

Panasonic Video Insight Software and Camera Systems by ElectSys.biz Ph: 717-665-2141



# Video Insight 7

## Enterprise Video Management Solution

Video Insight 7 is a powerful yet easy-to-use enterprise Video Management platform that allows organizations in education, law enforcement, healthcare, commercial, and transportation the ability to deploy a customized and robust security surveillance system. New to version 7 is enhanced functionality with our new plug-in architecture which allows even greater scalability and improved feature sets.

**New features** include Integration with Panasonic's FacePro software for Deep Learning Facial Recognition, support for Panasonic Body-worn cameras, integration with Panasonic NVRs, vehicle incident detection analytics, geo-location transportation plug-in, and more...

### VI 7 Product Suite Includes:

<p><b>Clients</b></p> <p>VI MonitorPlus VI Mobile VI TV VI Web Client VI Monitor for Mac</p>	<p><b>IP Server</b></p> <p>Supported Virtualization:</p> <p>vmware citrix Microsoft Hyper-V</p>	<p><b>Integrated Access Control MonitorCast 4</b></p> <p>Support for Popular Access Control Applications:</p> <p>S2 SECURITY MonitorCast AWAG ISONAS OPEN OPTIONS HMD</p>	<p><b>Plug-Ins</b></p> <p>Point of Sale Analytics Transportation Geolocation LPR</p>
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## New Client (VI MonitorPlus)

The new clients that allows greater flexibility with UI customization, graphics, as well as clear separation between UI and application logic.

## Support for H.265

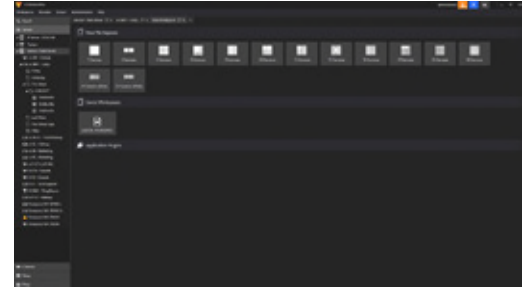
H.265 is supported for Live Video Streaming, Playback, Clipping and Snapshot creations. End users can now benefit from improved efficiency in bandwidth and storage without sacrificing image quality.

## Expanded Functionality Via New Plugin Structure

Introduces new plug-in structure that allows users to expand the functionality of the video surveillance system to specific vertical market. Including Point-of-Sales for retail, GeoLocation for Transportation, Analytics and LPR.

## Integrated Access Control (MonitorCast 4)

MonitorCast 4 is an enterprise access control application that comes integrated with VI MonitorPlus to provide a seamless unified security solution. Benefits include: Easy to use, browser based management with extremely scalable client connections, dashboard for realtime reporting, rules manager, Active directory import and more.



Simplified Workspace for Easier Configuration



Deeper Access Control Integration

## Why Choose Video Insight's Security Management Software?

### The enterprise VMS features you love

The Video Insight VMS has a wide range of robust features you'd expect to find in an enterprise-level software. Health Monitor, automated Failover, unlimited clients and users, and Active Directory/LDAP integration are included.

### Scale your system without limitations

Our pure 64-bit VMS supports an industry leading number of cameras per server, unlimited scalability, client workstations, users with simple integration to legacy systems, centralized administration of the system and more.

### Lower Total Cost of Ownership (TCO)

Affordability, flexibility and a simple licensing model are what sets Video Insight apart from the rest - we provide the most cost-effective enterprise class VMS solution on the market.

### World-class U.S. based support

At Video Insight, we pride ourselves on being able to assist you in your time of need in a timely manner. We guarantee a callback within one hour or less.

### Wide range of supported cameras

Video Insight 7 is an open platform that supports over 4,000 camera models from more than 150 manufacturers.

### VMS License Included with i-PRO / ADVIDIA Cameras

Each i-PRO and ADVIDIA camera is bundled with the Video Insight VMS, requiring no camera licensing or support fees.

### Competitive Upgrade Program (CUP)

The Competitive Upgrade Program (CUP) allows you to transition away from your current enterprise VMS solution to VI at a fraction of the cost. I (CUP) allows you to retain your hardware investments while lowering your TCO through the elimination of Annual software costs, and support fees.

### Make the most of existing legacy systems

Video Insight easily integrates with your existing systems, including access control and building management. Our robust SDK and API make it easy to maintain a single interface and manage all systems from a centralized console.

For more information please visit [security.us.panasonic.com](http://security.us.panasonic.com)



# MonitorCast 4

## Integrated with VI Monitor 7

MonitorCast 4 is an enterprise access control application that comes integrated with the VI MonitorPlus to provide a seamless unified security solution. It is designed to help security officials increase readiness and respond to incidents faster. The application does not require additional software installation or client license fees.

### Key Benefits

#### Real Time Reporting Dashboard

MonitorCast's new real time, interactive dashboard displays live events, alarms, and recent system activities such as with card modifications and updates. The Dashboard provides all users the ability to acknowledge alarms with a click of a button and the functionality to jot down reportable user notes on each incident.

#### Secure Browser Login

With MonitorCast 4, users can access the activity dashboard and door controls from their own computer directly from any browser on the same network. Remote access from browsers is accessible with proper port forwarding.

#### Anti-Passback

Prevent unauthorized access to the most secure areas of the facility. Anti-Passback is available with multiple modes, including Hard, Soft, Area and Timer based options.

#### Multi-Site Support

Perfect for large multi-location facilities and K-12 school districts with several locations. MonitorCast 4 provides the ability to partition controllers into multiple primary and secondary sites. Each site contains independent controllable hardware, cardholders, and schedules all managed in one central console.

#### Active Directory Integration

Unify your IT infrastructure by centralizing your configuration and personnel management data base with MonitorCast 4's Active Directory integration capabilities. By using Active Directory, system administrators can import individual personnel or groups and provide them access levels. Also with MonitorCast 4's new Active Directory Sync, with one easy click, you can now make sure that only you're most up to date personnel logs have access to your site.

#### Scheduling

Customize the time schedules that are important to your organization. MonitorCast's access levels, door schedules and holiday schedules can be assigned day-to-day scheduling as well as advanced scheduling for special events or functions.

#### Door Access Levels and Management

MonitorCast4 provides intuitive door management and access levels. System Admins can configure these levels, to be on a schedule, consist of a single or multiple location, and be linked to video events, thereby forming a consolidated system.

#### Map Based Alarms with VI Monitor Integration

Plot out your alarms visually using Map Based Alarms, providing real time door alarms using the VI Monitor client access control map interface.



## Additional Benefits

### Rules Manager

MonitorCast now includes its own powerful self contained Rules Manager directly built into its Web-UI. Rules can be created to react to any circumstances such as : Access Denied/Granted, Monitor Point Triggered, Door Forced Open, Door Held Open, Controller Firmware Upgraded, Personnel added to a group, 3 Swipe override events, and more.

### Database Trimmer

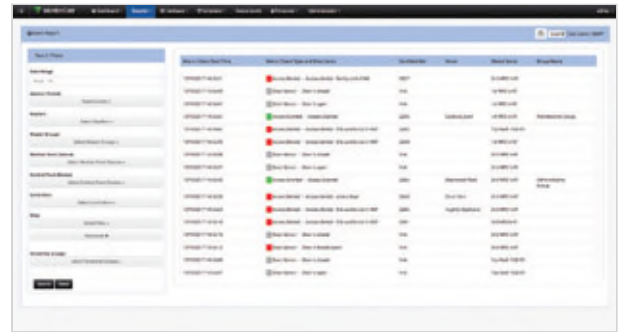
MonitorCast 4 now provides you with the ability to limit the size of records which are kept in order to function in accordance to the way you like to use the system, and provide greater stability to the platform. This Enhances the Database Backup utility with more options thereby making it more efficient.

### Card Format Finder

With a simple scan of any card MonitorCast 4 can now let you know the exact card format, the facility code it belongs to, or if the card is not part of your system, allowing for easy formatting, assignment, and retrieval of lost or loose cards.

### Elevator Control

MonitorCast 4 supports Elevator Control configuration, which contain the following features: Floor Tracking, Floor Schedule, Elevator Access Level Configuration, Door Scheduling including Elevator Readers, Floor Number saved to Event Log, and Support up to 128 floors.



