



SALES GUIDE

NETWORK CAMERAS

AXIS 2420 NETWORK CAMERA

AXIS 2420 Network Camera

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1 Product Summary

The AXIS 2420 Network Camera is a professional surveillance product targeted towards Security Managers within the Security industry.

Although there has been considerable cross selling of both the AXIS 2100 and AXIS 2120 cameras from within our IT channels, the AXIS 2420 complements our existing AXIS 2400/2401 video server products and represents Axis' first official standalone camera solution for the Surveillance industry.

Coincidental with IfSEC 2001, the launch of this product is set for May 21, 2001.

2 AXIS IP Surveillance – Flagship Product

Presented as the World's First IP-Surveillance Camera, the AXIS 2420 is to be launched as the flagship product for the IP-Surveillance theme – that aims to better communicate our product design philosophies to partners and end-users, and heighten brand awareness for Axis' network video products within the surveillance industry generally.

Although our messaging with regard to IP-Surveillance will be refined in the coming months after official release of the AXIS 2420, AXIS IP Surveillance can be simply defined as: Future-proof network surveillance technology from Axis.

Built upon several key concepts, this is a technology that is dedicated to serving the needs of a rapidly growing surveillance/security industry that is Looking Forward.

2.1 Futureproof

Unlike the analog technology supporting the broad range traditional CCTV systems, AXIS IP-Surveillance technology provides the foundation for a cost effective and future-proof systems — where, regular firmware upgrades downloadable from the over the Web allow for continuous product enhancement against previous product investment. Product firmware updates posted regularly on the Website, can be downloaded and installed into the product quickly and easily.

2.2 Network Connectivity

With the Internet Protocol as the cornerstone within our dedicated technology, Axis video products include a in-built computer and Web server by defacto; which means, that they can be assigned their own IP address and connect directly to a computer network — with no PC required. Providing high-quality imaging, full Web-based control of the product configuration functions via a browser over your network, Axis IP-surveillance technology guarantees the comprehensive networking connectivity needed for distributing video streams over a secure intranet, or the Internet.

2.3 Secure Technology

Because AXIS IP-Surveillance products include their own self-contained Web server, where the digital images are protected just like any other Internet host. The product Administrator can further limit access of the system using the unit security settings in combination with an organization's Internet firewall. The Administrator can restrict image access to specific individuals or groups — or alternatively allow global access.

2.4 Open Standards

With an open-standards approach to product development, AXIS IP-Surveillance technology facilitates easy adaptation and seamless integration of Axis network video products into total system solutions. Supporting TCP/IP networking, SMTP, HTTP and other Internet-related protocols, AXIS IP-Surveillance products are perfect for use in mixed operating system environments such as Windows, UNIX, Macintosh and OS/2. Axis' partners and end-users are assured that an investment in AXIS IP-Surveillance technology is an investment a technology synonymous with modern industry thinking that strictly conforms to recognized industry standards and protocols.

3 Product Features

3.1 General

- Same award-winning technology as the 2400 Video Server with an embedded camera
- Connects directly to Ethernet/Fast Ethernet networks
- No PC needed for image compression and transmission
- Can be directly connected to a modem
- Easy transition from existing analogue to digital surveillance solutions
- Secure technology choice - Compatible with future technology and solutions based on TCP/IP networks
- Outside use – support for DC iris (outdoor use casing still needed)
- Built in Motion detection – with up to 3 active windows
- Flash memory for easy product upgrade over the Web
- Can be connected to a Pan/Tilt/Zoom unit
- Linux Operating System

3.2 High quality images

- JPEG still images or motion JPEG video
- Resolution of 352 x 240 and 704 x 480 (NTSC)
- Resolution of 352 x 288 and 704 x 576 (PAL)
- 5 compression levels.

3.3 High frame rate

- Up to 30 frames per second with 352 x 240 resolution (NTSC)
- Up to 12 frames per second with 704 x 480 resolution (NTSC)
- Up to 25 frames per second with 352 x 288 resolution (PAL)
- Up to 12 frames per second with 704 x 576 resolution (PAL).

3.4 Security

- Motion detection
- Single digital alarm input
- Remote image storage via e-mail and FTP
- Relay output for external device control, e.g. door opener with solenoid.

