SONY

Network Color Camera

SNC-Z20N

RealShot

Sony's New Fixed Network Color Camera SNC-Z20N — Making the Remote Possibilities Endless

With a variety of network-ready products, Sony is leading the way into the new world of network-based surveillance and monitoring applications. In 2002, Sony introduced the SNC-RZ30N Pan/Tilt/Zoom IP camera, offering the flexibility to view scenes from anywhere across the globe over a standard IP network. With the SNC-RZ30N clearly demonstrating the advantages of network cameras, Sony now explores the possibilities of remote-monitoring applications even further with the introduction of its new fixed network camera, the SNC-Z20N.

The SNC-Z20N incorporates a highly sensitive 1/4 type CCD with Exwave HAD™ technology for superb picture quality. Images are compressed using the industry standard JPEG-compression format for efficient distribution over a network. Equipped with an auto-focus 18x optical zoom lens, this camera can zoom in on small or distant objects with exceptional clarity. Frame rates of 30 fps[1] at VGA resolution is just one of the many capabilities of the SNC-Z20N. Its built-in web server allows images to be viewed and controlled from a PC running a standard web browser. The SNC-Z20N also offers a variety of other sophisticated features such as Day/Night mode, Slow Shutter, and Activity Detection functions, ideal for remote monitoring operations.

With its network functionality, superb picture quality, and sophisticated features, the Sony SNC-Z20N is the right choice for network monitoring applications.

1 In order to achieve the maximum frame rate, adequate PC processing power and network bandwidth are required.

FEATURES

Remote Monitoring/Control Over Networks

The SNC-Z20N is equipped with a 100Base-TX/10Base-T (RJ-45) interface and a built-in web server. This allows a PC running a standard web browser to monitor its live images and control the camera without the need for additional software or plug-ins *(see Fig. 1)*. Up to 50 simultaneous users can access, monitor, and control the images of a single SNC-Z20N camera. In addition, images can be viewed from a Personal Digital Assistant (PDA)[2] *(see Fig. 2)*.

2 PDA running on Microsoft Pocket PC 2002, using Internet Explorer with Jeode plug-in version 1.9.1 (CPU: Strong ARM 206MHz or higher, 64 MB RAM or more).

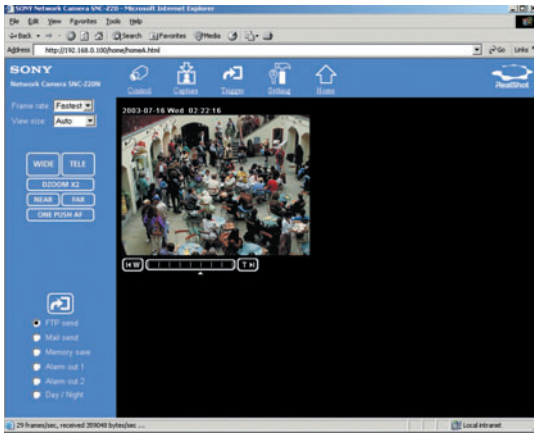


Fig. 1 Viewer (PC)

Fig. 2 Viewer (PDA)

High Frame Rate

The SNC-Z20N produces images with a maximum frame rate of 30 fps, allowing for clear and smooth frame-accurate images to be viewed. The frame rate can be set to a fixed or variable frame rate, which is automatically adjusted according to the available bandwidth.

Network Security Features

IP Filtering

Using the IP-filtering feature, access to the SNC-Z20N can be restricted to one or more groups of selected users. Up to ten different groups can be established by defining an IP-address range for each group. Setting these groups restricts access to the camera to the defined IP-address range, while denying access to all other addresses.

Password Protection

User names and passwords can be assigned to allow four levels of access. The administrator has complete access/control of the camera, while the other three levels can be set to limit user privileges to functions such as zoom control, viewing, trigger control, etc.

High Picture Quality and High Zoom Ratio

The SNC-Z20N incorporates a 1/4 type CCD with Exwave HAD technology that produces high-resolution images with excellent sensitivity. The SNC-Z20N achieves a horizontal resolution of 470 TV lines. Its built-in auto-focus 18x optical zoom lens enables the user to obtain clear images over long distances. A maximum 216x zoom ratio is available when the optical zoom and 12x digital zoom are used together.

Selectable Image Quality and Size/Image Flip Function

The SNC-Z20N provides the flexibility to select image quality and image size according to network bandwidth. Employing the industry-standard JPEG-compression format, the SNC-Z20N has a selectable compression ratios between 1/5 and 1/60. Also, the image size can be selected from four modes: 736 x 480, 640 x 480, 320 x 240, and 160 x 120. Images from the camera can be electronically inverted including the analog video output - allowing the camera to be installed in a variety of locations and positions.

