

GO BEYOND TRADITIONAL ANALYTICS WITH INTELLIGENT SOLUTIONS FROM i-PRO





In today's environment, more users are looking to actively manage large surveillance systems. As these systems become more complex, i-PRO's intelligent analytics can help users by reducing the learning curve and system resources required to operate them. From improving the accuracy of alarms and notifications to reducing the overall system bandwidth and storage requirements, i-PRO Intelligent analytics has you covered.

- Change your surveillance system from reactive to proactive and anticipate situations before they occur
- i-PRO surveillance users can gain added sight awareness with intelligent analytics via scene analysis
- Optimized feature solutions for schools, municipalities, and commercial facilities
- i-PRO analytics may be deployed either at the edge or server level providing a flexible deployment



AI Video Motion Detection (AI VMD)

- AI VMD differentiates between vehicles, motorcycles, bicycles, and people. It further detects and sends warning notifications when they enter a specified area.
- AI VMD can issue an alarm notification for the following cases below:

Intruders	Loitering	Direction	Cross line
			
<ul style="list-style-type: none"> When a moving object <u>enters</u> a specified area. 	<ul style="list-style-type: none"> When a moving object enters a specified area and <u>stays there</u> for a specified amount of time. 	<ul style="list-style-type: none"> When a moving object enters a specified area and moves in the specified <u>direction</u>. 	<ul style="list-style-type: none"> When an object moving in the specified direction <u>crosses</u> a specified threshold.

AI Privacy Guard

- To protect privacy and individual rights, AI Privacy Guard can automatically apply a mosaic to the entire figure or to just the face of a person recorded by the camera.

Factory		Retail Stores	
			
Original image	Processed image	Original image	Processed image

AI Sound Classification

- AI Sound Classification detects and identifies sounds such as gunshot, yelling, vehicle horns or glass breaking. It then sends a warning notification according to the sound identified.

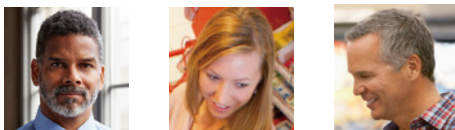
	
Gunshot	Yelling
	
Vehicle horn	Glass break

Example:

Classification target	1.Gunshot 2.Yelling 3.Vehicle horn 4.Glass break
Classification condition	Target sound is 6 dB louder than crowd. Target sound continues more than a second. (except for gunshot)

AI Face Detection

- The i-PRO network camera utilizing an AI engine and Multi-AI Server realize real-time face recognition without an expensive face recognition server. AI detection enables highly accurate face detection, and is also effective for detection in low lighting, backlit environments, or for detecting faces obscured by masks.



Angled face

Range of angle	Horizontal : 0° - 45°, Vertical : 0° - 30° (TBD)
Detection number at the same time	Max. 8 faces
Size of face image	Min. size : width 30 pix Recommend : 60 pix (TBD)
Min. illumination level	100 lux (TBD)
Max. number of cameras	20 when installed with VMS server PC 60 when installed as stand alone PC
Max. number of watchlist	1,000 faces

AI People Detection

- Characteristics of the human face and clothing are extracted and classified into useful categories such as gender, age, and clothing color. This abundant attribute information can then be searched to easily find the target person.

Attributes	Values
Gender	Male / Female
Age	Child (0-10) / Young Adult (11-20) / Adult (21-60) / Senior (61+)
Mask	Mask / No Mask
Hair type	Long hair / Short hair / Hat
Hair color	Black / Brown / White / Gray / Gold
Sunglasses	Sunglass / No Sunglasses
Beard	Beard / No Beard
Top type	Long sleeves / Short sleeves
Top color	Black / Brown / White / Gray / Green / Red / Blue / Yellow / Orange / Purple / Pink
Bottom type	Short / Long
Bottom Color	Black / Brown / White / Gray / Green / Red / Blue / Yellow / Orange / Purple / Pink



Conditions	Range of angle	0° - 45°
	Detection number at the same time	Max. 20 people
	Size of people image	Min. size: width 60 pix (shoulder width) Recommended size : width 100 pix
	Min. illumination level	Min. illumination level : 10 lux Recommended illumination level : 50 lux
Mask Area (non-detection area)		Max. 8 areas (polygonal) can be set

AI Vehicle Detection

- Vehicle characteristics are extracted and classified into useful categories such as type and color. This abundant attribute information can then be searched to easily find the target vehicle.