3.5 Accessibility

Because the AXIS 2420 contains its own computer and Web server, it can be connected directly to a computer network. Furthermore, the Moving JPEG images it generates are native to all Web browsers, which mean that the whole Internet community can view the live video streams. The camera's images can be saved to an FTP server on the network – or transmitted to an Internet Service Provider.

In addition to the unit's network functionality, the AXIS 2420 also offers dial-in and Dial-out access via external modem. The camera images are accessible from an analog monitor via a BNC connector, as well as from a PC or workstation connected to a network.

3.6 Web simplicity

Once an IP address has been assigned to the unit, access to the camera and images is obtained by entering the IP number directly into the URL.

Motion detection viewed immediately in Main Indicator window –alarms can be dispatched to a user or group of users via email and mobile telephone; video sequences can be saved to any computer over the network, via FTP.

4 Target Audience

The primary target customer is the security manager at sites where an analogue surveillance system is already in place – but where a migration to a digital system is underway or being deployed as a complement to the analogue system.

5 Channels

- System Integrators
- Security Consultancies
- Surveillance/Security Partners

6 AXIS 2420 – Value Proposition

The IP-Surveillance camera for video transmission over CCTV and computer networks:

6.1 Cost effective

The AXIS 2420 provides a reliable and low-cost resource for high-quality imaging over the network without the hidden accessories normally required by other digital cameras; such as, expensive software, management workstations, dedicated applications, video cabling or PC frame grabber cards.

Although the product can connect to closed- circuit analog systems it is not dependent on them. Connecting directly to existing Ethernet networks the installation is cheap, quick and clean. Moreover, businesses can now use corporate networks for remote surveillance imaging - as well as for data communication.

6.2 Latest technology

Based on AXIS IP-Surveillance technology, the AXIS 2420 is a technically innovative product based on today's popular protocols like TCP/IP, HTTP, ARP, RARP, BOOTP, DHCP, FTP and SMTP.

6.3 The Progressive step from analog to digital

The AXIS 2420 is a single product solution that allows seamless upgrade from an analog to digital surveillance system. Including a standard BNC video output which means that apart from a connection over a modem or network, you can simultaneously connect the AXIS 2420 to any analog CCTV system – allowing simultaneous video imaging over two independent surveillance transmission systems.

6.4 Extended surveillance monitoring

Allows the possibility to remotely monitor from any PC or workstation in the world (provided you have the password) in a simple way.

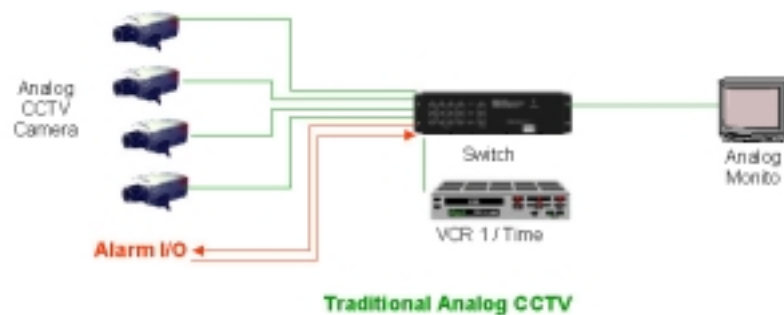
6.5 Standalone

Standalone camera and network attach - with no dependence on a central system.