Day/Night Function and Slow Shutter

The SNC-Z20N offers a Day/Night function to provide optimized sensitivity in both day and night shooting scenarios. As the scene illumination decreases and the image darkens, the infrared cut filter is automatically removed and the camera switches to B/W mode, achieving a minimum illumination of 0.01 lx (F1.4, 50 IRE, Slow shutter OFF) - a drastic improvement from 0.7 lx minimum illumination in color mode. In addition, the slow shutter mode provides a remarkable enhancement in sensitivity by allowing the charge accumulation period of the CCD to be extended to a maximum of one second.

Backlight Compensation (BLC)

The Backlight Compensation (BLC) function helps to overcome strong backlighting effects, which often cause the subject of the image to appear dark. The image brightness can be set to adjust automatically to compensate for adverse lighting conditions.

Versatile Interfaces

AC 24V/DC 12V/Power-over-Ethernet Operation

The SNC-Z20N offers a choice of three different power supplies. AC 24 V or DC 12 V can be supplied through the standard power terminal. Power can also be supplied via an Ethernet CAT5 cable from an IEEE 802.3af-compliant power supply system*. AC 24 V, DC 12 V, or PoE (Power-over-Ethernet) is automatically selected according to the power supplied.

* Network equipment capable of supplying IEEE 802.3af-compliant power is required. Please contact a local Sony office or authorized dealer for recommended network equipment.

PC Card Slot* *Fig. 3*

A built-in PC card slot on the front panel of the SNC-Z20N enables the user to increase the SNC-Z20N's storage capacity for post-alarm recording by adding either a flash ATA memory card or an ATA hard disk drive (HDD) card. IC recording media such as a "Memory Stick™" media card with a Memory Stick/PC card adaptor can also be used. In addition, the SNC-Z20N is compatible with Cisco's Aironet® C350 series IEEE 802.11b wireless PC cards, allowing for wireless network operation.

Fig. 3 PC Card Slot

Fig. 4 Rear Panel

RS-232C Interface (Transparency Function or VISCA™ Protocol)

The SNC-Z20N has a transparency function available via the RS-232C interface. This allows external equipment connected to the RS-232C port of the SNC-Z20N to be controlled from a PC over the network. Also, the SNC-Z20N can be controlled with the VISCA protocol from an external control device, allowing local control of zoom and camera settings.

Analog Composite Video Output

The SNC-Z20N can output an analog composite video signal from a BNC connector located on its rear panel *(see Fig. 4)*. This allows the camera images to be directly recorded or monitored by connecting video equipment such as time-lapse recorders, hard disk recorders, multiplexers, and monitors.

Alarm Function

Activity Detection/Alarm Trigger

The SNC-Z20N is equipped with a built-in activity detection sensor that can be set to trigger an alarm or a switch through alarm-output ports. If a change in luminance level is detected in the field of view, an alarm is automatically triggered. In addition, the SNC-Z20N comes with an alarm-input port to receive a trigger from an external sensor.

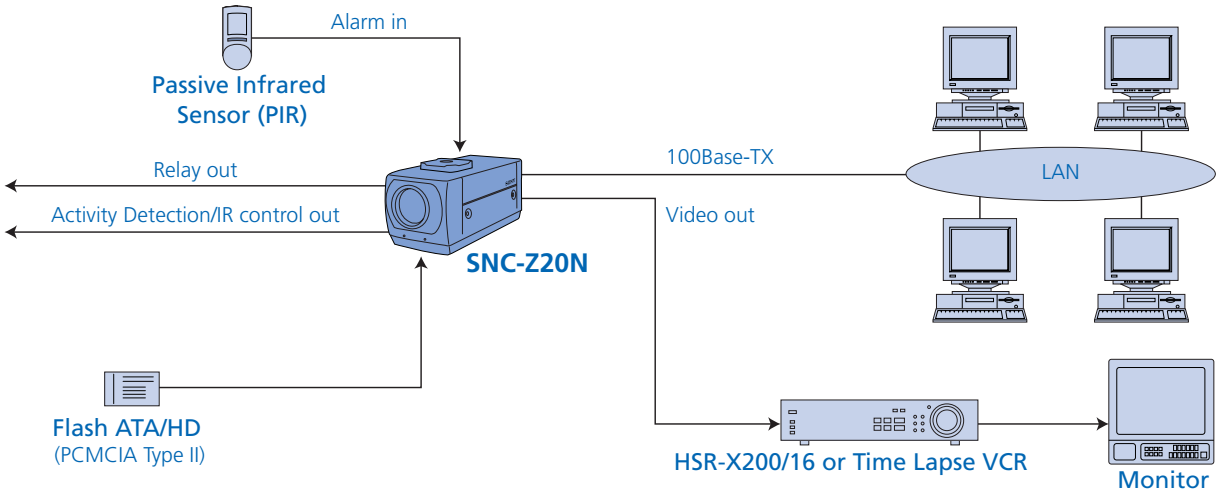
Pre-/Post-Alarm Image Storage

With the internal 8 MB buffer or a memory card installed in the PC card slot, the SNC-Z20N can store hundreds of pre-alarm and post-alarm still images at an alarm trigger received either from the activity detection sensor or the alarm input.