## Mercury Hardware

MonitorCast 4 is designed to support genuine Mercury hardware, making it easy to utilize most boards from existing installations without any modifications.

## Mercury Specs

CONTROLLER	TYPE	PRIMARY POWER	READERS	INPUTS	OUTPUTS	ADDITIONAL FEATURES
EP4502	Intelligent Controller	12-24VDC +/- 10%, 150mA Max	2	8 Standard Inputs	4 Relays: Form C, 5A 30Vdc	Scalable up to 64 doors
EP2500	Intelligent Controller	12-24VDC +/- 10%, 150mA Max	0	0 Inputs	0 Relays	Scalable up to 64 doors
EP1501	Intelligent Controller	PoE @ 12.95W or 12Vdc	2	2 Standard Inputs	2 Relays: Form C, 2A @ 30Vdc	Scalable up to 17 doors
EP1502	Intelligent Controller	12-24VDC +/- 10%, 150mA Max	2	8 Standard Inputs	4 Relays: Form C, 5A 30Vdc	Scalable up to 64 doors
MR50	Sub-Controller	12-24VDC +/- 10%, 150mA Max	1	2 Standard Inputs	1 Relay: 5A 30Vdc	Requires 485 Communication
MR51e	Sub-Controller	PoE @ 12.95W or 12Vdc	2	4 Standard Inputs	2 Relays: Form C, 2A @ 30Vdc	Network Communication
MR52	Sub-Controller	12-24VDC +/- 10%, 150mA Max	2	8 Standard Inputs	6 Relays: Form C, 5A 30Vdc	Requires 485 Communication
MR16in	Sub-Controller	12-24VDC +/- 10%, 150mA Max	0	16 Standard Inputs	2 Relays: Form C, 5A 28Vdc	Requires 485 Communication
MR16out	Sub-Controller	12-24VDC +/- 10%, 150mA Max	0	0 Inputs	16 Relays: Form C, 5A 28Vdc	Requires 485 Communication

Licensing: The application is licensed on a "per door" basis and a numeric license is required and specifies the number of doors allowed to run on each MonitorCast 4 installation. In addition, licenses are specific to the server and hardware used on a single box. If needed, additional doors can be added a la carte. Lastly, all licenses have no recurring fees with a current Video Insight SUP agreement or Advidia products.

## EXTREME Visibility

Enables automatic capture of evidence at the highest quality under dynamic and challenging surveillance environments.

### Intelligent Auto Mode (iA)



Advanced image stabilization is used to prevent capturing blurry images, and intelligent sensitivity automatically is used to adjust the camera's gain and shutter speed according to brightness levels and movement of the object.

Auto Scene Detection



Parameter Settings

Applications: City safety, traffic, transportation

	Conventional	iA Mode	
Velocity Detection			iA provides sharp images of moving vehicles with blur control
Day & Night Detection			Automatic reflection control provides more detail during difficult nighttime scenarios

### Color Night Vision



Color Night Vision technology transforms a standard 1/3 inch sensor camera into an effective, low-light capable camera, enabling it to produce an extremely high-quality image even in the most challenging lighting conditions.

Applications: City safety, ports, perimeter security

Ordinary Camera 0.6 lx	EXTREME Camera 0.6 lx

### 144dB EXTREME Super Dynamic



Combined with the new 144dB enhanced SD capabilities, this high-performance face detection technology can clearly and automatically identify an individual's face. It offers optimal facial recognition and can capture evidence even in dynamic scenes or heavily backlit conditions.

Applications: Entrances of shopping malls and buildings

Super Dynamic: OFF	Super Dynamic: 144dB

### Intelligent Zoom Stabilization



High-power, 40x optical zoom lens allows for higher resolution images of objects at a distance. The advanced image stabilization function can stabilize high-power zoom images by absorbing vibrations.

Intelligent Zoom Stabilization: OFF	Intelligent Zoom Stabilization: ON

\*Supported functions and specifications differ according to the models. See the specifications for each model. Photos are images used to describe the functions.

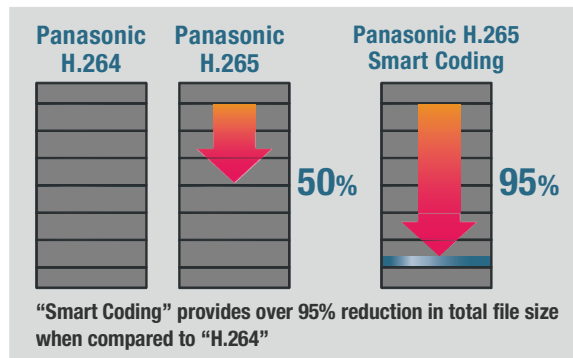
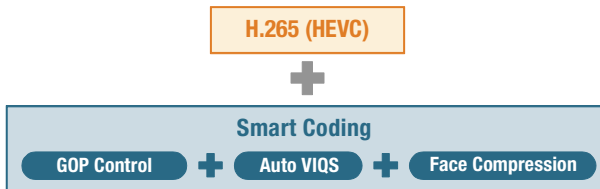
## EXTREME Compression

Compression of high-resolution image data is used to reduce network bandwidth, data storage, and server load costs, while maintaining high quality.

### H.265 Compression + Smart Coding Technology

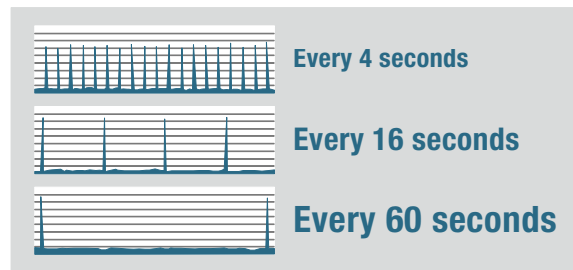
Combining H.265 Compression with Panasonic Smart Coding Technology reduces bandwidth by maximum 95%\* of conventional H.264 Compression. This security system maintains the quality of moving images while reducing bandwidth and storage costs.

\* Value in Advanced mode. It depends on the scene.



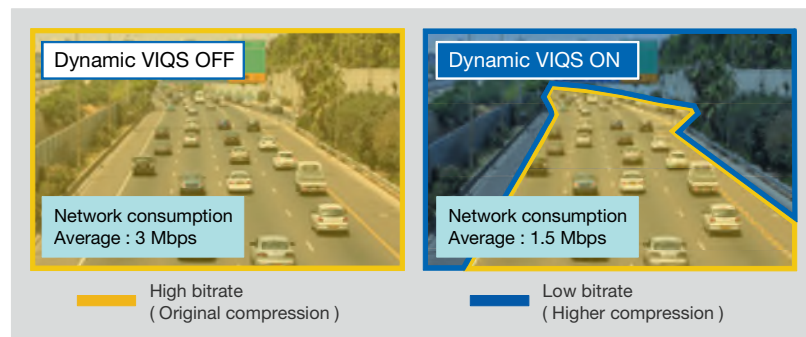
#### GOP Control

The GOP (group of pictures) control can reduce the total transmitted data of images with little motion by controlling the transmission interval of I-Frame, which is heavy in data. If the motion is significantly low, the transmission interval can be set to 60 seconds to drastically reduce the total data transmitted.



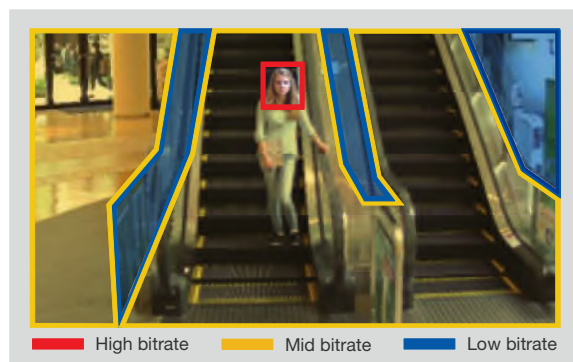
#### Auto VIQS

Auto VIQS detects movement within the image and compresses areas with little motion to reduce transmitted data while maintaining the quality of the image.



