

Megapixel Camera Technology:

Revolutionary image quality vastly improves video surveillance capabilities

A new breakthrough in surveillance camera technology is helping to reshape expectations for overall detail and picture quality from live and recorded video. Dubbed megapixel technology, it represents the next wave in the evolution of CCTV systems.

Megapixel cameras excel in every aspect when compared to their conventional counterparts, providing up to 24 times more detail and vastly improved video fidelity (better detail in shaded areas without the loss of detail in highlighted areas.)

The secret to the megapixel camera's success lies in the chip: a high-definition image/data processor at the edge of the network. This chip is essentially a small computer that transmits images and data and can be controlled with software. The chips utilized by megapixel systems are capable of transmitting far more pixels per image than those utilized in older conventional cameras. For example, megapixel cameras range from 1.3 million to 8 million pixels, compared to conventional camera with just 380,000 pixels. What this means is that megapixel cameras have more pixels available to distinguish the details of an image. A conventional camera may use 25 to 50 pixels to distinguish a person's face, while a megapixel camera could have up to 1,000 pixels to produce the same image.

The proliferation of megapixel technology is due in part to the success of digital video. The aforementioned chips are being developed primarily for digital photography field. As newer innovations are introduced for digital camera applications, the same technology is imported for use in megapixel cameras for the video surveillance industry. This translates into reduced costs as the technology continues to evolve and become more prevalent.

Upgrading to a megapixel system requires different infrastructure than current camera technology. While some of the technology can utilize an existing IP security network (provided it's secure), megapixel cameras require significantly more bandwidth and storage space than conventional cameras, so substantial upgrades may be required. However, technology is also changing bandwidth and storage requirements for megapixel video. The implementation of H.264 compression has decreased storage requirements to about a quarter of what they once were. Storage-related costs are also dropping, making it feasible for more and more projects to implement megapixel technology. The tradeoff is that one megapixel camera can replace three to four cameras in some applications, resulting in an overall cost savings while producing better video images.

A few megapixel cameras can complement an existing CCTV system, allowing you to reap the benefits of a megapixel upgrade without a full-on retrofit of your infrastructure. In a bank setting, this might mean using conventional cameras at the teller windows where a conventional camera's image quality is sufficient due to a narrow field of view, while utilizing a megapixel camera at the main entrance where you typically have a much wider field of view.

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Contact your Will Electronics Account Manager to determine if megapixel cameras are the solution to your surveillance needs.