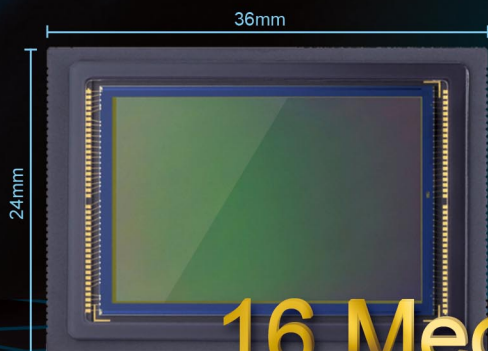


# High Definition Professional IP Cameras

with High Definition Stream Management (HDSM)



Full Frame  
**16 Megapixel**

**Lossless JPEG 2000  
Compression**



## The Best Evidence

Supreme Optics • Supreme Sensor

The Avigilon 16 megapixel high definition professional IP camera is a high sensitivity, wide dynamic range, progressive scan CCD camera designed for the most demanding surveillance applications. It transmits images over 100BASE-TX using advanced JPEG2000 progressive compression technology to achieve the lowest network bandwidth and most efficient image storage in the industry while maintaining unsurpassed image quality.

The camera's advanced image acquisition system automatically adjusts the exposure time and the iris to ensure all available evidence is captured throughout the full range of day and nighttime scenes. The camera has an EF lens mount that is compatible with a wide selection of Canon® lenses.

### Key Features

#### Multi-Megapixel

- ◆ Capture high quality detailed images – equivalent resolution of 50 VGA cameras in one camera
- ◆ Reduce total number of camera
- ◆ Live and post-incident digital PTZ

#### High Definition Stream Management (HDSM)

- ◆ Highest possible quality recording with no loss of data
- ◆ Dynamically controlled bandwidth utilization for optimal streaming

#### Near Infrared (NIR) Range

- ◆ See beyond human vision at night
- ◆ Maximum imaging performance with IR illuminators

#### Wide Dynamic Range

- ◆ Capture details in scenes with both very bright and very dark areas

#### Focus and Iris Control of SLR Lenses

- ◆ Wide selection of extremely high quality lenses

#### Stop-Action Electronic Shutter

- ◆ Capture sharp image of moving object

#### Power-over-Ethernet (PoE)

- ◆ No external power control

#### Plug-and-Play

- ◆ Auto-detection and auto-configuration of cameras for easy installation





# High Definition Professional IP Cameras

with High Definition Stream Management (HDSM)



## Resolution

Compared with conventional VGA cameras having a 640x480 pixel resolution, the 16 megapixels (4872x3248) CCD newly employed in the Avigilon HD camera achieves a resolution approximately 50 times that of a conventional camera. This makes it possible to cover 50 times the monitoring area, the image quality being the same. In addition, image capture of detailed parts is much clearer when these images are enlarged, provided shooting angles are the same.

## Compression Technology

Avigilon cameras use advanced JPEG2000 progressive lossless compression to provide the highest image quality possible using the lowest bandwidth in the industry. Typical lossy-compression techniques, including MPEG, M-JPEG, JPEG and H.264, were developed to match the capabilities of human vision for entertainment and video conferencing applications where retaining image integrity and dynamic range above 8-bits is not critical. JPEG2000 compression, however, is designed to handle the **14-bit high dynamic range** and **high resolution** from Avigilon's multi-megapixel IP cameras without sacrificing image quality.