Vehicle Type



Vehicle Color

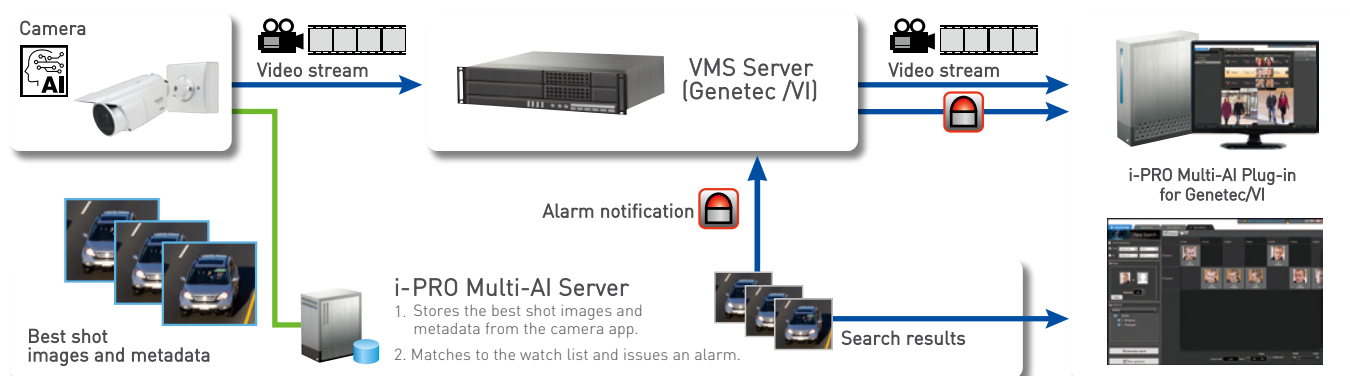


Conditions	Range of angle	0° - 90° (for automobile)
	Detection number at the same time	Max. 20 vehicle
	Size of vehicle image	Min. size : 70 pix for the shorter axis (about 15-20 m ahead) Recommended size : 112 pix for the shorter axis
	Min. illumination level	5 lux
Mask Area (non-detection area)		Max. 8 areas (polygonal) can be set

Multi-AI Server

- i-PRO Multi-AI Server is a cutting edge intelligent search application. Using i-PRO deep learning technology, you can quickly search for subjects of interest based on the person or vehicle attributes. The i-PRO Multi-AI Server stores the best shot images and metadata streamed from the i-PRO AI camera. Edge analytics eliminate the need for expensive analysis servers providing customers with a low cost search solution. i-PRO Multi-AI Server has the most searchable attributes, truly setting the new standard in the surveillance industry.

Example of a Basic Connection System



System (Multi AI server software)	Scale	Supported camera	AI camera *X series (4K or 5MP) an8d New S-Series (2MP)
		Number of camera	1to 100CH when AI soft is installed within VMS server (AI Face Detection is up to 20) 1to 300CH when AI soft is installed on standalone server (AI Face Detection is up to 60)
		Number of client	No limitation (depending on limitation of VMS)
		Number of VMS server	12 (VI)
	Store	Retention period	Max. 30 day limitation
	Post Search	Filter	People, Vehicle (attribute, date&time, camera, moving direction) Face (only for specific date&time, camera, moving direction)
		Similar search	Yes (by same attribute information) *People and Vehicle only
		Sort	Descending, Ascending, Relevance
	Alarm	Watch list alarm	Up to 1,000 face Up to 12 people attributes
		Detection alarm	AI Sound classification (Gunshot / Yell / Vehicle horn / Glass break) AI-VMD (Intruder / Loitering / Direction / Line cross)
		Related function	Show alarm on real-time, alarm search, VMS's Rules configuration, Map overlay (VI only), Notification to mobile app (VI only)
	Playback/Export	Playback	Playback video around the time of the best shot on full screen or multi-view
		Export	Save best shot image, Export video from VMS

Book a Demo or Learn More

- To see our AI applications in action, please book a Demo here
- If you wish to learn more, contact CCTV@ca.panasonic.com

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Important

- Safety Precautions : Carefully read the Basic Information, Installation Guide and Operating Instructions before using this product.
- Panasonic i-PRO cannot be held responsible for the performance of the network and/or other manufacturers' products used on the network.
- When monitoring remotely, please pay attention to the network design. For details, please contact your local Panasonic i-PRO sales representatives.

- All images are for illustrative purposes only.
- Specifications are subject to change without notice.