#### Face Compression

The camera automatically distinguishes the sections of the images that are important such as moving objects and people's faces. The quality of unimportant areas is reduced without compromising the quality of important sections, therefore optimizing the data size of the footage. On top of integrating Smart Coding into the conventional GOP Controls, the improved compression efficiency through Auto VIQS and Long-Term Compression combined with Smart Facial Coding, which detects faces and maintains the quality of only faces, can compress the file drastically to reduce the data size.



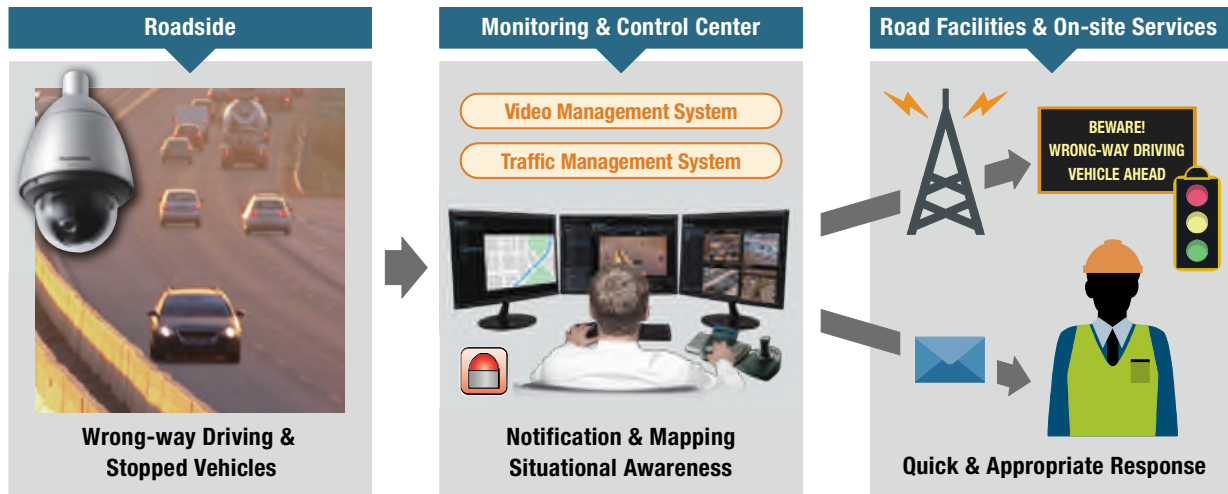
\*Supported functions and specifications differ according to the models. See the specifications for each model. Photos are images used to describe the functions.

## EXTREME Analytics

### Vehicle Incident Detection

The Vehicle Incident Detection function detects incidents such as wrong-way driving and stopped vehicles, and then alerts the Traffic Management System.

While it is difficult for a single human operator to physically detect vehicle accidents on multiple camera monitors, such monitoring is made possible with the Vehicle Incident Detection system.



### Heat Map

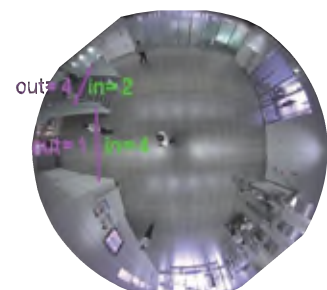
This provides visualization of the traffic patterns by people and how long they stay in one place. For example, you can place products based on how people tend to flow within the store and arrange objects so that they do not interfere with the movement of people.

Requires WV-ASM300/ASM200 client.



### People Counting

This counts the number of people passing through a selected preset location. The People Counting function can provide statistics on the number of people entering and leaving a specific zone and other useful data.





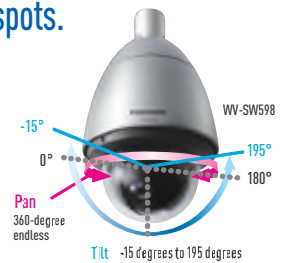
## MONITORING WITHOUT BLIND SPOTS

PTZ (Pan-Tilt-Zoom) cameras and omnidirectional cameras enable wide-area monitoring. Multiple cameras can be combined for more efficient monitoring and to eliminate blind spots.

### PTZ CAMERA FOR WIDE RANGE MONITORING AND A HIGH ZOOM RATIO

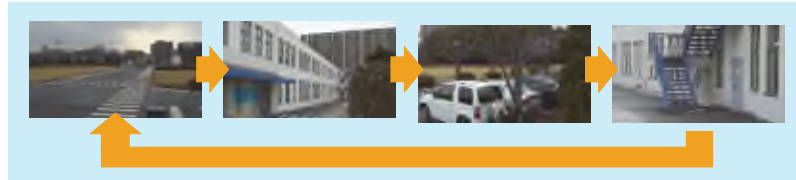
Normal fixed lens cameras can only monitor in a certain direction, but the lens of a PTZ camera can be operated remotely to switch to the direction you want to view.

Detailed areas can also be zoomed in to a maximum of 90x. Since the cameras can be infinitely rotated 360 degrees at a high speed of 300 degrees/sec, you will not miss the subjects you want to monitor.



### Preset Position / Preset Sequences

If the locations you want to monitor are fixed, you can register them in advance and move to them with a single touch or automatically patrol the registered locations. Data can be saved to a recorder when automatically patrolling the registered locations, without intervention by an operator. Ranges that cannot be covered with a single fixed lens camera can be covered by patrolling.



### Advanced Auto Tracking

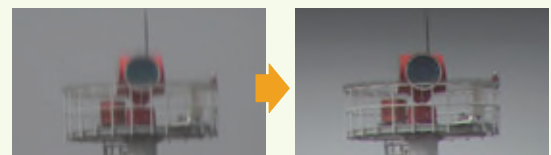
The pan, tilt, and zoom functions can be combined for automatically tracking the movement of a subject. If the tracked subject moves out of the camera's shootable range, notification is sent to other cameras so that the tracking process can be carried on without interruption.



### AUTO EYELID MECHANISM (AEM)

When the direction of the camera lens is tilted upward from the horizontal plane, the video image can appear doubled due to the distorting effect of the dome cover and other causes.

The Panasonic WW-SW598A uses an AEM function to reduce this double-image effect and enables shooting of images up to 15° upward from the horizontal plane. This allows the use of auto tracking and other functions over a wider movement range of the subject.



Auto Eyelid mechanism / OFF

Auto Eyelid mechanism / ON

### 360-DEGREE MONITORING

The 360-degree Network Camera can capture images around the camera lens in all directions.

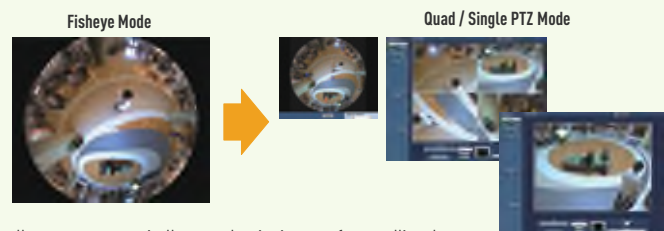
Available modes include Fisheye, Double Panorama, Panorama, Quad PTZ, and 4 Stream, and the camera can output video images based on the selected video mode for reduced loads on the viewing system.



### DE-WARPING

The 360-degree Network Camera can generate and output video images for each mode within the camera unit. Also, the Network Disk Recorder (WJ-NV300) or i-PRO Management Software (WW-ASM200) can be used on 360° omnidirectional images captured by Fisheye Mode to convert to a format that is easier to view, such as Quad PTZ. Because the 360° omnidirectional video image is stored in the recorder, nothing is missed within the viewing area.

In addition, the area that you want to view can be selected using a controller or mouse to allow you to automatically move the viewing spot for patrolling the area. Even during patrolling, areas not visible on the screen are all stored in the recorder in Fisheye Mode so that nothing is left unseen. The Pan-Tilt of the 360-degree Network Camera does not use mechanical components, and so provides a smooth movement without the mechanized wear that could adversely affect camera longevity.





## INTELLIGENT VIDEO MOTION DETECTION

The camera itself features intelligent functionality for notifying the administrator about changes to situations or dangers using a variety of methods. This eliminates the need to constantly watch the screen in the control room for reducing the TCO.