Current 2M H.264 Compression	Current 4M JPEG Compression	Avigilon 16M JPEG 2000 Compression

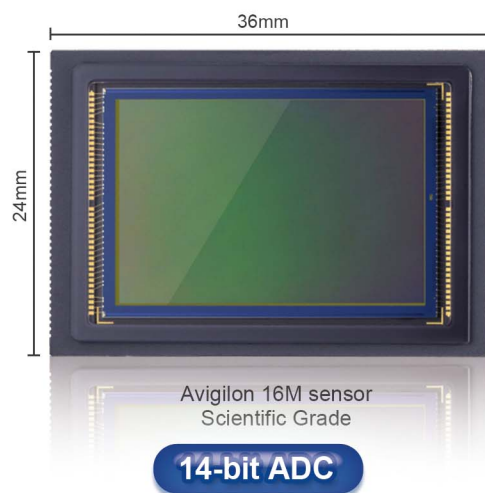


## High Dynamic Range with Unsurpassable Details



## Image Sensor Size

Full Frame Vs 1/2.5"



**VS**

36mm  
24mm

1/2.5" CMOS Sensor  
Consumer Grade

**8-bit ADC**

**35 times**  
864mm<sup>2</sup> >> 24.7mm<sup>2</sup>

Avigilon Surveillance software allows users to simultaneously view live and recorded multi-megapixel surveillance streams and had built-in image enhancement features to reveal details that normally would remain unseen.



# High Definition Professional IP Cameras with High Definition Stream Management (HDSM)



## Scientific Grade Sensor Vs Consumer Grade Sensor

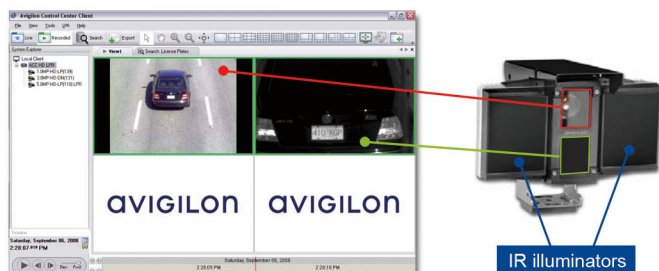
The quality of the sensor determines the quality of the signal that it creates when exposed to light. Most of image sensors in conventional surveillance cameras are consumer-grade sensors. High definition surveillance requires scientific-grade sensors which differ from consumer-grade sensors in the following ways:

- ◆ **Higher Quantum Efficiency**  
ability to convert light energy into electrical energy  
{ consumer-grade 20% Vs scientific-grade 60% ~3 times }
- ◆ **Higher Well Capacity**  
ability to capture wide ranges in light intensities  
{ larger well size can capture more detail in scenes thus wider dynamic range }
- ◆ **Lower Noise**  
scientific-grade sensors have less much noise than consumer-grade sensors
- ◆ **Uniform Response across the Sensor**  
the uniform response of scientific-grade sensors ensure that objects are not obscured by these artifacts and also provide consistent data for object recognition algorithms.
- ◆ **Progressive Scan**  
scientific-grade sensors use progressive scanning to expose all pixels on the sensor at the same time.  
Progressive scanning allows sensors to capture sharp images even when an object in a scene is moving.
- ◆ **Linearity**  
scientific-grade sensors respond to light in a more linear manner than consumer-grade sensors.

All Avigilon cameras use scientific-grade sensors, ensuring that the resulting images are of the highest image quality.

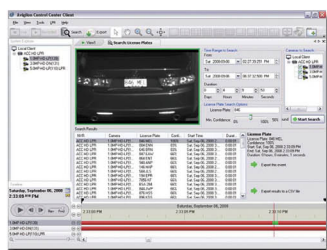
## License Plate Recognition

We can install both surveillance and avigilon monochrome cameras together for better presentation of license plate recognition.



With Avigilon Control Center, you have the ability to add License Plate Recognition to the enterprise video management system. Features include:

- High definition accuracy, Roman and Arabic characters
- Full integrated with the Avigilon Control Center user interface for enterprise management
- Import and monitor watch lists
- E-mail alerts and screen alarms
- Flexible post incident plate search
- The Avigilon Capture kit pictured here incorporates integrated IR illuminators, an Avigilon monochrome five megapixel camera with optional color D/N overview