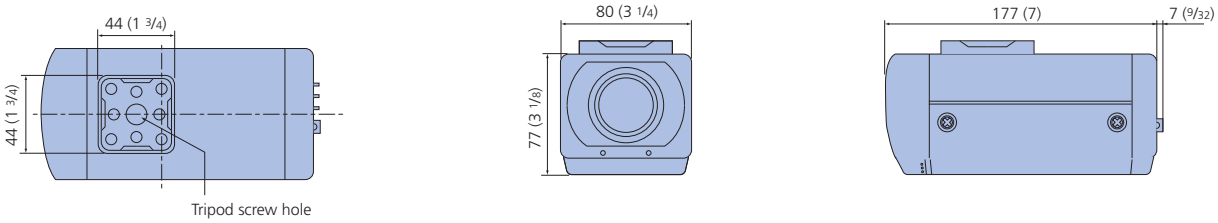
Image Transfer using FTP/SMTP

The pre-/post-alarm images stored at the time of an alarm event can be transferred to an FTP server, and the still image can also be sent to a specified e-mail address as a JPEG attachment, enabling the user to see what happened when an alarm occurred.

SAMPLE SYSTEM CONFIGURATION



DIMENSIONS



Unit: mm (inches)

SYSTEM REQUIREMENTS

Operating system and web browsers

Operating system	Microsoft® Windows® 98/98SE/ME/NT4.0/2000/XP
Processor	Intel® Pentium® III, 500 MHz or higher (Intel Pentium 4, 1 GHz or higher recommended)
Memory	128 MB RAM minimum
Display	1024 x 768, true color or more

SPECIFICATIONS

	SNC-Z20N
Camera	
Image device	1/4 type Interline Transfer CCD with Exwave HAD technology
Number of effective pixels (H x V)	768 x 494
Electronic shutter	1 to 1/10000 s
Exposure	Auto [Full Auto (including backlight compensation), Shutter-priority, Iris-priority] and manual
White balance	Auto, ATW, Indoor, Outdoor, One-push, Manual
EV compensation	-1.75 to +1.75 EV (15 steps)
Iris	Auto/Manual (F1.4 to close)
Gain	Auto/Manual (-3 dB to +28 dB)
Focus mode	Auto/Manual (Near, Far, One-push, Auto-focus)
Lens	
Type	Auto-focus zoom lens
Zoom ratio	18x optical, 216x with digital zoom
Focal length	f=4.1 mm to 73.8 mm
Horizontal viewing angle	48° (wide) to 2.7° (tele)
F-number	F1.4 (wide), F3.0 (tele)
Minimum object distance	10 mm (wide), 800 mm (tele)
System/Network	
CPU	32-bit RISC processor
RAM	32 MB (includes 8 MB alarm buffer)
Flash memory	8 MB
Image size (H x V)	736 x 480, 640 x 480, 320 x 240, 160 x 120
Compression	JPEG
Compression ratio	1/5 to 1/60 (10 steps)
Frame rate	Max. 30 fps (640 x 480)
Protocols	TCP/IP, ARP, ICMP, HTTP, FTP, SMTP, DHCP, DNS, NTP, and SNMP
Interface	
Ethernet	100Base-TX/10Base-T (RJ-45)
PC card slot	PCMCIA Type II x 1
Video output	Analog composite (BNC x 1), 1.0 Vp-p, 75 Ω, unbalanced, sync negative
Sensor in	1 (Active on contact closure)
Alarm out	2 (1A, DC24V or less)
Serial interface	RS-232C (transparency function or VISCA protocol)
Analog Video Output	
Signal system	NTSC
Sync system	Internal
Horizontal resolution	470 TV lines
S/N ratio	More than 50 dB (AGC OFF, Weight ON)
Minimum illumination	0.7 lx (F1.4, 50 IRE, Color, Slow shutter OFF), 0.01 lx (F1.4, 50 IRE, B/W, Slow shutter OFF)
General	
Weight	1 lb 12 oz (800 g)
Dimensions (W x H x D)	3 1/4 x 3 1/8 x 7 inches (80 x 77 x 177 mm)
Power requirements	DC 12 V, AC 24 V, or Power-over-Ethernet
Power consumption	9 W
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Operating humidity	20% to 80%, Non-condensing
Storage humidity	20% to 95%, Non-condensing
Supplied accessories	CD-ROM (setup program and user's guide), Wire rope, Shoulder screw M4, Installation manual

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