### INTRUDER DETECTION

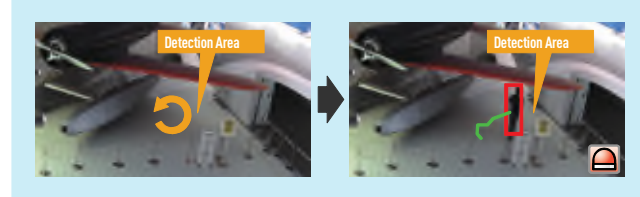
Crossing over the fence



**Detects**  
- the motion of objects in the viewing or detection area. Frames and tracks are displayed around the detected moving object in the live image. Up to 8 objects can be detected simultaneously.

### LOITERING DETECTION

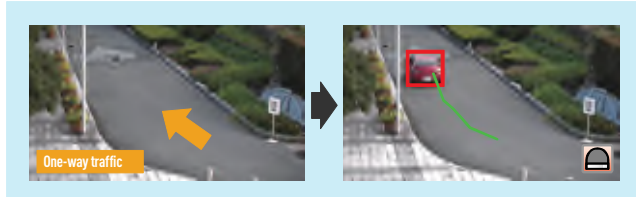
Objects staying longer than a specified time



**Detects**  
- objects loitering for longer than a specified time, from 10 sec to 5 min.

### DIRECTION DETECTION \*1

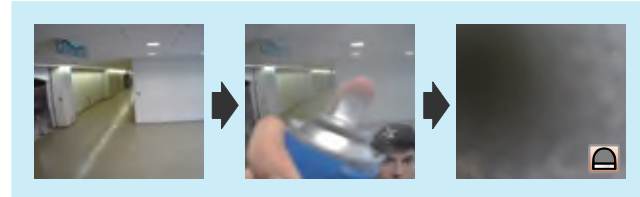
Objects moving in a specified direction



**Detects**  
- objects moving in a specified direction. Up to 8 directions can be specified.  
\*1 Type 1, Type 2, Type 3 network cameras (Refer to the specification pages P.12 - 27) except for WV-SFV481 and WV-SFN480

### SCENE CHANGE DETECTION

Interference such as blockage of the lens with a cloth or spray paint



**Detects**  
- interference caused by tampering with the camera, such as a manual change in the camera direction or blockage of the lens with a cloth or spray paint.

### OBJECT DETECTION \*2

Removed Object Detection

Abandoned Object Detection



**Detects**  
- alerts the operator when a left or removed object is detected.  
\*2 Type 2, Type 3 network cameras (Refer to the specification pages P.12 - 27) only

### CROSS LINE DETECTION \*2

A person who crosses the virtual line to the specified direction



**Detects**  
- alerts the operator when people or objects cross the imaginary lines.  
\*2 Type 2, Type 3 network cameras (Refer to the specification pages P.12 - 27) only

### ACTIONS WHEN AN ALARM IS DETECTED

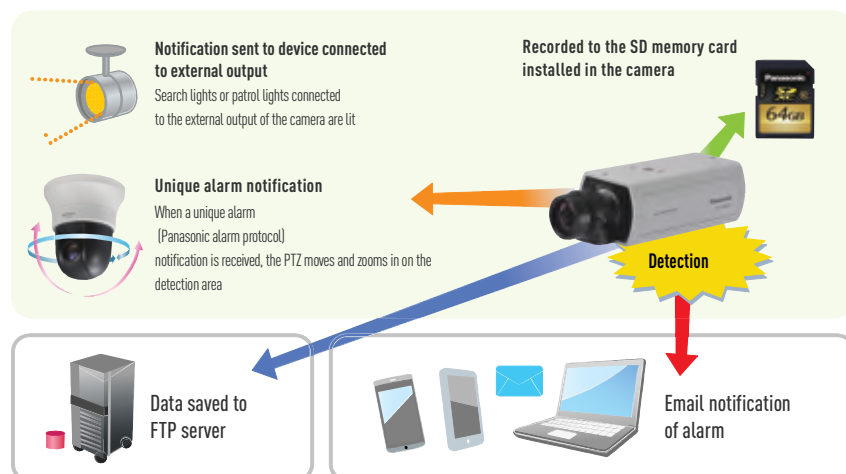
#### Monitoring

Notification sent to the monitoring screen

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Alarm notification sent to the recorder and WV-ASM200 management software

Alarm display in WV-ASM200



\*Supported functions and specifications differ according to the models. See the specifications for each model. To enable i-VMD, please add the optional WV-SAE200 software.

# ULTRA-HIGH 4K PICTURE QUALITY FOR DETAILED, WIDE-AREA MONITORING WITH A SINGLE CAMERA

Now Featuring H.264 Smart Coding GOP Technology.  
Up to 80% lower bandwidth with the same image quality.



**4K**  
ULTRA HD

**TRUE 4K**

**WV-SPV781L**

4K Vandal Resistant  
Weatherproof Network Camera

**WV-SFV781L**

4K Vandal Resistant  
Weatherproof Dome Network Camera

## ULTRA HIGH-DEFINITION, 4K PICTURE QUALITY

Ultra HD 4K cameras offer 27 times the resolution of conventional analog cameras (VGA), nine times that of standard HD (1,280 x 720) and four times that of Full HD (1,920 x 1,080). This means that the finer details of images remain clear even when you need to magnify only a part of the image.

The high performance lens used by Panasonic's 4K cameras provides uniformly high-resolution images from the center out to the edges.



## CROPPING FUNCTION

A given area within a single image can be selected, cropped and displayed. For example, areas with high monitoring priority, such as a parking garage entrance or a hallway, can be selected and displayed for easy viewing. You can still keep an eye on the overall image while also focusing on specific areas. With PTZ cameras, when the lens is pointed in a single direction, other areas go out of view during that time, but with a 4K camera you can monitor the entire area while also watching specific areas requiring more focused monitoring.



4K (3,840 x 2,160)



Cropped image 1



Cropped image 2



Cropped image 3



Cropped image 4

HD (1,280 x 720) x 4

## WIDE-AREA MONITORING

A single 4K camera can effectively monitor a wider area, which allows you to reduce the total number of cameras while also eliminating blind spots. Monitoring can be performed not only at vertical and horizontal angles, but for deeper depths as well.

And, even when monitoring within the same area, 4K's increased range means that the number of units required is reduced substantially compared to that of conventional cameras. This translates into reduced costs for the cameras themselves, less installation time and labor, and lower maintenance costs.

4K-ready monitors can also reduce the number of monitors needed in the control room.



Monitoring range of HD, 4K cameras

## LOW LIGHT READY

The camera's ultra-high 4K resolution allows it to capture color images in dim, low-light conditions. In even darker conditions, the camera can use its monochrome inversion function to switch to black-and-white images, and in zero-light conditions it can accurately display what is happening in front of it using infrared LED vision.



Light near subject : 1 lx

## HIGH-POWER 6X ZOOM LENS WITH AN ULTRA-WIDE ANGLE OF 100°

An optical 6x zoom lens comes standard. The viewing angle range and zoom power can be set in line with conditions where the camera is installed.

Using a proprietary 3-drive lens system, Panasonic has developed a high-power 6x zoom lens with an ultra-wide viewing angle of 100°, a type of lens that is extremely difficult to produce using conventional optical design methods.

The lens is capable of capturing an extremely wide area, allowing effective 4K coverage of outdoor areas.



- Ultra-wide-angle 100°: Wide-angle monitoring of parking lots, stadiums etc. utilizing 4K resolution
- Telephoto 17°: Monitoring of individuals or crowds from a distance

## PANASONIC'S TRUE 4K TECHNOLOGY

### Panasonic's Proprietary 3-Drive Lens System

The i-PRO TRUE 4K NW Camera is equipped with Panasonic's proprietary 3-drive lens system, which simultaneously drives two zoom lenses and one focus lens. Having three lenses all driven independently allows them to be smaller and their drive areas reduced, and has thus enabled us to make the camera compact enough to fit in a standard camera body while providing a high-power 6x zoom with high 4K picture quality viewed from an ultra-wide-angle of 100°.

### Refined Resolution and Superior Contrast for a Higher Level of Video Imaging

In order to create a sharp, clear texture, 12 lenses in four groups are used to provide the ultra-high resolution expected of 4K in every part of the image, from center to edge. Both a higher level of representational precision and a more compact lens system are achieved. Plus, all lenses are glass, while aspheric lenses are also used extensively to reduce aberrations to the ultimate degree. The clear depiction, sharp resolution and beautiful color reproduction necessary for true 4K monitoring have all been successfully achieved.



