



Video Encoders/decoders

Bringing analog surveillance systems into the world of network video

Acquire all the benefits that digital technology offers without scrapping your investment in an analog system

> Easy transition to network video

> The video surveillance industry is rapidly undergoing a technology shift where analog CCTV systems are being replaced by network video technology. But that does not mean you have to discard your existing analog investments. Axis video encoders, rack solutions and video decoders enable a cost-effective way to integrate your analog surveillance installations and gain the benefits of professional network video technology.



> the benefits of migrating to IP video

> Effective management

Remote and secure access to live and recorded images from any surveillance camera — any time and anywhere from any networked computer, enabling cost-efficient and effective management.

> Scalability and easy integration

Scalable, easy to integrate and future proof. A network video system makes it easy to add functionalities, expand the system and integrate with other systems such as access control or point of sales.

> Intelligent capabilities

Powerful event management with intelligent video capabilities, enabling the system to automatically look for and act upon events or threats. Such capabilities can drastically reduce the workload of security staff, lower network bandwidth and storage requirements, and enable searches for relevant recordings to be made more quickly.

> Savings across the board

Lower total cost of ownership. Network video products work with standard wired and wireless IP networks, standard PC server hardware for video recording and storage rather than proprietary equipment, and can support Power over Ethernet. These benefits enable savings in installation, management and equipment costs.

> Smooth transition

Ability to retain analog camera installations while building a network video surveillance system with network cameras.

Digital quality images and convenient digital video storage.



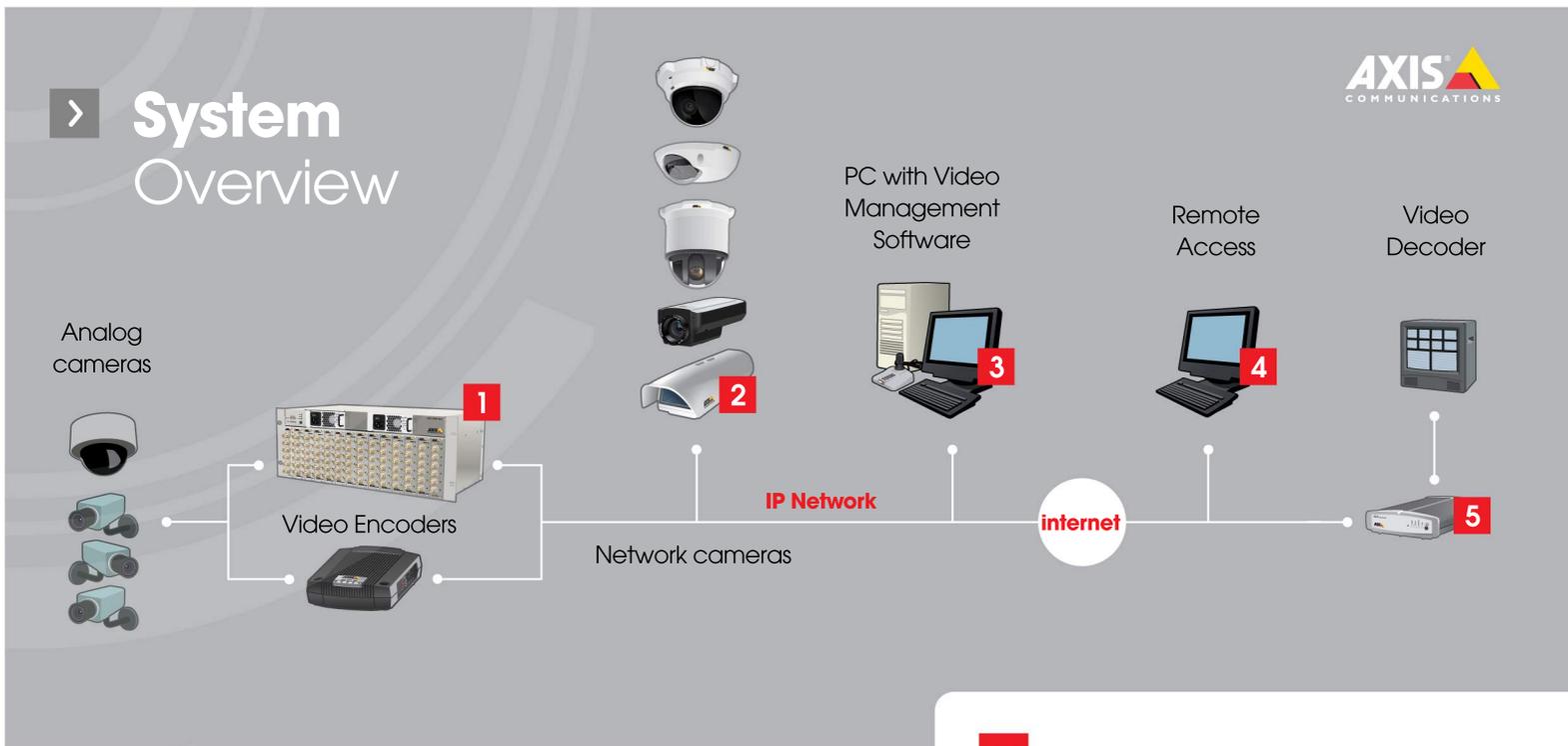
Axis video encoders digitize the video signals from your analog CCTV system and distribute them directly over an IP-based network, turning analog cameras into network cameras. Users can view live images from a video management software application or a web browser anywhere, at any time.