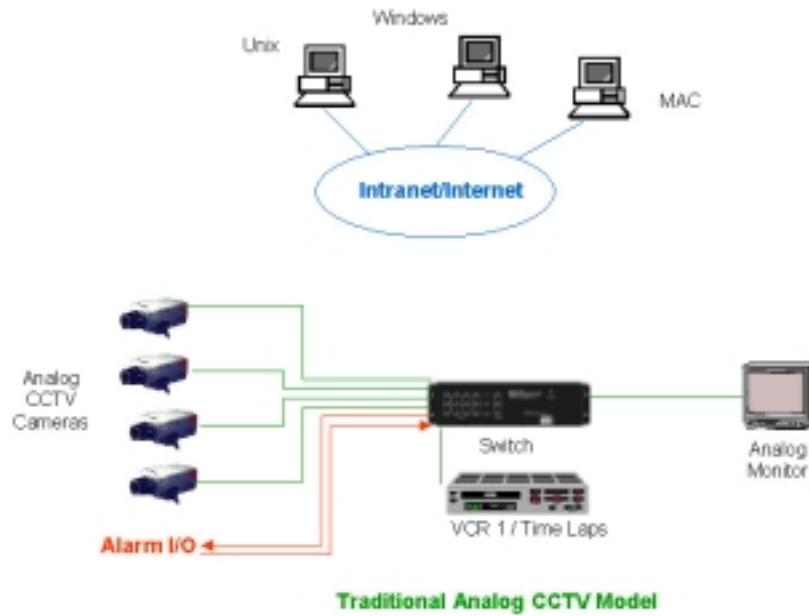
7 CCTV – OCTV Configuration Scenarios

As the growth and popularity of the Internet increases, more and more commercial organizations and private users now wish to utilize IP-based products into their business system solutions. In the surveillance and security industries, this desire is manifested through increased demand to access previously closed-circuit surveillance systems from convenient – but secure – remote locations. Consequently, the trend is to make closed systems open. It is an industry phenomenon that is driving network video sales within the industry. It is real, already underway – and something that many refer to as the CCTV to OCTV (closed to open systems) paradigm shift.

The following narrative describes the background to this technological change and the role of AXIS IP-Surveillance plays in helping organizations to gain leverage from it:



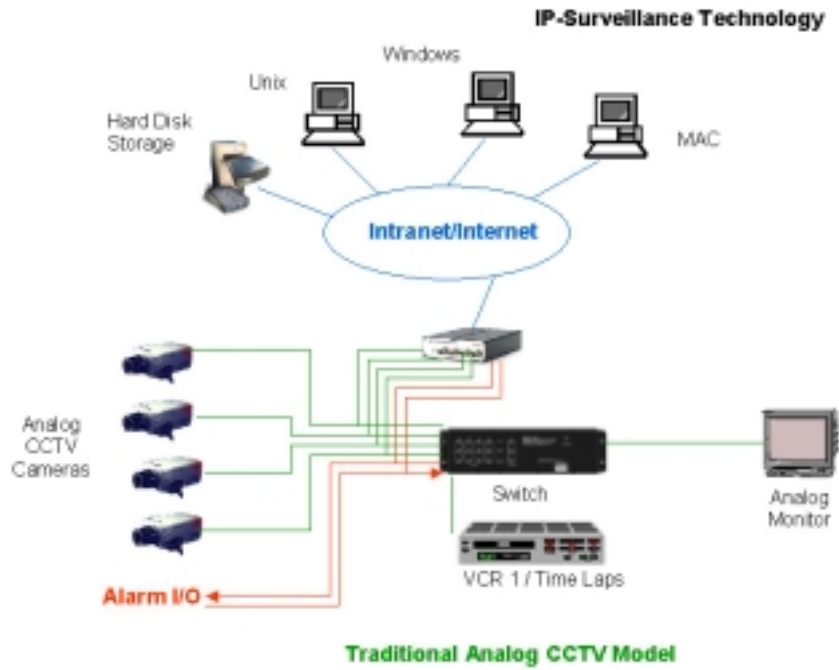
In the beginning... there were closed-circuit CCTV systems: These systems typically comprise a collection of analog cameras typically connected by coaxial cabling to a multiplexed switch and video cassette recorder - for storing images. This technology has served the CCTV industry for the best part of 25 years and manifests itself everywhere from gas stations, shopping malls and high street stores.



The Internet is born... and radically changes the way individuals and corporate business now do business. As a by-product to this revolution many different types of business now own a corporate network that co-exists with a traditional closed-circuit CCTV system. The infrastructures for the two systems are autonomous and completely independent of one another – with the network used for data communication and the CCTV system used for surveillance imaging.

