Interactive Surveillance Solutions

Selecting the Right Digital Surveillance Camera

3×LOGIC Discussion Guide

What Camera is Right for You?

Surveillance cameras come in all shapes and sizes. Which camera is right for you depends on your individual needs and application requirements. The following are questions to help determine what mix of cameras is best for you.

- What is the goal or objective of each camera?
- What specifically is the camera looking at or for?
- Is this a fixed or PTZ camera?
- What quality of image will be needed and why?
- Is this an indoor or outdoor environment?
- How will you be mounting the camera?
- Will Audio be required?
- Are Video Analytics desired?
- Connectivity - hardwired coax, network cabling or wireless?
- Distance from head-end to each camera?
- How much light will the camera have to operate in?

Evolving Video Standards
Camera Formats

Analog Cameras
- Inexpensive
- Resolution limited to 4CIF (704x576 or 0.4 megapixels)
- Typical housing designs
  - Dome
  - Full Body
- Coaxial cable installation
- Good in low-light situations
- Well-suited for video analytics
- Requires individual power source

Internet Protocol (IP) Cameras
- Cost more than Analog
- Higher resolution than Analog
  - High Definition (HD)
    - Megapixel
- More coverage and greater detail from less cameras
- Easily scalable
- Typical housing designs
  - Dome
  - Full Body
- $180^0/360^0$ degree panoramic camera formats
- Direct camera-to-network connection
- Power over Ethernet (PoE) ready
- Supports 1- or 2-way audio, motion alarms
- Typically less expensive to install than Analog
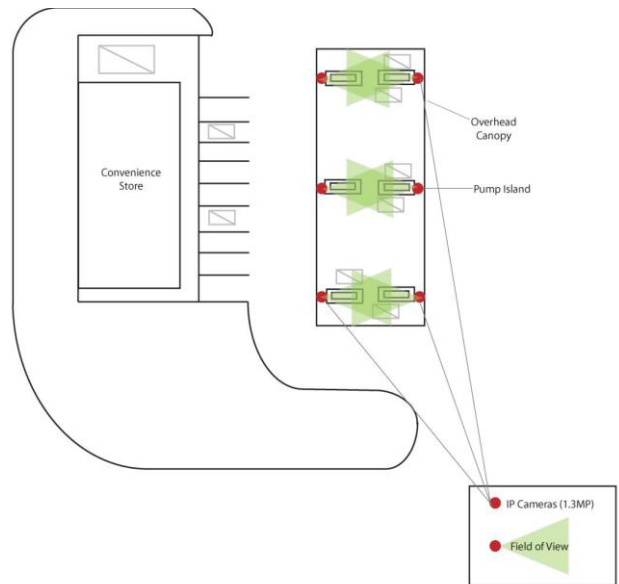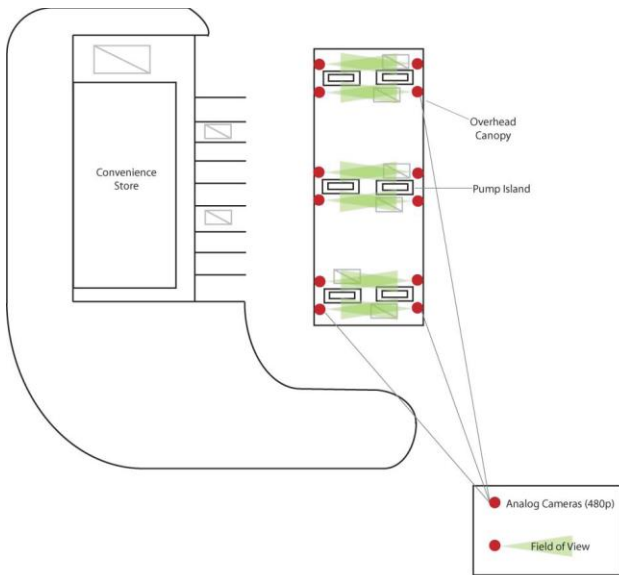
How Much Detail is Enough?

While high-resolution analog cameras and Megapixel cameras can provide more coverage with fewer cameras, standard analog cameras continue to be a cost-effective option for many general surveillance applications. The question becomes how much detail is enough for you?

General surveillance is the term used if you simply want to capture WHEN something happened and WHERE it happened, but don't need more specific details.

High detail surveillance requires placing cameras closer to the area in question, or relying on cameras with higher resolution, in order to capture additional data such as license plates or facial details. Now you are able to determine WHEN and WHERE something happened, you are beginning to determine WHO and WHAT was involved.