> Extend the possibilities of your analog CCTV system

▶ Optimize your surveillance system at lower cost

By combining an analog CCTV system with a network video system, you can easily and cost-effectively expand the surveillance system, and reduce total installation and maintenance costs.

Going digital means you'll have crisp, quality images. Images from an alarm event could be easily and quickly distributed via computer networks to many people in different locations for further examination. A video server's image buffers can save and send images collected before an alarm occurred. Images can be stored on a hard disk at remote locations for convenience and/or security purposes. There is no need to buy or change video tapes, or service the video recorder. Digital storage also reduces the risk of image degradation and provides quick and easy search capabilities.



▶ Remote Access

A video encoder enables users to remotely control and access images from the analog camera through a wired or wireless IP network. Analog cameras of all types, such as fixed, pan/tilt/zoom (PTZ) and PTZ dome cameras, as well as specialty cameras such as covert, miniature and microscope cameras, can be connected to a video encoder.

▶ Scalability and flexible integration

Axis video encoders also provide other functionalities and benefits, such as event management capabilities, advanced security measures, scalability and ease of integration with other security systems. Video encoders come as standalone units or blades for rack solutions.



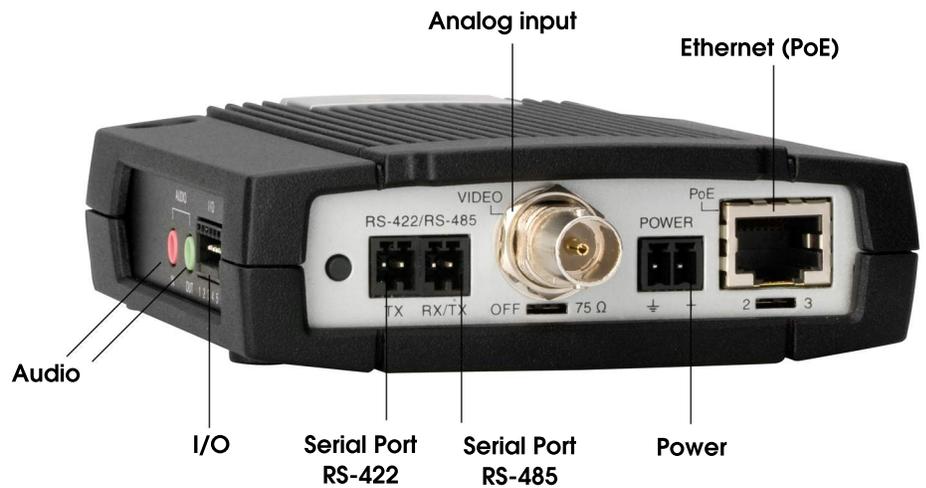
Video encoders, also commonly called video servers, are key equipment that help analog CCTV systems migrate to a network video system.

A video encoder connects to an analog camera via a coaxial cable and converts analog video signals into digital video streams that are then sent over an IP-based network.