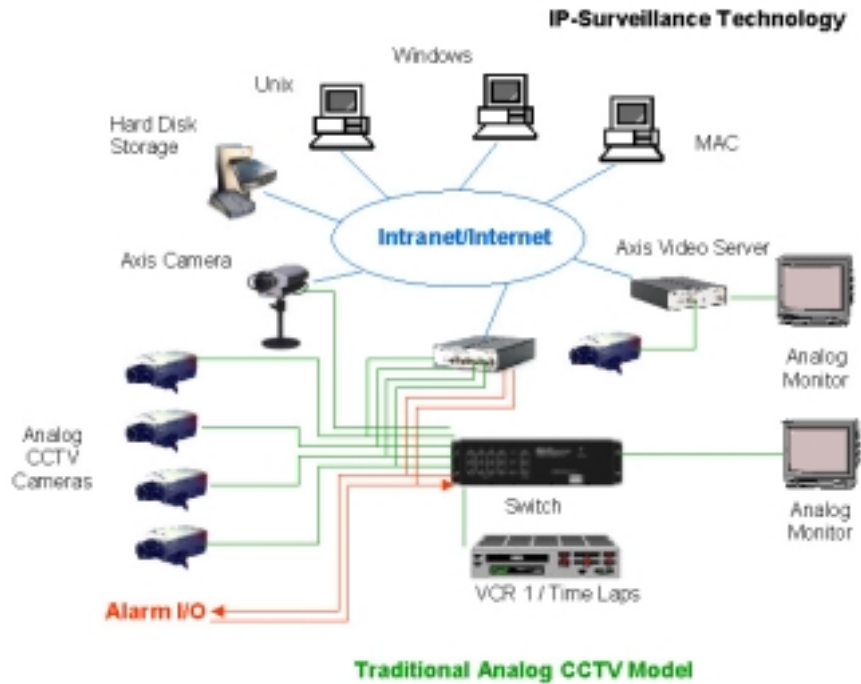


ThinServer devices... have served to increase the value of the network – making it an even more attractive proposition for surveillance applications; for example, hard disk devices that can store digital images transmitted (using FTP) over the network.



Introducing AXIS IP-Surveillance... utilizing redundant bandwidth potential in existing networks for surveillance imaging. Leveraging previous investments in the network and analog CCTV installations - facilitating the CCTV to OCTV paradigm shift and providing the base technology for a progressive step from analog to digital imaging systems.

In this configuration the AXIS 2400 video server accommodates the same video feeds and alarm signaling as supplied the analog system. This effectively creates an autonomous digital system that is open to a secure viewing audience over the intranet/Internet. Images can now be stored to a physically remote location – another office, building, or country – over the intranet/Internet. Both systems operate independently, but the value of both has systems is enhanced – creating a systems synergy. The parallel redundancy provides for greater fault tolerance and system reliability.



Further rollout of AXIS IP-Surveillance technology... Axis network camera products are added to the scenario – transmitting live video over both analog and digital systems simultaneously and adding still greater synergy to both systems. Additional analog camera can be connected to the network easily.

8 Target Market Segments

With the AXIS 2420 specifically targeted towards the Security/Surveillance and Industrial market sector, a brief overview of all market segments complete with application areas are provided below:

Security / Surveillance	Facilities Management	* Buildings management & security * Plant equipment * alarm handling *telemetry systems
	Retail	* Cash registers * stock protection * staff protection
	Transportation	* Parking lots * gas stations, * train stations * airports.
	Finance	* ATMs * fraud protection
	Public Services	* City centres * Community Policing
Industrial	Manufacturing	* Quality control procedures * Inspection * fault analysis
	Process Control	* Robotics * automated processes
	Public Utilities	* Telemetry and SCADA systems * Gas, Electricity and Water Authorities
	Technical Monitoring	* Tech. equipment

9 Application Ideas

9.1 Car parking lot

Strategically located by the pay barrier of a commercial parking lot an AXIS 2420 could provide a visual record of every car entering or leaving the car park. Used in conjunction with external alarm devices or built-in motion detection, the camera could be conceivably integrated into sophisticated systems that record when a car is parked and driven away from a specific parking bay. Increasing the security and confidence of visiting customers, this service could be sold as a value-added, or premium, service. In the event of a car theft, car owners could be guaranteed a visual record of the crime.

9.2 Garage Owner

With the frequency of filling stations losing money to drivers that conveniently forget to pay for their gas before driving off the garage forecourt, independent garage operators and large gas chains may like to consider the savings potentials that an AXIS 2420 could provide. Establish a motion detection window for every pump station on the forecourt a visual record of the license number plate of every car visiting can be recorded on a database against the appropriate till receipts – or lack of receipt, in the event of a bad memory! Consider also the further potential savings against visual verification for unmanned gas stations, and credit card transactions.