In order to capture full clarity or forensic detail, you need to have your camera positioned extremely close to your subject or you need to be capturing high resolution images, typically from Megapixel cameras. Now you have the data to determine WHEN it happened, WHERE it happened, and can determine WHO and WHAT was involved.

The following pages provide three scenarios where high-detail surveillance was required in a convenience store environment. These scenarios illustrate the requirements in camera placement, field-of-view, and resolution needed to provide high-detail video surveillance using either standard analog, IP or Megapixel cameras.
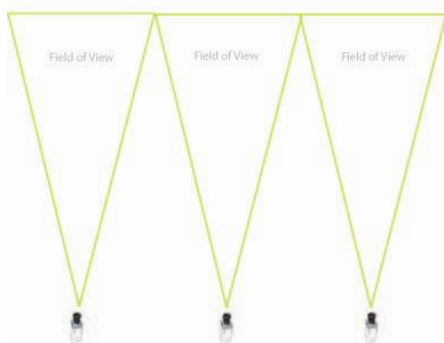
Overhead Canopy

Pump Island

Analog Cameras (480p)

Field of View

Overhead Canopy

Pump Island

IP Cameras (1.3MP)

Field of View

Sample Analog Video Capture (640x480)

#88001726-Pump1-2 [7/21/2007 9:43.23 AM] [Motion]

Sample IP Video Capture (1.3MP) with zoomed inset

Required Horizontal Coverage - 75'

Field of View   Field of View   Field of View

General Surveillance
(20 pixels per foot)

Required Horizontal Coverage - 75'

Field of View   Field of View   Field of View   Field of View   Field of View

Forensic Quality Surveillance
(40 pixels per foot)

Required Horizontal Coverage - 75'

Field of View   Field of View   Field of View
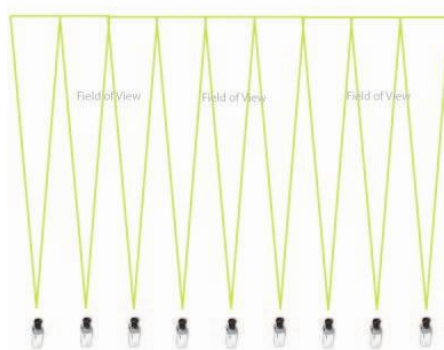
High Detail Surveillance
(80 pixels per foot)

480p

Required Horizontal Coverage - 75'
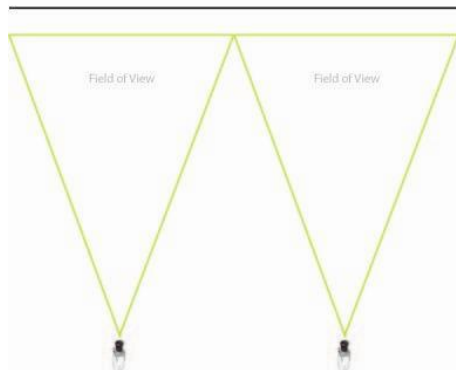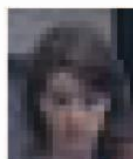
Field of View   Field of View

General Surveillance
(20 pixels per foot)

Required Horizontal Coverage - 75'

Field of View   Field of View   Field of View

Forensic Quality Surveillance
(40 pixels per foot)

Required Horizontal Coverage - 75'

Field of View   Field of View   Field of View   Field of View   Field of View

High Detail Surveillance
(80 pixels per foot)

1.3MP

Overhead Canopy

Pump Island

● IP Cameras (5MP)

● Field of View
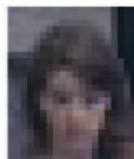

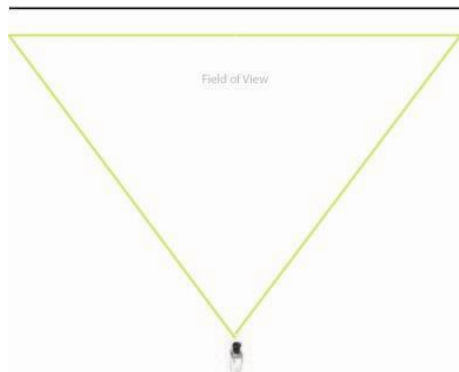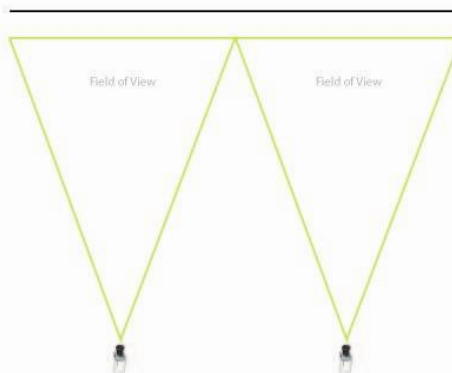DVR Site-HD [7/8/2008 3:00:55 PM] [Motion]