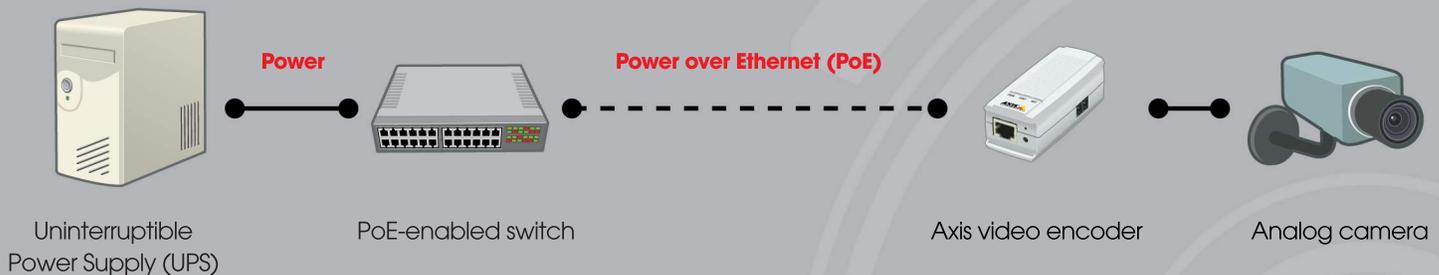
▶ 1-channel Video Encoder

A one-channel video encoder with audio, I/O ports for external devices such as sensors and alarms, serial ports (RS-422/485) for PTZ control and Ethernet connection with Power over Ethernet support.



1 Video Encoders

Axis video encoders make it possible to move toward a network video system without having to discard existing analog equipment. They connect to analog cameras, digitize the images and send them over an IP network, allowing analog cameras to take advantage of many of the same benefits as provided by network cameras.



▶ Advantages of standalone video encoders

Standalone video encoders offer one or multi-port (often four) connections to analog cameras. Where no coaxial cabling is in place, it is always best to position standalone video encoders close to the analog cameras. It eliminates the need to lay new, separate coaxial cables since video and PTZ commands can be sent over an IP network infrastructure. This reduces installation costs and also eliminates the loss in image quality that would occur if video were to be transferred over long distances through coaxial cables. With coaxial cables, the video quality decreases the further the signals have to travel. Digital images do not lose quality over distance.

▶ Rack solutions for large-scale installations

Rack-mounted video encoders are beneficial in instances where there are large numbers of analog cameras with coaxial cables running to a dedicated control room. A rack can house many video encoder blades, providing a centralized, high-density solution.

> **Unique capabilities** of Axis video encoders

> **Superior image quality**

Axis network video products are renowned for their superb image quality, and the video encoders are no exception. Axis video encoders offer a deinterlace filter option that eliminates the interlace artifacts caused by analog video signals. In addition, the encoders' built-in aspect ratio correction ensures that images do not appear distorted when viewed on a PC screen.

> **Full frame rate and maximum resolution**

High-performance video encoders provide full frame rate (30 fps in NTSC, 25 fps in PAL) in all resolutions for all video channels. Common resolutions are:

- **CIF (352x240 NTSC, 352x288 PAL)**
- **4CIF (704x480 NTSC, 704x576 PAL)**
- **D1 (720x480 NTSC, 720x576 PAL)**

> **Flexibility in video format**

Many Axis video encoders offer users the option of more than one video compression format. The video compression standards include Motion JPEG, MPEG-4 Part 2 and H.264 (also known as MPEG-4 Part 10/AVC). H.264 is the latest compression standard that offers the most efficient format for compressing video, enabling great savings in bandwidth and storage.