## EASY INSTALLATION

Various design features have been added to shorten installation times. The camera has also been designed to be capable of pointing in the preferred direction at the preferred location.

### Dome Type WV-SFV781L

When attached to the mounting plate, the camera's direction can be easily changed at intervals of 90°. Rotating the viewing area around the lens further allows the lens to be pointed in the desired direction. The combination of a 6x optical zoom and autofocus also shortens the amount of time required for fine tuning the installation.



### Box Type WV-SPV781L

A total of three adjustment points on the camera base and arms enables its position to be fine tuned to allow accurate pointing.



# DELIVERING SHARPER IMAGES WITH HIGHER SENSITIVITY

Presenting a 9 Megapixel 360-degree Network Camera with Built-In Analytics.

**ULTRA** **360**  
4K ENGINE



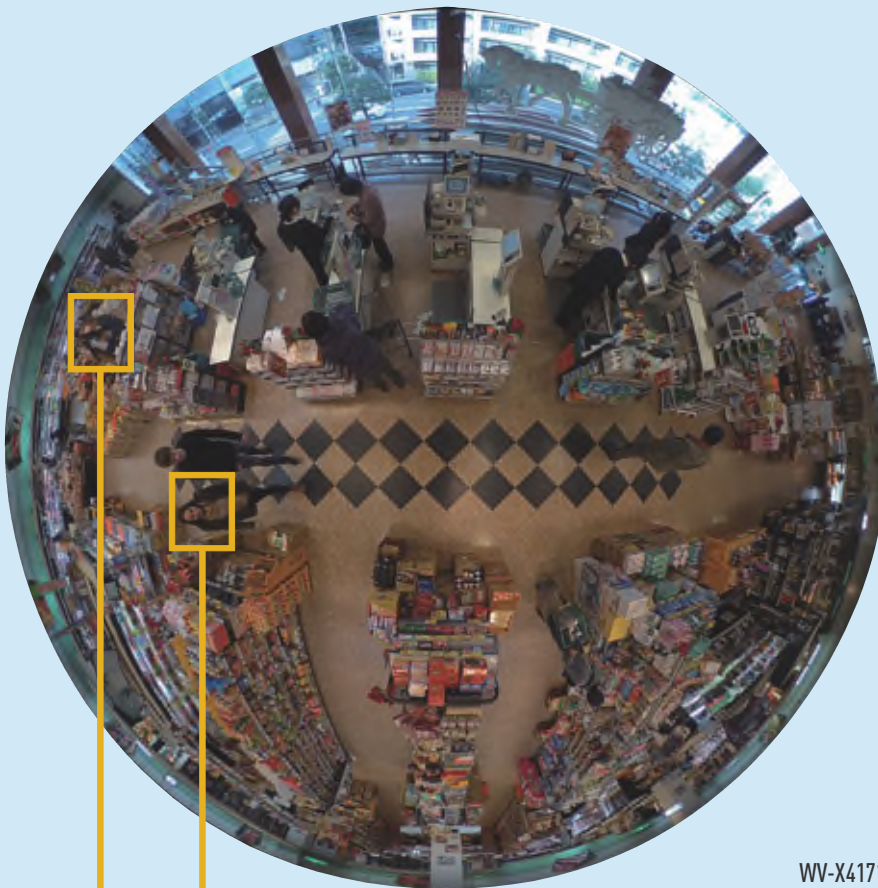
WV-X4571L

360-degree Outdoor Dome  
9 Megapixel Network Camera



WV-X4171, WV-X4170

360-degree Indoor Dome  
9 Megapixel Network Camera



9M (3K × 3K) HIGH-RESOLUTION H.265 PERFORMANCE ENABLES SHARP RENDERING OF OBJECTS AND PEOPLE'S FACES AT THE EDGE SECTIONS OF THE FISHEYE

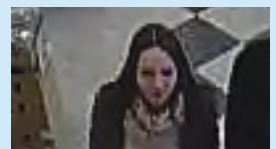
*NOW WITH SMART CODING*

UP TO **95%**  
BANDWIDTH REDUCTION

WV-X4171



WV-SF438



26 ft

13 ft



## COMPLETE WITH POWERFUL ANALYTICS BUILT-IN\*

### HEAT MAP

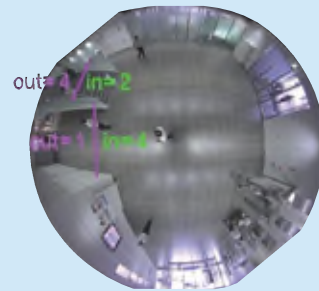
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Requires WV-ASM300/ASM200 client.



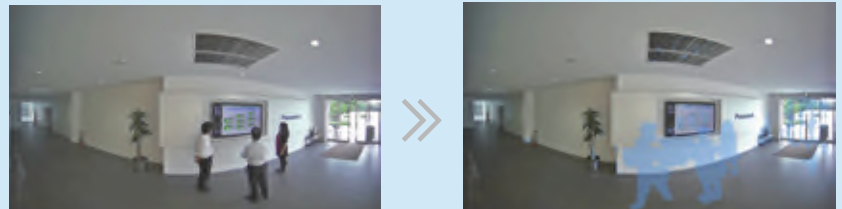
### PEOPLE COUNTING

This counts the number of people passing through a selected preset location. The People Counting function can provide statistics on the number of people entering and leaving a specific zone and other useful data.



### MOVING OBJECT REMOVAL (MOR)

Enables monitoring of changes only to the surrounding environment by removing people and other moving objects from the video. This function can be used with camera images for confirming how products placed in a salesroom are selling while also respecting the privacy of customers in store surveillance.



\*To enable analytics, please add the optional WV-SAE200 software.

*The ULTRA 360-degree lineup features the “Three Ultras” for establishing a new standard for video monitoring.*

## ULTRA HIGH RESOLUTION

Includes a 12-megapixel high-sensitivity sensor capable of 4K image output for producing high-resolution images up to 9M (3K × 3K) in Fisheye mode. Detailed monitoring in all directions using the wide range of distribution modes and Multi-stream. (Fisheye mode, Panorama mode, Double Panorama mode, Quad PTZ mode, Single PTZ mode, 4 Stream mode).

## ULTRA HIGH SENSITIVITY

Provides natural-looking, crystal-clear images even in dim locations. Includes a new powerful image sensor and new lens. Automatic switching between day/night shooting modes and the linked Auto Back Focus enables monitoring even in dim environments.

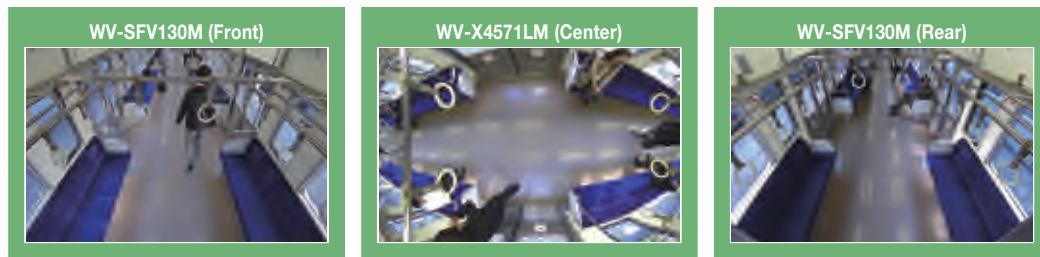
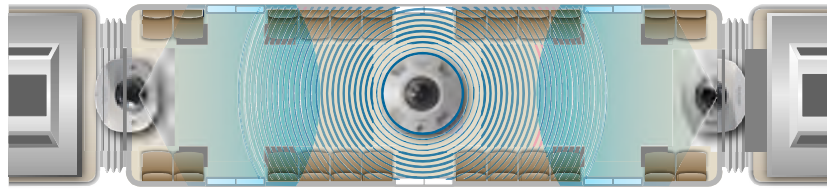
## ULTRA INTELLIGENT

Heat-map / People Counting (Cross line) / MOR (Moving Object Remover). Focuses on the movement of people for providing a video-based intelligent solution for use in marketing.