Self

Self
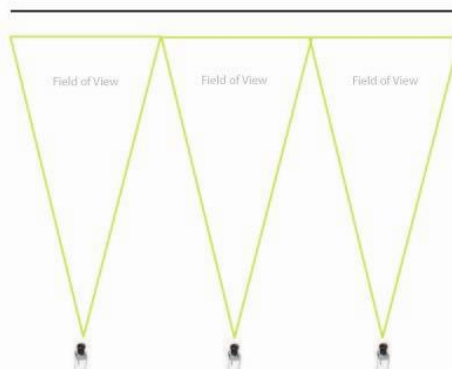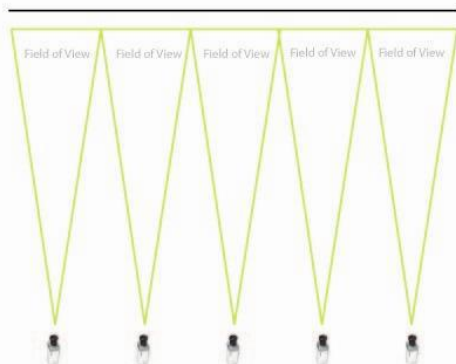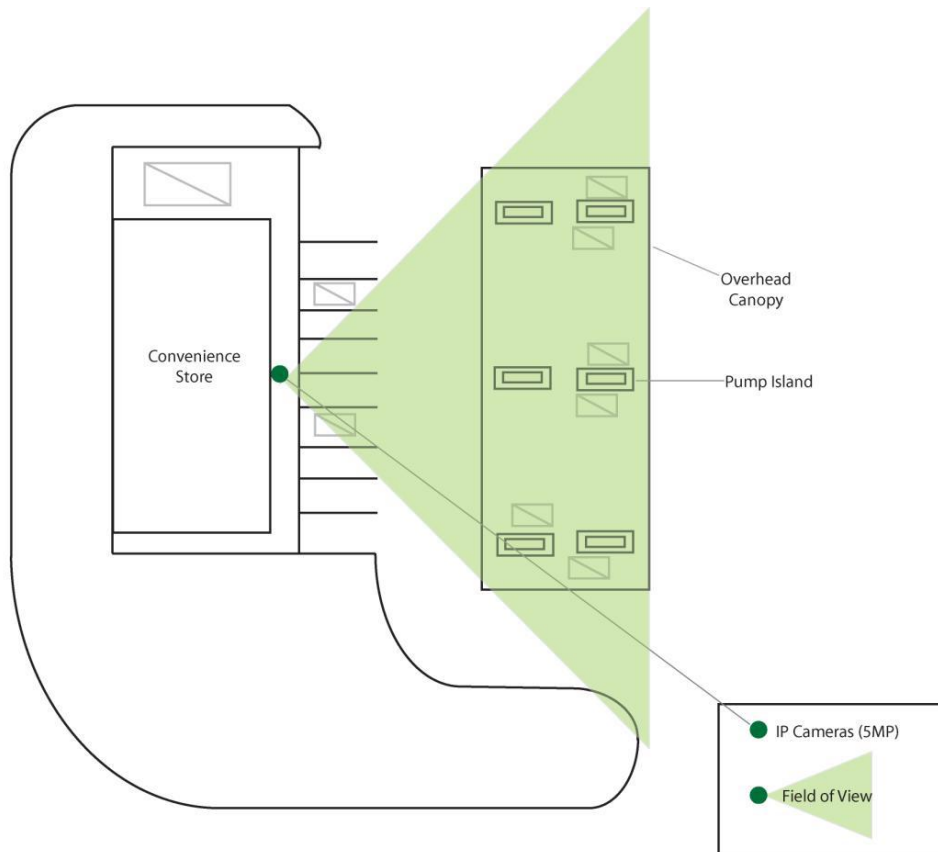
Sample IP Video Capture (5MP) with zoomed inset
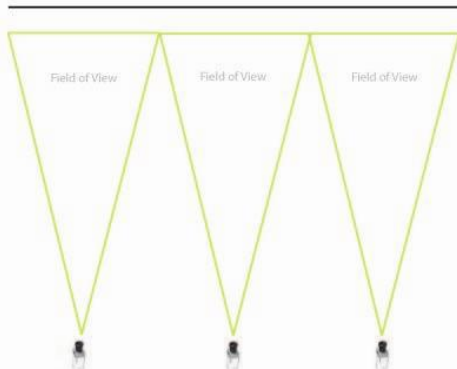
Required Horizontal Coverage - 75'

Field of View

General Surveillance
(20 pixels per foot)

Required Horizontal Coverage - 75'

Field of View   Field of View

Forensic Quality Surveillance
(40 pixels per foot)

Required Horizontal Coverage - 75'

Field of View   Field of View   Field of View

High Detail Surveillance
(80 pixels per foot)

5MP

Image Clarity

Raw images from analog cameras and Megapixel cameras can look very similar—but *looks can be deceiving*. The differences become apparent when you zoom-in in an effort to identify WHO is in your photo.