With staff at many filling stations constantly exposed to the threat of armed-robbery, network cameras can provide additional security: with many criminals familiar with the CCTV systems installed in most premises, the cry of a shrewd thief to nervous cash staff is all too often “give us all your money... and then your VCR”. The thief then proceeds to walk off completely satisfied that he now has the visual evidence that might otherwise of convicted him of the crime safely tucked under his arm – with the money.

But with an AXIS 2420 Network Camera possibly transmitting live video of his crime to conceivably any remote server over the Internet, any technologically aware criminal would indeed need to think twice. The non-discerning criminals get identified, caught and convicted. The garage owners benefit from lower staff turnover and absenteeism due posttraumatic stress – and receive better quotes on next year’s insurance premium.

9.3 ATM Machines

As a means of protecting against credit and cash card fraud, high street banks could opt to install network cameras and/or video servers to monitor ATM transactions.

Used for generally monitoring the ATM or within specific applications that take a single still face-on image of the visitor withdrawing cash, a separate image file can be stored onto a central database. In the event of a suspected fraud the image related to the transaction in question can be recalled from the database and used as photographic evidence.



Institutions may choose to introduce such surveillance methods as a mandatory requirement for all visiting ATM customers, or as an optional value-added banking service for any customers wishing to be provided this service against personal embezzlement.

9.4 Public Services – Community Policing

Many traditional CCTV systems that employ ISDN as a mode of image transmission often connect via a complex network of cables that need to be dug under roads and public footpaths.

In urban areas troubled by the problems of rising crime, the time and cost of installing ISDN cabling infrastructure is expensive and time consuming – but more importantly, the physical road works also serve criminals with advance warning of an imminent CCTV installation.



IP-based surveillance technology lends itself well to wireless network solutions that allow cameras to be moved to where they are most needed quickly and easily.

Example: www.axis.com/documentation/casestudie/camera/goodwin.pdf

10 Why not other digital solutions?

10.1 Standard analog CCTV cameras

Although there exist many new advanced imaging products available on the market, the ubiquitous analogue video camera can still be regarded as a dominant rival product to the AXIS 2420. It is estimated that over 2 million CCTV cameras will be sold to the industry this year. Standard analog cameras produce composite video signals that are typically saved on to magnetic tape media that deteriorates with time and demands lots of physical storage space. These types of camera can connect to a workstation installed with a dedicated video 'framegrabber' card

The main factor that differentiates the AXIS 2120 Camera against any analog camera is that it contains a much higher level of functionality; i.e. because it includes it's own Web server it can connect and transmit images directly on a TCP/IP network and can be remotely configured and managed and monitoring using Web/based tools.

10.2 PC-based Solutions

Requiring dedicated software for encoding/decoding images and controlling the network interface, the remote viewing end also needs a PC. Relatively expensive, these products still find favor in the surveillance industry and are common for use within group videoconferencing applications.

10.3 Wavelet compression

Optimized for images containing low amounts of data. The relatively inferior image quality is offset against the low bandwidth demands on the transmission medium.

10.4 V-compression based solutions

V-compression based solutions; for example, H.261, 263, 321, 324 etc) are a set of standards designed for video conferencing that are sometimes is used for network cameras. The standards give a high frame rate, but a very low image quality when the image contains large moving objects. Image resolution is typically up to 352x288 pixel. As the resolution is very limited, newer products do not use this standard. A moving person can frequently be seen in mosaic effect if H-series compression is used – and the normally uninteresting background will get fairly good image quality!

10.5 Similar MJPEG solutions

Generally these products cannot match the price performance ratio, and cannot transmit full video simultaneously over analog and digital systems.

11 Differentiators

The only Web based, full-video MJPEG camera that includes composite video output PHP – Popular scripting language facilitating easier application development.