# TRANSIT SURVEILLANCE SOLUTIONS

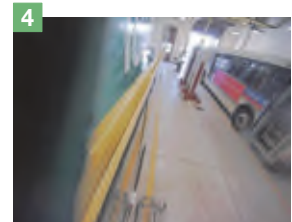
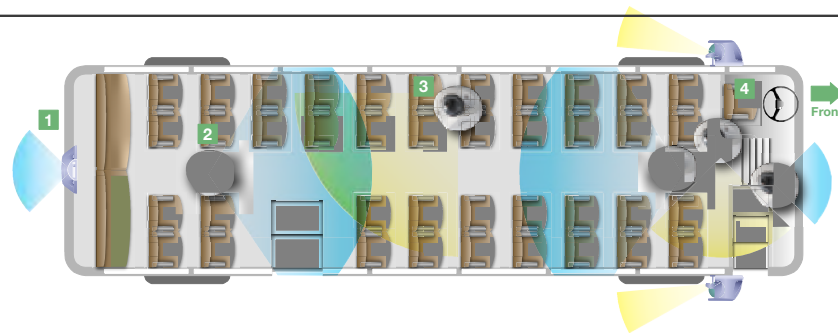
Our NEW i-PRO Transit solution equips transit agencies with the tools to provide a safer environment for bus passengers and drivers while protecting the vehicles from theft and vandalism and reducing expensive manpower requirements to manually upload video data. The system provides complete video surveillance of the inside and outside of the bus—improving response times to incidents as well as increasing the chances of arrest and conviction should a crime occur, helping reduce time spent in litigation.

## IN TRAINS



180-degree Panorama mode

## IN BUSES



### Wide Coverage without Blind Spots

The application of rain-wash coating to the dome cover provides clearer visibility, allowing good security to be maintained even when the camera is installed in an environment subject to rain or water splashing. In addition, the coating resists attachment of dirt to the dome cover, and also allows dirt to be washed off easily during rainfall or other exposure to water.

### Compatible with EN50155 "Railway applications" and EN45545 "Fire safety on rolling stock"

EN50155 "Railway applications": Electronic equipment used on rolling stock

EN45545 "Fire safety on rolling stock": Preventive fire protection in railway vehicles - Fire behavior and fire side effects of materials and parts.

## TRANSIT SOLUTION RELATED PRODUCTS

### 360-degree Dome Network Cameras

#### WV-X4571LM

- 360° monitoring with a wide variety of transmission modes: Panorama, Double Panorama, Quad PTZ, Single PTZ, and Quad streams (H.264)
- 9 mega (2,992x2,992) pixel images up to 15 fps by new 4K ULTRA HD engine
- Compatible with EN50155 "Railway applications" and EN45545 "Fire safety on rolling stock"
- Low profile design for discrete installation
- Vandal resistant mechanism for high reliability
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4X (UL50), NEMA 4X compliant

#### WV-S4550LM

- 360° monitoring with a wide variety of transmission modes: Panorama, Double Panorama, Quad PTZ, Single PTZ, and Quad streams (H.264/H.265/VGA)
- 1080p Full HD images up to 30 fps
- Compatible with EN50155 "Railway applications" and EN45545 "Fire safety on rolling stock"
- Low profile design for discrete installation
- Vandal resistant mechanism for high reliability
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4X (UL50), NEMA 4X compliant

**4K**  
ULTRA HD ENGINE



### Compact Size Dome Network Camera

#### WV-SFV130M/110M

- 1080p Full HD images (WV-SFV130M), 720p HD images (WV-SFV110M) up to 30 fps
- High sensitivity with Day/Night (Electrical) function: 0.04 lx (Color), 0.03 lx (B/W) at F2.3 (WV-SFV110M)
- Compatible with EN50155 "Railway applications" and EN45545 "Fire safety on rolling stock"
- Low profile design for discrete installation
- Vandal resistant mechanism for high reliability
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4X (UL50), NEMA 4X compliant



### Rugged Mobile Network Camera

#### WV-SBV131M / WV-SBV111M

- 1080p Full HD images (WV-SBV131M), 720p HD images (WV-SBV111M) up to 30 fps
- High sensitivity with Day/Night (Electrical) function: 0.04 lx (Color), 0.03 lx (B/W) at F2.2 (WV-SBV111M)
- The camera conforms to the IP66, Type 4X (UL50) and IP6K9K, is compliant with NEMA 4X ratings, and provides high dust resistance and waterproof performance.
- Achieves high-level vibration resistance with EN50155 and MIL-STD-810G compliance
- Adoption of a scratch resistant dome cover with a compact and sleek design is optimal for cameras installed on the outside of a vehicle.
- Vandal resistant mechanism for high reliability



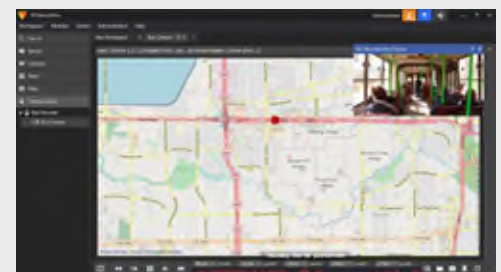
### Transit Recorders

#### TRANSIT NETWORK VIDEO RECORDER

- Powered by the Intel® Atom™ E3827 (Dual Core, 1.75 GHz)
- Runs Windows® Embedded OS
- Support 2 x Giga LAN, with locked type RJ45 connector, WLAN + Bluetooth and WWAN
- Video Insight VMS is bundled into the recorder, and can have an option for the transit plugin

#### RECOMMENDED MOBILE RECORDER FOR BUS

Bring unrivaled computing power and exceptional video graphics handling onto the bus with this rugged, mobile-ready recorder. Up to 16 HD camera can be connected with an optional expansion switch. The transit plugin that is the option for the transit recorder supports to transfer a recorded video to a central server and allow to playback with Map.



# WV-ASF950—Deep Learning FacePro™



## Windows® server-based facial recognition and analytics platform featuring high-speed face searching and matching.

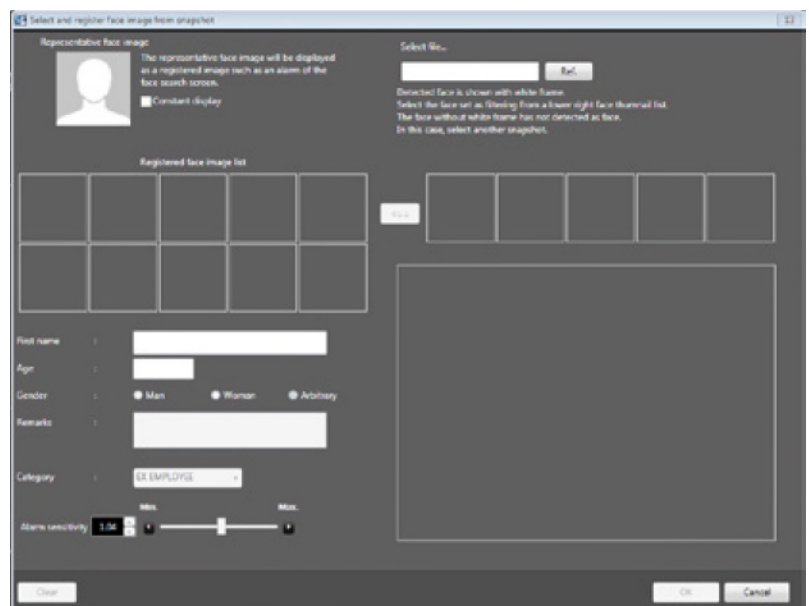
The WV-ASF950 FacePro™ Facial Recognition is a software solution and software engine that automatically performs verification of a person's face using live video streams or digital images from Panasonic i-PRO cameras to match against a database of enrolled faces and perform notification and alerting of face matches. Boasting a real-time processing capacity of up to 20 cameras per server, FacePro can execute high-speed searches of up to 30,000 registered reference faces on both live and recorded video, and each server can store up to 10 million detected face images depending on configuration.

For flexibility, reference face images can be registered from source video or imported via BMP, JPG and PNG files and can be searched for a match in a matter of seconds. FacePro also provides advanced age and gender analytics reporting and the ability to set flexible alarm triggers on matched faces using live cameras. The platform can support multiple simultaneous client sessions with Panasonic's WV-ASM300W and WV-ASM970W software applications.