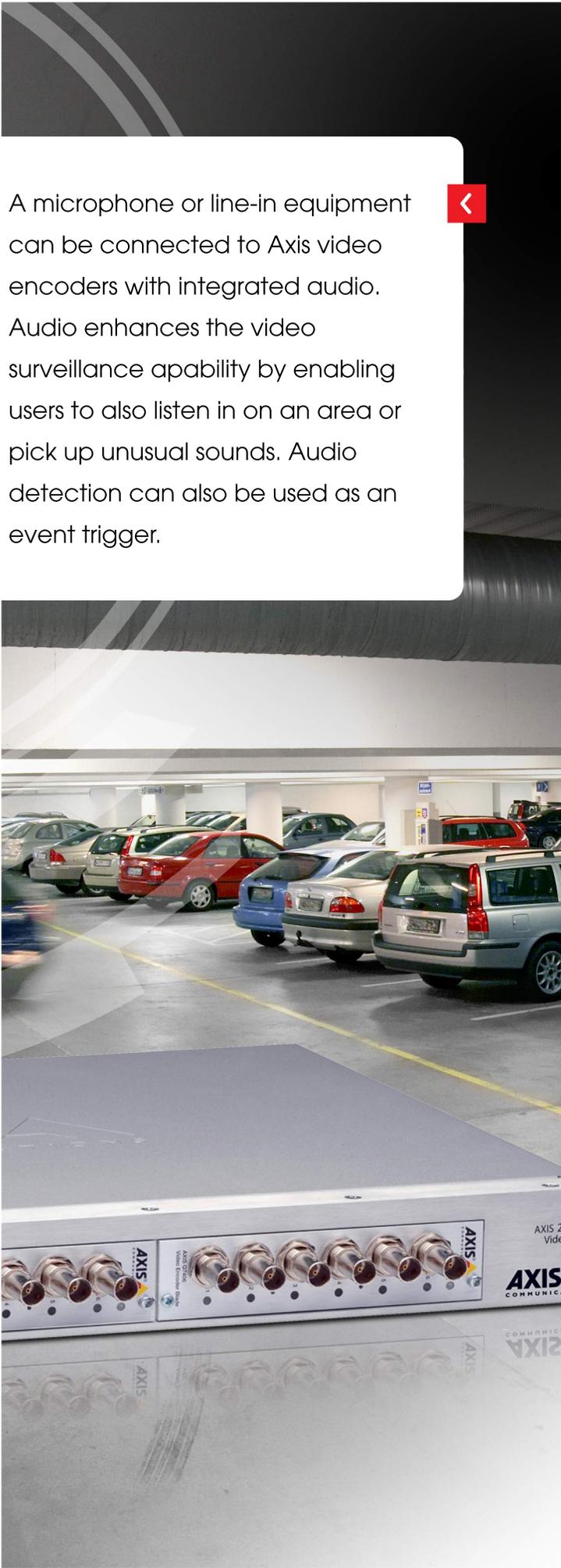
> **Multiple, individually configurable streams**

With this capability, the video encoder can provide multiple streams from each video channel and each stream can be configured differently in terms of compression format and level, frame rate and resolution. For example, one stream can be configured with maximum compression and low frame rate for storage purposes; another stream can be sent with higher frame rate and less compression and, therefore, less lag for live viewing; and a third stream with high compression and low resolution can be sent to mobile devices.



> Axis provides a wide range of high-performance video encoders, encompassing single to multichannel standalone and rack-mounted solutions.





A microphone or line-in equipment can be connected to Axis video encoders with integrated audio. Audio enhances the video surveillance capability by enabling users to also listen in on an area or pick up unusual sounds. Audio detection can also be used as an event trigger.

> Unique capabilities of Axis video encoders

> Cost-saving Power over Ethernet (PoE)

Some Axis video encoders can be powered over the Ethernet (using the same cable as for data transmission) and can in turn feed power to the analog camera. Installation is easier and costs are reduced since there is no need to run separate cables for power. It also makes it easier to move a camera/video encoder to a new location. With PoE, a camera/video encoder can still operate in the event of a power failure if it is connected to a centralized backup power with an Uninterruptible Power Supply.

> Event management and intelligent video

Axis video encoders provide powerful event management capabilities with embedded intelligent video features such as multi-window video motion detection, audio detection and active tampering alarm, as well as inputs/outputs (I/O) for connecting external devices such as sensors and relays that can, for example, activate lights or open/close doors. Such capabilities enable a system to be constantly on guard in analyzing inputs to detect an event. Once an event is detected, the system can automatically respond with actions that may include video recording, sending alerts such as e-mails and SMS, activating lights, opening/closing doors and sounding alarms.

> Advanced security and network management

Axis video encoders offer more ways to secure access to video than can be provided by an analog system. Security features include multi-level password protection, IP address filtering, which gives or denies access rights to defined IP addresses, HTTPS encryption to secure the communication channel, and IEEE 802.1X to control network access. Network management features include Quality of Service for reservation of network capacity, and support for Internet Protocol version 6 (IPv6) and standard IPv4 addresses.



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