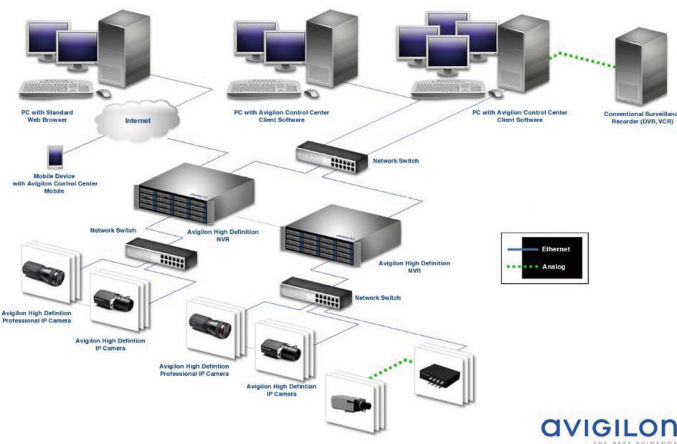
Having megapixel performance available with License Plate Recognition adds significantly to the probability of a positive match of numbers and letters of plates.

## Avigilon Control Center with HDSM

Avigilon Control Center is the award winning high definition network video management software with High Definition Stream Management (HDSM) that delivers full situational awareness and detail, leading to faster response times, reduced investigation times, and superior overall protection. Offering the industry's greatest choice in HD cameras from one to 16 megapixels, Avigilon Control Center is available as stand-alone software or pre-installed and configured on Avigilon HD NVRs. Avigilon Control Center is a secure distributed network platform with enterprise class reliability for capturing, managing, and storing high definition surveillance video while efficiently managing bandwidth and storage.



## Expandability and Compromising Existing Analogy Systems



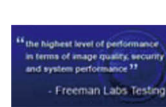
AVIGILON  
THE BEST EVIDENCE™

## Rapid Deployment Kit

- Unsurpassed image quality
- Under 9 minutes to deploy
- Breakthrough for covert surveillance
- Widest selection of cameras and lenses
- Backpack or ruggedized case



## Awards



## Specifications

### Camera

Model no.	16MP-HD-PRO-C 16MP-HD-PRO-M
Image Sensor	35 mm progressive scan interline transfer CCD
Active Pixels	4872 (H) x 3248 (V)
Imaging Area	36.1 mm (H) x 24.0 mm (V) 1.422" (H) x 0.946" (V)
Minimum Illumination	16MP-HD-PRO-C: 0.1 lux (at F1.4)  16MP-HD-PRO-M: 0.01 lux (at F1.4)
Dynamic Range	65 dB
Lens Mount	EF (SLR-style bayonet)
Image Compression Method	JPEG2000
Image Rate	Image Rate 3 (at full resolution) 10 (at 4872 x 480)
Resolution Windowing	Down to 640 x 480 Window
Motion Detection	Selectable sensitivity and threshold
Electronic Shutter Control	Automatic, Manual (2 to 1/60000 sec)
Iris Control	Automatic, Manual
Focus Control	Automatic, Manual
Flicker Control	50 Hz, 60 Hz
White Balance	Automatic, Manual
Backlight Compensation	Automatic
Privacy Zones	Up to 4 zones
External I/O Terminals	Alarm In, Alarm Out, RS-485

### Network

Network	100BASE-TX
Cabling Type	CAT5
Connector	RJ-45
Security	SSL
Protocol	UDP, TCP, SOAP, DHCP, Zeroconf

### Mechanical

Dimensions (LxWxH)	120 mm x 79 mm x 74 mm (4.7" x 3.1" x 2.9")
Weight	1.15 kg (2.5 lbs) without lens
Camera Mount	1/4" UNC-20 (top and bottom)

### Electrical

Power Source	VDC: 12-24 V VAC: 24 V PoE: IEEE802.3af Class 3 compliant
Power Consumption	9 W
Power Connector	2-pin terminal block

### Environmental

Operating Temperature	-10 °C to +50 °C (14 °F to 122 °F)
Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)
Humidity	20 - 80% Relative humidity (non-condensing)

### Certifications

CE, Class A ; FCC, Class A ; UL/cUL Listed
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### Dimensions