NOTE: Wider field of view requires increased resolution to enable higher pixel density illustrated above.

What is AZTECH™ Compression and What Makes It So Unique?

AZTECH is an exclusive video codec developed by **3xLOGIC** to specifically meet the needs of data-intense digital surveillance video. Compared with traditional MJPEG, AZTECH can reduce the amount of video storage needed by 50–90 percent without any additional visual losses. When compared with the commonly used H.264 standard, AZTECH is roughly identical in storage when recording in real time at 30 frames per second. However, when recording at a frame rate of 1-15 images per second (typical for most security applications), AZTECH can save up to an additional 50 percent of storage space compared to H.264, which was developed for the broadcast industry and designed to run at 30 images per second.

♦ AZTECH is optimized for Megapixel security recording.
♦ AZTECH is able to compress the files size as much as 1/10th the size of the video stream leaving the Megapixel camera.
♦ Megapixel camera streams can be recompressed, making using Megapixel not only a reality, but truly usable for the first time.
♦ You can remotely view Megapixel cameras using a fraction of the bandwidth. Storage requirements for your video are also greatly reduced.

The following chart compares the size of AZTECH compressed Megapixel video to the video files produced by an IQeye camera itself.
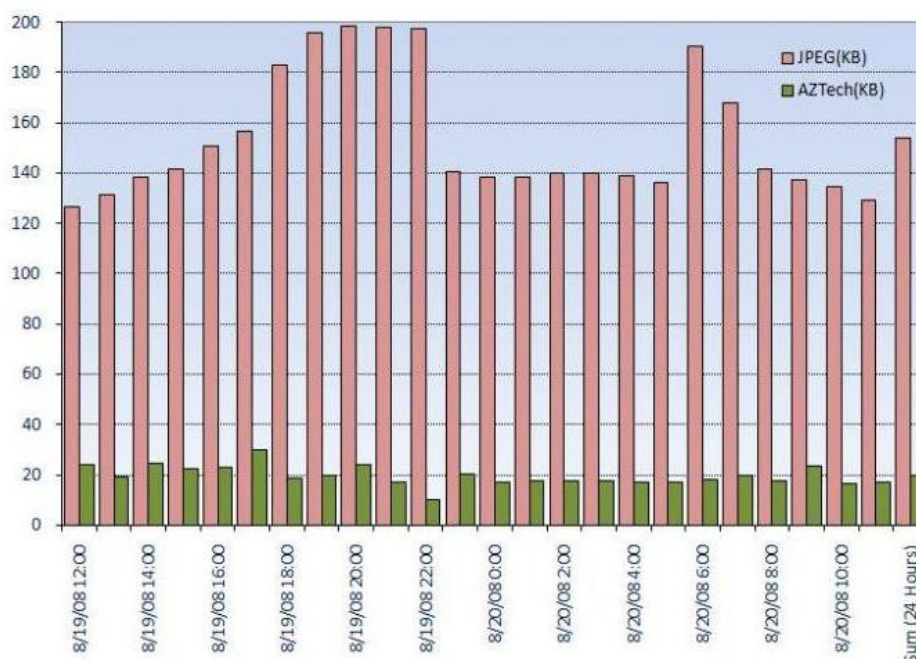
The Intelligence That Is 3xLOGIC [VIGIL – keeping constant watch on your business assets]

The VIGIL™ platform is a comprehensive surveillance solution utilizing the latest advances in video surveillance hardware powered by **3xLOGIC's** full-featured suite of VIGIL video management application modules. This logical union elevates the VIGIL-brand to the industry's leading intelligent video surveillance platform keeping constant watch on your inventory, your cash, your employees and your patrons.

Focused On Your Success

Our success relies solely on the success of our authorized partners. Together we are forging new opportunities and delivering solutions that exceed our client's expectations and allow them to operate their businesses more effectively.

Our partner program is built on a foundation of mutual trust and mutual gain—a program in which each benefits from the strengths of the other, and in doing so provides the highest level of customer satisfaction and service possible. In doing so, we enable you to focus on what you are best at; while together we meet the direct needs of the client.

Contact us for more information or assistance.

Contact us:

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