dynamic Frame Integration

These cameras incorporate Dynamic Frame Integration (DFI) technology to reproduce clear images for both still and moving objects within an image. DFI technology detects movement within the image and reproduces those areas with minimal blurring, while areas in the image with little or no movement are displayed naturally with minimal jagged edges. This unique algorithm also takes advantage of the interlaced-scan CCD, which is inherently more sensitive than progressive-scan CCDs and can provide clear images even under low-lighting conditions.

## Operational Flexibility

### Selectable JPEG, MPEG-4, H.264 Compression Formats

These multi-codec cameras support three compression formats: JPEG, MPEG-4, and H.264. The “industry standard” JPEG compression format can be selected when high-quality still images are preferred. MPEG-4 provides clear moving images efficiently over networks when bandwidth is limited. And for more efficient compression, when bandwidth is even more limited, the H.264 compression format, which is approximately twice as efficient as MPEG-4, is also available.

## Dual Encoding Capability

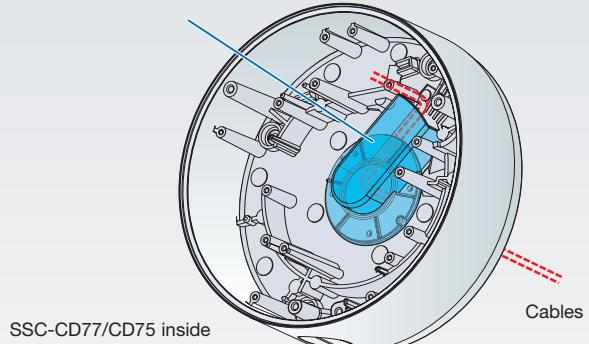
With a dual encoding capability, these cameras can generate both MPEG-4 and JPEG images simultaneously. For example, you can set up your system to transfer MPEG-4 images over a WAN or an Internet VPN, where network bandwidth is limited, while storing high-resolution JPEG images on a server configured on the LAN.

## “Day/Night” Function (SNC-DF80P)

The SNC-DF80P can switch from day mode (Colour) to night mode (B/W) by replacing the camera’s infrared cut filter with a clear filter. Users can toggle between the two modes, manually, on a predefined schedule, using an external sensor, or automatically in response to the scene illumination. When these cameras are in night mode, they are sensitive to near-IR illuminators, allowing them to operate even in low light conditions.

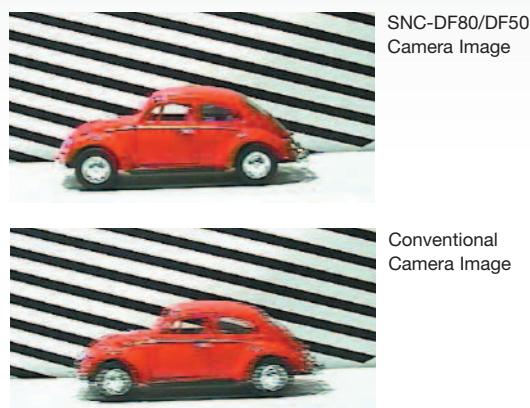
## Water-resistant Design

Special Inner Conduit

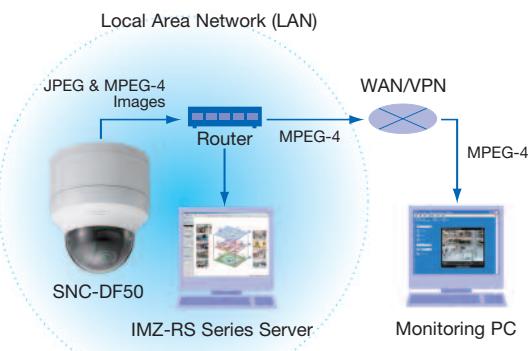


## Dynamic Frame Integration

Image Comparison Between SNC-DF80/DF50 Camera and a Conventional Camera



## Dual Image Encoding



## Bi-directional Audio

Users can connect an external microphone to these cameras in order to pick up audio from a preferred location. These cameras are also equipped with an active speaker output, enabling users to send an alert or to make an announcement from a remote location – significantly expanding the possibilities of their monitoring applications.

## Voice Alert

The Voice Alert function allows users to upload up to three pre-recorded audio files to these cameras for playback upon an alarm trigger.

## Sensor IN/Alarm OUT Ports

Equipped with a sensor input, these cameras can receive triggers from an external sensor. Also, two alarm relay outputs can be used to trigger external devices to perform a variety of actions.

## Pre-/Post-Alarm Image Storage

These cameras are capable of storing both pre-and post-alarm images on 16 MB of built-in memory or on removable storage media<sup>6</sup>.

6 Storage on removable media is available with the SNC-DF80 only.

## Network Security Features

### IEEE802.1X Compliant

Both the SNC-DF80P and SNC-DF50P support IEEE802.1X Port-based Network Access Control so they can be integrated into a network environment that uses client-authorization protocols for security purposes.