In addition to live-camera face matching, FacePro features the ability to perform searches and display face matches from a database of historical captured faces. Face match results are displayed for each camera in the system and in chronological order, enabling you to quickly track a person of interest moving through your facility. More refined face searching can be performed by specific camera or date.

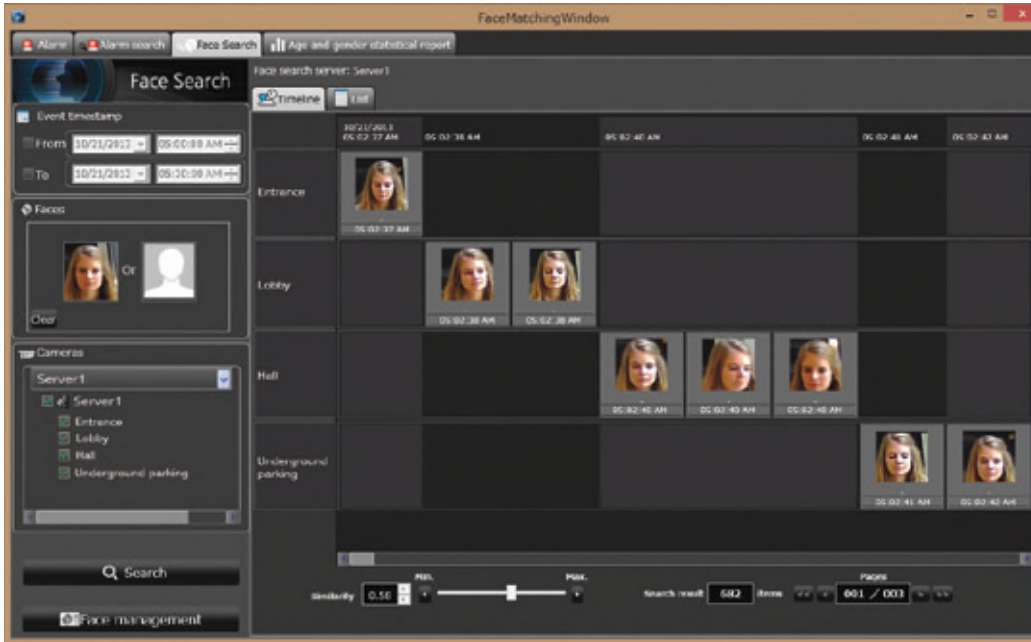
## How Do I Benefit from FacePro Facial Recognition?

It reduces costs by eliminating personnel to monitor entrances. It provides instant notification, and lowers your risk by reducing and preventing violent confrontations during capture, as well as by instantly alerting you of unwanted persons entering your facility. It's simple and easy to use and does not require physical contact, and it's the only feasible solution to use with large crowds in your facility. In addition, it improves your service and sales potential by recognizing customers.

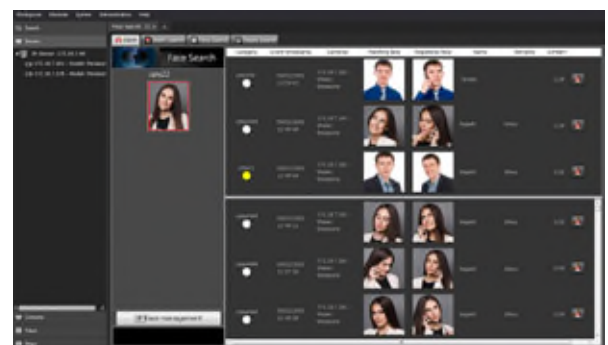




Its analysis capabilities permit you to count the number of detected faces and evaluate their age and gender, displaying the results on the screen as a statistical graph. This graphical view of a visitor's age and gender can be provided with a 15-minute, 30-minute, hourly, daily, weekly and monthly view for retail and marketing applications. This statistical data can be saved as a CSV file for analytical use.



- Fast multicamera face matching on both live and previously captured video
- Real-time processing capacity of up to 20 cameras\* per server with a 10 million-face database capacity
- Enrollment of 30,000 “Known Faces” into “Watch Lists” for Instant Match Alerts
- High-speed search of video recordings based on reference faces (5 million captured faces searched in about 3 seconds)
- Utilizes Face Best-Shot option (SAE-ASF), available for Panasonic i-PRO cameras (WV-S1131, WV-S1111 and WV-S6130 models and WV-S2531LTN, WV-SPN631, WV-SPN611, WV-SPN531, WV-SPN311 models and WV-SFV631LT model)
- Flexible alarm triggers on matched faces using live cameras
- Requires ASM300/ASM970 client software
- Compatible with Video Insight 7.2 or later as plugin
- Compatible with Genetec Security Center 5.4, 5.5, 5.6
- Ideal for Panasonic customers who have either WJ-NX400 or WJ-NX200/300 NVR



\*12 Cameras or more require dual-cpu FacePro server model.

## VIDEOINSIGHT<sup>™</sup> MonitorPlus Server based recording and video management platform



Scalable enterprise VMS solution that captures, manages and stores video surveillance across a network - on a single or multiple locations - and supports the broadest range of IP and analog camera models. Video Insight is the perfect solution for multi-facility configurations including schools, universities, hospitals, healthcare providers, law enforcement and SMBs.

### **NO CAMERA LICENSE REQUIRED FOR SELECT PANASONIC CAMERAS**

Unlimited Video Insight software license is available with the purchase of select Panasonic cameras manufactured after October 2014.

### **SURVEILLANCE FROM ANYWHERE**

VI MonitorPlus (Windows OS), VI Monitor for Mac, Web Client and Mobile App share powerful features that allow you to access live and recorded video no matter where you are.

### **SUPPORT FOR 4,000+ CAMERAS FROM 150+ MANUFACTURERS**

### **WIDE ACCESS CONTROL INTEGRATION**

Video Insight supports single and bi-directional integration of access control alarms from the leading vendors.

### **SUPPORT FOR OVER 130 ENCODERS**

Integration to over 130 encoders so that our customers can affordably convert analog-to-IP and maximize the use of existing resources by turning their analog video system into a network video system.

# MANAGEMENT SOFTWARE

i-PRO Management Software

## WV-ASM300 EXTENSION SOFTWARE

WV-ASE202 /  
ASE203 / ASE204 /  
ASE205 / ASE306



### Optional Accessory

Ethernet System Controller  
with 3D-Joystick & Jog/Shuttle  
WV-CU950



### Easy setting : New WV-ASM300 software enable a whole setting from camera configuration to recorder configuration.

- Up to 100 recorders, 64 encoders and 256 directly connected cameras can be registered. Up to 6,400 cameras registered in the recorders and 256 cameras registered in the encoders are automatically registered in the WV-ASM300 (the number of the cameras depends on the recorder and encoder).
- Encryption of SSL and data encryption support latest "AES-256bit key" strong encryption
- MP4 data direct download from WJ-NX400
- When used with WJ-NX400 series, VMD, thumbnail search can be operated.
- 1-screen/4-screen PTZ compensation function (hereinafter compensation function) from the fish-eye images of the Panasonic Fisheye network cameras (WV-SFV481 / WV-SFN480 / WV-SF438 / WV-SF448 / WV-SW458)
- Supports 360-degree Network Microphone (WV-SMR10)
- Selecting the camera icon in map window, a still image of the camera is overlaid.
- Live window, Map window in addition to the Operation window (3 monitors)
- Control using the Ethernet System Controller WV-CU950
- \* To use the multi-monitor function, it is necessary to install an additional video card on the PC in use.

### WV-ASE202

- Expand the maximum numbers of screens to 64.
- Up to 4 live windows.
- Multi-monitor function using up to 6 PC monitors.
- To display the operation window, the map window and the 4 map windows simultaneously.

### WV-ASE203

- Expand the maximum numbers of registered recorders, encoders and cameras to 100, 64 and 256 respectively.
- Up to 4 licenses for the WV-ASE203 can be added.

