

IP v Analogue

Why are the majority of CCTV cameras analogue?

Analogue CCTV systems use technology developed over fifty years ago and is based on television broadcasting methods. The first CCTV system was deployed in 1942 in Germany.

Why are analogue CCTV images fuzzy?

Because analogue CCTV cameras use TV technology, the video stream is broadcast in 'half-frames,' and as the term suggests these have half the detail. The electronic fitting together or interlacing of these half frames, when viewing or recording moving images, which is the most important aspect of security surveillance, causes combing distortion (blurred edges) in the image.

What is meant by CIF?

The term CIF refers to an image size of 352 x 288 (101,000 pixels or 0.1 Megapixel resolution). This is the standard used by 95% of surveillance systems today. There are systems available that provide 4CIF format which equates to 704 x 576 lines (0.4 Megapixel resolution) but even though there are more pixels per line, every second line is staggered or deferred because the half frames are exposed at different times. This can result in some important information missing from the image because every second line within the image is ignored.

Why not use higher resolution video cameras?

The standard, that the systems are based on for the transmission and recording of images, is 50 years old and it is technically impossible for the video cable to process such high resolution images.

How can I achieve high resolution surveillance?

Some 'IP' based digital cameras can achieve resolutions of 1.3 Megapixels using 960 lines as compared to 0.1 Megapixel image using 288 lines. This provides up to 12 times more detail than a CIF image and consequently can reduce the cost of an installation by being able to use fewer cameras to cover a specific area.

What other advantages does an 'IP' system offer?

By digitizing a high resolution image and transporting it over an 'IP' network (Ethernet data network) the individual image or image stream can be made available for viewing remotely thousands of miles away from the site via an Internet broadband connection or VPN. Stored images can also be 'offloaded' to a remote storage facility for added security plus low cost, standard 'IT' based servers can be used for storing the images.

As 'IP' is the standard protocol adopted by the IT, Telecoms, Software and enlightened Security manufacturers, integration with security applications such as Access Control, Intruder, Fire and Environmental can be achieved.

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