## Network Features

- Simultaneous Access Up to 20 Users
- Multicasting Capability

## Versatile Interfaces

### Analogue Composite Video Output

These cameras can output an analogue composite video signal via the BNC connector. This feature is ideal for outputting images to a local recording device or monitor.

## Other Convenient Features

### Date/Time Superimposition

The date and time of recorded images can be superimposed on the video while it is being monitored and recorded. This feature is ideal not only for easily identifying the exact date and time of an event during playback, but because the information becomes part of the video image, it is also useful when providing video evidence to authorities.

### File Export to Removable Media (SNC-DF80P)

The SNC-DF80P camera is equipped with a Compact Flash™ (CF) card slot, allowing users to store images on CF media as required.



### Privacy Zone Masking<sup>7</sup>

Up to four unwanted or prohibited areas within an image can be masked for privacy protection.

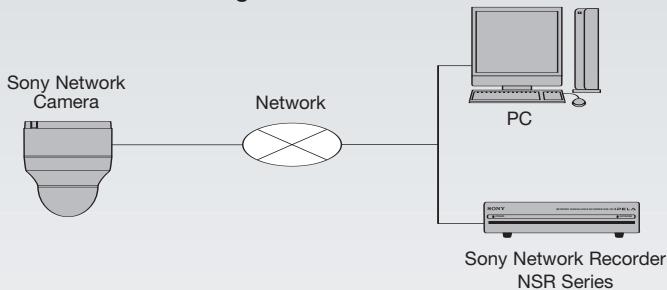
7 Supplied "SNC Privacy Masking Tool" software is required to set masking areas.

### 24 V AC, 12 V DC, or PoE Operation

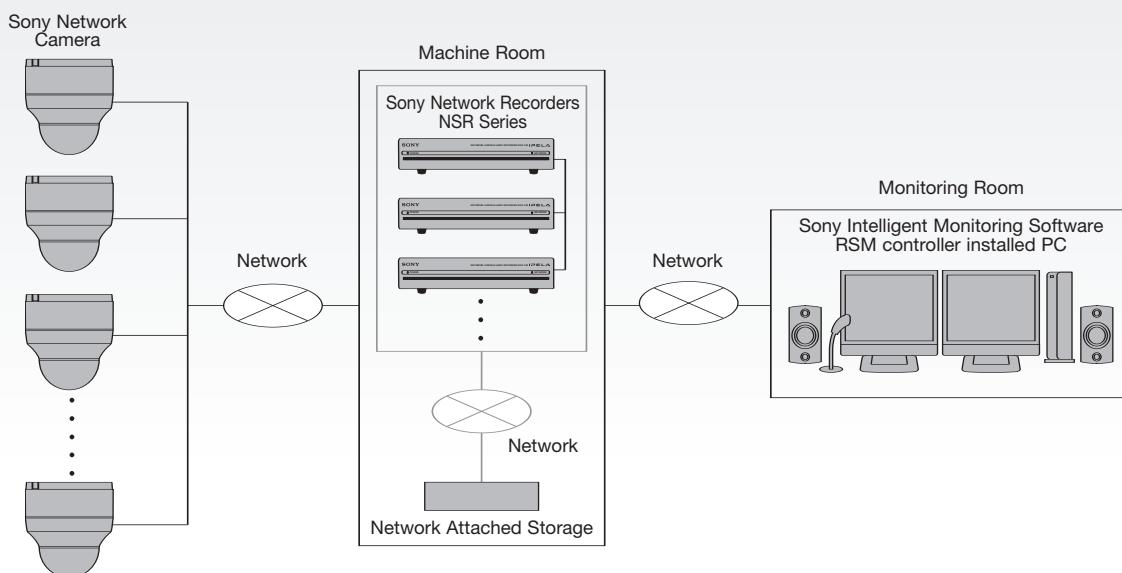
These cameras offer a choice of three types of power: 24 V AC, 12 V DC, or PoE (Power-over-Ethernet, IEEE 802.3af). The camera automatically adapts to the applied power source for fast and effective operation.