12 Market Outlook and Summary

12.1 Market Opportunity

- US video server market will grow to up to 2,121 Million dollars by 2002
- 2 million CCTV cameras shipped/year
- 100.000 Industry control systems shipped per year

Source: Frost & Sullivan

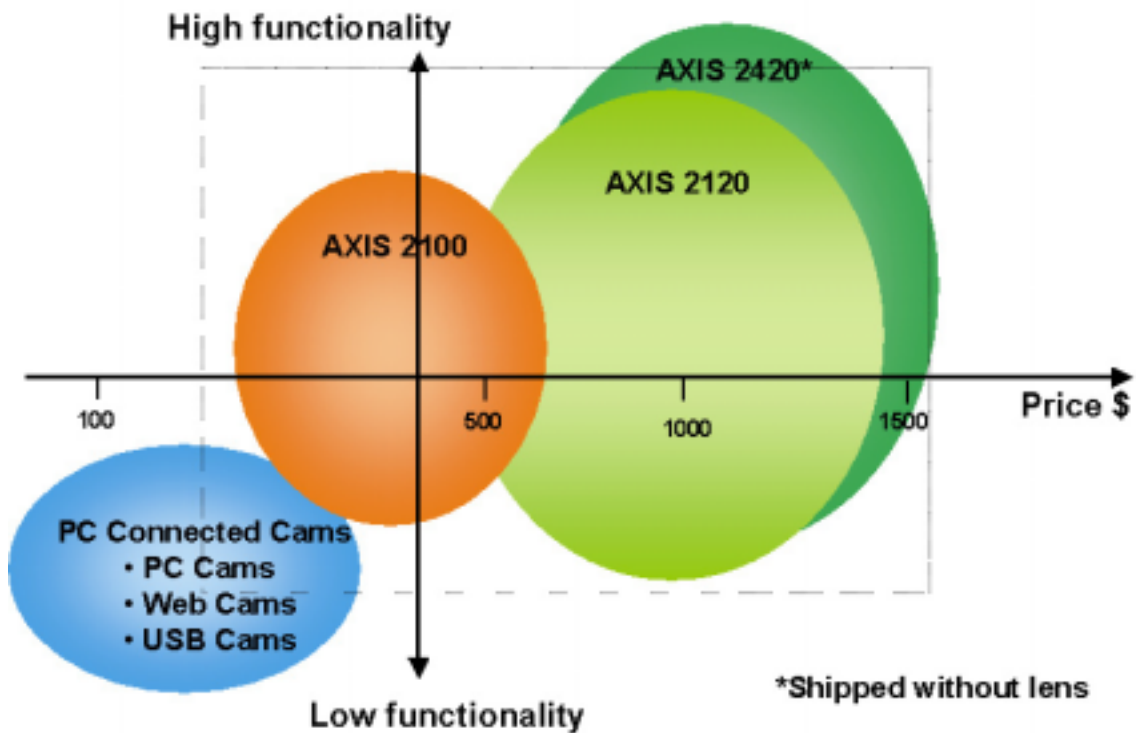
13 AXIS 2420 - Key Selling Points

- Excellent Price Performance Ratio
- Solution that bridges the A-D Technology Gap
- Utilizes existing investments in both computer networks and CCTV systems
- Offers a progressive step towards realizing the CCTV – OCTV paradigm shift
- High-quality images at full video frame rate

14 Marketing Strategy

14.1 Internal Positioning

Including motion detection and composite video output, the AXIS 2420 is a high-end camera with optimal functionality. The internal positioning of Axis current range of network camera products with respect to low-end PC, Web and USB cameras is defined in the diagram below:



Important Note:

The reason why the AXIS 2420 is slightly cheaper than the AXIS 2120 is because the AXIS 2420 is shipped without a lens. Adding an average-priced lens to the list price of the AXIS 2420 will generally cause the unit to be more expensive than the AXIS 2120.

14.2 Product Release

14.2.1 Timing and Venue

The product is launched May 21 – at IfSEC in Birmingham, England. With an expected 25,000 visitors, IfSEC is the largest Surveillance and Security show in Europe.

14.2.2 IP-Surveillance Trade Advertising

Full page Ads based on our IP-Surveillance theme including guised reference to the 2420 has been placed in three leading UK trade magazines – to be published April-May.

14.2.3 Distribution Channels

Released through Axis' normal surveillance channels; usual surveillance/security solution partners (VADs/VARs)

14.2.4 List Price

List price is \$ US 1099 / €1299 (Euro). Refer to the Executive Summary for full pricing details.