AXIS 221 Day & Night
Network Camera

High performance, professional day and night network camera

The AXIS 221 Day & Night Network Camera is a high performance camera for professional surveillance and remote monitoring. AXIS 221 is designed to meet demanding security installations under all light conditions and is supported by the industry's largest base of application software for video and alarm management.

Thanks to the high-quality Pentax lens and progressive scan CCD (non-interlaced) image sensor, this camera delivers crisp, clear images even of objects moving at high speed in the dark. The AXIS 221 features a removable infrared cut filter, which enables color video in high and low light conditions as well as IR sensitive black/white video at night.

The integrated Power over Ethernet option eliminates the need for a power outlet, as power is supplied to the camera via the network cable, and a steady power stream can be guaranteed with a UPS (Uninterruptible Power Supply). Furthermore, the unique combination of simultaneous Motion JPEG and MPEG-4 streams allows systems to be optimized for both image quality and bandwidth-efficiency. Additionally, the product offers a complete set of security features such as multi-level password protection, IP address filtering and HTTPS encryption. The support for HTTPS provides a secure channel between camera and application and enables authentication of the video source.

- IR sensitivity for high quality images in low light conditions

- Progressive Scan provides full resolution images of moving objects, without distortions

- Power over Ethernet (IEEE 802.3af)

- Up to 45 frames per second in VGA 640 x 480 resolution

- Simultaneous Motion JPEG and MPEG-4

- Multi-window motion detection

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23509/EN/R1/0501

Specifications

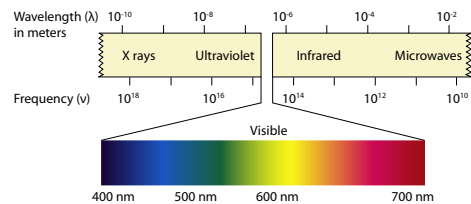|			
Image Sensor	1/3" Sony Wfine progressive scan RGB CCD	Installation, management and maintenance	Installation tool on CD and web-based configuration Support for configuration backup and restore Support for firmware upgrades over HTTP or FTP, firmware available at www.axis.com
Lens	Pentax TS3V310ED, F1.0 varifocal 3.0 - 8.0 mm, DC-iris, horizontal viewing angle: 35°-93°, focus range: 0.3 m to infinity. CS mount		
		Video access from Web browser	Camera live view, sequence tour capability for up to 20 Axis cameras, customizable HTML pages
Minimum illumination	Color: 0.65 lux, F1.0 IR mode: not measurable	Minimum Web browsing requirements	Pentium III CPU 500 MHz or higher, or equivalent AMD 128 MB RAM AGP graphic card, Direct Draw, 32 MB RAM Windows XP, 2000, NT4.0*, ME* or 98*, DirectX 9.0 or later Internet Explorer 5.x or later For other operating systems and browsers see www.axis.com/techsup *Motion JPEG only
Video compression	Motion JPEG MPEG-4 Part 2 (ISO/IEC 14496-2), Profiles: ASP and SP[1]		
Resolutions	16 resolutions from 640 x 480 to 160 x 120 via API, 5 selections via configuration web page		
Frame rate	Up to 45 frames per second in all resolutions Up to 60 frames per second in 480x360 or lower		
Video streaming	Simultaneous Motion JPEG and MPEG-4 Controllable frame rate and bandwidth Constant[1] and variable bit rate (MPEG-4)	System integration support	Powerful API for software integration available at www.axis.com, event trigger data in video stream, AXIS Media Control SDK, embedded scripting support, embedded operating system: Linux 2.4
Image settings	Compression levels: 11 (Motion JPEG)/23 (MPEG-4) Rotation: 90°, 180°, 270° Configurable color level, brightness, sharpness, contrast, white balance, exposure control, exposure area, backlight compensation, fine tuning of behavior at low light Overlay capabilities: time, date, text, privacy mask, custom logo or image	Supported protocols	HTTP, HTTPS, SSL/TLS*, TCP, SNMP-v1-2c-3 MIB-II, RTSP[1], RTP, UDP, IGMP, RTCP, SMTP, FTP, DHCP, UPnP, ARP, DNS, DynDNS, SOCKS. More information on protocol usage available at www.axis.com *This product includes software developed by the Open SSL Project for use in the Open SSL Tool kit (http://www.openssl.org/)
Shutter time	2 sec to 1/25000 sec		
Security	Multiple user access levels with password protection IP address filtering, HTTPS encryption	Applications (not incl.)	AXIS Camera Station - Surveillance application for viewing, recording and archiving up to 25 cameras AXIS Camera Recorder - Surveillance application for viewing and recording up to 16 cameras AXIS Camera Explorer – Basic software for viewing and manual recording See www.axis.com/partner/adp_partners.htm for more software applications via partners
Users	20 simultaneous users Unlimited number of users using multicast (MPEG-4)		
Alarm and event management	Built-in multi-window motion detection, external I/O, triggered and scheduled events with several notification options, pre- and post alarm buffer 9 MB (approx 5 min of 320 x 240 video at 4 frames per sec)		
		Included Accessories	Power supply 9 V DC, stand, connector kit, Installation Guide, CD with installation tool, software, User's Manual, MPEG-4 licenses (1 encoder, 1 decoder), MPEG-4 decoder (Windows)
Connectors	Ethernet 10BaseT/100BaseTX, RJ-45 Terminal block for I/O (2 alarm inputs, 1 output), RS-485/422 half duplex port and alternative power supply D-sub for RS-232 port		
		Accessories (not incl.)	Housings for installation outdoors or in adverse indoor environments Power over Ethernet midspans AXIS 292 Network Video Decoder AXIS MPEG-4 Decoder 10 user license pack
Processors and memory	CPU: ETRAX 100LX 32bit Video processing and compression: ARTPEC-2 Memory: 32 MB RAM, 8 MB Flash		
Watchdog	Watchdog with automatic unit or process reboot Can be monitored by other systems via digital output	Approvals	EMC: EN55024:1998 + A1 + A2, EN61000-6-1:2001, EN61000-6-2:2001, EN55022: 1998 + A1 Class B, EN61000-3-2:2000, EN61000-3-3:1995 + A1, FCC Part 15 Subpart B Class B by compliance with EN55022:1998 Class B, VCCI:2003 Class B ITE, C-tick AS/NZS 3548, Canadian ICES-003 B by compliance with EN55022:1998 Class B Safety: EN60950, UL, CSA
Power	7-24 V DC, max 5.5 W 10-24 V AC, max 7.5 VA Power over Ethernet (IEEE 802.af) with power classification according to Class 2		
Operating conditions	5 - 50 °C (41 – 122 °F), humidity 20 - 80% RH	Dimensions (HxWxD) and weight	49 x 88 x 186 mm (1 15/16" x 3 15/32" x 7 5/16") 550 g (19 13/32 oz) excl. power supply
Temperature warning	Warning issued when temperature is below or above limits		

1) Upgrade available in Q2, 2005

Interlaced, 20 ms difference between odd and even lines

Progressive Scan, all lines are captured at the same time

Progressive scan is used instead of the interlaced method found in analog CCTV (PAL/NTSC) cameras. With progressive scan all pixels (lines) are captured at the same time, enabling moving images to be presented without distortion.

Light as perceived by the human eye ranges between wavelengths of ~400 -700 nm. Infrared light exists in nature at higher wavelengths, which can not be perceived by the human eye. IR light is filtered away in the camera by an IR cut filter in order to render a "human image", AXIS 221 can thus produce high quality b/w pictures by removing the IR cut filter when light conditions are too dark to render colors.

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