# System Configuration

## Stand-alone Configuration



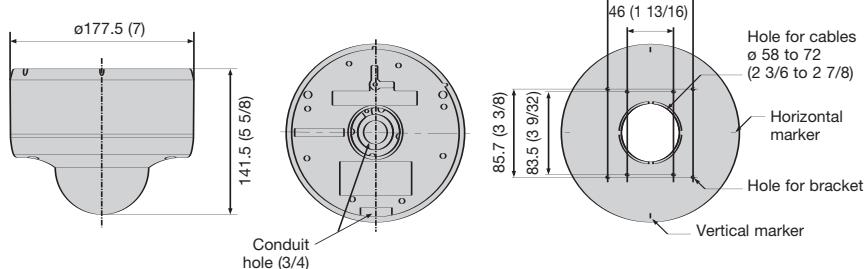
## Client-Server Configuration



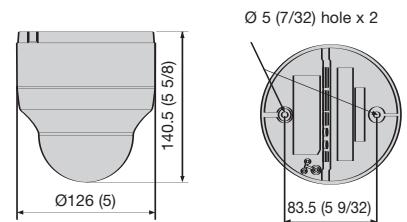
## Dimensions

Unit: mm (inches)

SNC-DF80P



SNC-DF50P



## Optional Accessories



**YT-ICB45**  
In-Ceiling Mount  
Bracket



**YT-HU75**  
YT-HU75 Heater Unit  
for SNC-DF80P

# Specifications

	SNC-DF80P	SNC-DF50P
<b>Camera</b>		
Image device	1/3-type CCD with SuperExwave Technology	1/3-type CCD with DynaView Technology
Number of effective pixels (H x V)	440,000 (752 x 582)	
Electronic shutter	1/50 to 1/10,000 s	
Auto gain control	On/Off (0 dB to +24 dB)	Auto, EV compensation, DynaView
Exposure control		Auto, Backlight compensation
White balance mode		ATW, ATW Pro
Lens type		Vari-focal lens
Zoom ratio	3.6x optical zoom (1.5x digital zoom)	
Horizontal viewing angle	100.8° to 27.7°	
Focal length	f=2.8 to 10.0 mm	
F-number	F1.3 (wide), F3.0 (tele)	
Minimum object distance	300 mm	
<b>Image</b>		
Image size (H x V)	640 x 480, 320 x 240, 160 x 120 (JPEG, MPEG-4, H.264)	
Compression format	JPEG, MPEG-4, H.264	
Maximum frame rate	25 fps (640 x 480)	
JPEG/MPEG-4		8 fps (640 x 480)
H.264		
<b>Audio</b>		
Audio compression	G.711/G.726 (40, 32, 24, 16 Kb/s)	
<b>Network</b>		
Protocols	TCP/IP, HTTP, ARP, ICMP, FTP, SMTP, DHCP, SNMP, DNS, NTP, RTP/RTCP	
Number of clients	20	
Authentication	IEEE802.1X	
<b>Interface</b>		
Ethernet	10Base-T/100Base-TX (RJ-45)	
Card slot	CF card x1	-
Analogue video output	BNC x1, 1.0 Vp-p, 75 Ω, RCA x 1	
I/O port	Sensor in x 1, Alarm out x 2	
External microphone input	Mini-jack (monaural, 2.2 K 2.5 V plug-in power)	
Audio line output	Mini-jack (monaural), max output level: 1 Vrms	
<b>Analogue video output</b>		
Signal system	PAL (Composite)	
Horizontal resolution	540 TV lines	480 TV lines
S/N ratio	more than 50 dB	
Min. illumination	Colour: 0.6 lx (50IRE, F1.3, AGC ON) B/W: 0.06 lx (50IRE, F1.3, AGC ON)	0.7 lx (50IRE, F1.3, AGC ON)
<b>General</b>		
Mass	approx. 1.8 kg (3 lb 15 oz)	approx. 920 g (2 lb)
Dimensions (Ø x H)	approx. 177 x 141 mm (7 x 5 5/8 inches)	approx. 126 x 140 mm (5 x 5 5/8 inches)
Power requirements	PoE (IEEE-802.3af)/AC24V/DC12 V	
Power consumption	10 W max.	9 W max.
Operating temperature	-10 to 50 °C (14 to 122 °F)	
Storage temperature	-40 to 50 °C (-40 to 122 °F) w/heater unit	-20 to 60 °C (-4 to 140 °F)
<b>Supplied accessories</b>		
	Bracket, Template, Torx wrench, M4 screws (4), Wire rope, M4 shoulder screw, Audio cable, I/O cable, CD-ROM (User's guide, IP setup program, Audio Upload Tool, Privacy Masking Tool, Privacy Masking Tool, Video Player, Custom Homepage Installer), Installation manual	Template, Wire rope, M4 shoulder screw, AC power cord Monitor cable, CD-ROM (User's guide, IP setup program, Audio Upload Tool, Video Player, Custom Homepage Installer), Installation manual
<b>System requirements</b>		
Operating system	Microsoft® Windows® 2000/XP	
Processor	CPU: Intel® Pentium® IV 1.5 GHz or higher (2.4 GHz or higher is recommended)	
Memory	RAM: 256 MB or more	
Web browser	Microsoft Internet Explorer® Ver. 6.0	

## NOTES

- \* The SNC-DF80P and SNC-DF50P include software developed by the OpenSSL project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)
- \* The SNC-DF80P and SNC-DF50P include cryptographic software written by Eric Young (eay@cryptsoft.com)

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