### WV-ASE204

- Decoder registration : Up to 10 decoders

### WV-ASE205

- Visibility Enhancement Function

Spatial Tonal Correction

Snowfall and Rainfall Noise Reduction

Multi-frame Synthesis Noise Reduction



### Extension Software WV-ASE306

- WV-ASE306 extension allows WV-ASM300 to control and manage recording on VI Server

### Upgrade license WV-ASM300UG

- Upgrade license from WV-ASM200 to WV-ASM300

## WV-ASM970W VERSION 18

### IP MATRIX CLIENT SOFTWARE

- Multimonitor option enables simultaneous use of operation screen and monitor screen (1 / 4 / 7 / 9 / 10 / 13 / 16 split) on a dedicated monitor; two-monitor operation is also available
- Up to 30 ips/camera can be displayed in 16 split screens in MPEG-4 2 Mbps mode (depending on the camera, camera setup and PC performance)
- Up to 30 ips/camera can be displayed in 16 split screens in H.264 1.5 Mbps mode with VGA (depending on the camera, camera setup and PC performance)
- Image resolution dynamically changes depending on the screen mode: VGA for quad screen, QVGA for 16 split screens, enabling optimum network usage (depending on the camera mode)
- Decoder mode supported (WV-ASM970W can be used as PC-based decoder instead of WJ-GXD400)
- WV-ASE902W: Max. 16 screen x 4 monitor support

### SYSTEM COMPONENTS

IP Matrix Client Software  
WV-ASM970W

Ethernet System Controller with  
3D-Joystick and Jog/Shuttle  
WV-CU950



The picture above is for illustration purposes only.



## PMPU3000 VERSION 18

### IP MATRIX APPLIANCE

- Easy and smooth integration from analog to IP system
- Flexible system design: analog, IP and hybrid analog/IP
- Up to 64 recorders, 1,024 monitors and 2,048 cameras (in case with encoder) can be registered
- Camera/sequence/monitor selection, camera control and recorder control can be made with the optional system controller WV-CU950
- Supported recorders: WJ-ND400 series, WJ-ND300 series, WJ-ND200 series, WJ-NV200 series, WJ-HD300 series, WJ-RT416 series, WJ-HD616/716 series
- Redundant function supported (redundant function can consist of two WV-ASC970 servers as main server and standby server)
- Up to 64 ND400 recorders can be registered as standby recorder for backup purpose of serious problems on main recorders



## WV-CU950

### ETHERNET SYSTEM CONTROLLER WITH 3D-JOYSTICK AND JOG/SHUTTLE

- For smooth operation of Ethernet/PS data interfaced devices, WV-ASM200W/WV-ASC970 and System650EX/System650/System150 (WJ-SX150A version 2.0 or higher)
- Integrated system control: camera, recorder and switcher
- User-level management and user-assignable buttons
- Universal design for right- or left-handed users

## FACEPRO – WV-ASF950

### FACIAL RECOGNITION ANALYTICS PLATFORM



#### FACIAL RECOGNITION ANALYTICS PLATFORM RUNNING IN THE VIDEO SURVEILLANCE SYSTEM

- Add-on face matching function: Add the face matching function by simply adding the necessary devices and the software
- Up to 20 cameras can be connected to each server

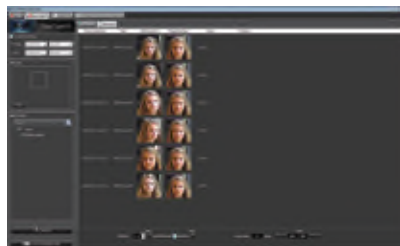
#### FACE SEARCH

- Face images that the camera detects are stored and can be searched later
- By searching the face database, you can display the results of each camera in chronological order and find movement and location of persons
- Specify camera or date in detected face images and display the result in the list in similar order



#### FACE MATCHING

- When faces are matched with registered people, alarm of face matching is output in real time, and an alarm history is displayed in the list
- Double clicking on facial alarm notification can play back video segment on the control monitor



#### PEOPLE COUNTING, AGE AND GENDER STATISTICS

- Count people with detected faces and evaluate their age and gender
- Display the result on the screen with statistical graph
- The statistical data can be saved as a CSV file for analytical use



#### FACEPRO® SYSTEM COMPONENTS

##### WV-ASFE951W

Add Registered Face Images

##### WV-ASFE901W

FacePro Single Channel Expansion

##### WV-ASFE904W

FacePro Four Channel Expansion License



# advidia®

Extraordinary Combination™



## IP Solutions for all application needs

### Advidia Product Line

The Advidia line of products has been deployed throughout many sites around the world that sought out a complete enterprise grade video surveillance solution, which offers a robust intuitive feature set, all while lowering the total cost of ownership. Advidia achieved this balance by providing a wide range of affordable camera models that come bundled with the Video Insight software suite, including any future software updates, world class U.S. based support, all backed by a 4-year advanced replacement warranty.

#### Why Advidia?



- Wide range of affordable camera models



- Includes the Video Insight VMS & all future Updates



- Multiple Profiles



- Lowers & Simplifies the Total Cost of Ownership (TCO)








- A 4-year Advance Warranty













- World-Class U.S.-Based Tech Support

# NETWORK PRODUCTS

CAMERA TYPE		DOME				
Appearance		 A-17-F	 A-27-F	 A-37-F	 A-37-FW	 A-44-V2
Sensor		1/3 CMOS	1/2.8 CMOS	1/3 CMOS	1/3 CMOS	1/2.8 CMOS
Codec and Transmission	Video Codec	H.264 / MJPEG / H.264+	H.265 / MJPEG / H.264	H.264 / MJPEG / H.264+	H.264 / MJPEG / H.264+	H.264 / MPEG4 / MJPEG
	H.265 / H.264 multi stream	2	3	2	2	3
	JPEG multi stream	1	1	1	1	1
	Built-in Analytics	Yes (Varies)	Yes (Varies)	Yes (Varies)	Yes (Varies)	Yes (Varies)
Max. Resolution		1280 x 960	1920 x 1080	2304 x 1296	2304 x 1296	1920 x 1080
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	30fps @ 60Hz (1280 x 960)	30fps @ 60Hz (1920 x 1080)	20fps @ 60Hz (2304 x 1296)	20fps @ 60Hz (2304 x 1296)	30fps @ 60Hz (1920 x 1080)
True WDR		True WDR @ 120 dB	True WDR @ 120 dB	True WDR @ 120 dB	True WDR @ 120 dB	Digital WDR
Day/Night ICR / IR		Yes ICR	Yes ICR	Yes ICR	Yes ICR	Yes ICR
Built-in IR LED		Yes (30 m)	Yes (30 m)	Yes (30 m)	Yes (30 m)	Yes (30 m)
ABF (Auto Back Focus) / Auto Focus		-	-	-	-	Auto Focus
Min. Illumination	Color	0.01 Lx	0.005 Lx	0.01 Lx	0.01 Lx	0.02 Lx @ F1.2
	B/W	0.00 Lx with IR	0.000 Lx with IR	0.00 Lx with IR	0.00 Lx with IR	0.00 with IR
Lens		f= 3.6 mm, F2.0	f= 2.8 mm, F1.6	f= 3.6 mm, F2.0	f= 2.8 mm, F2.0	f= 2.8 to 9 mm
Horizontal field of view	16 : 9	80 deg.	108 deg.	90 deg.	106 deg.	98.4 to 30.2 deg.
Adjusting Angle	Pan	0 to +355 deg	0 to +355 deg	0 to +355 deg	0 to +355 deg	0 to +355 deg
	Tilt	0 to +75 deg	0 to +75 deg	0 to +75 deg	0 to +75 deg	0 to +75 deg
Optical Zoom		-	-	-	-	-
Digital Zoom		4x	4x	4x	4x	4x
Image Stabilizer		-	-	-	-	-
Corridor Mode		-	-	-	-	-
VMD (Video Motion Detection)		Yes	Yes (2)	Yes	Yes	Yes (4)
Analytics		Intrusion, Line cross	Intrusion, Line cross	Intrusion, Line cross	Intrusion, Line cross	Intrusion, Line cross, Face detection
Max. Connection		-	-	-	-	-
Audio	In (Line) / Out	No / No	No / No	No / No	No / No	Yes / Yes (3.5 mm)
	In (Built-in MIC)	-	-	-	-	-
	Codec	-	-	-	-	G.711 / G.722.1 / G.726 / MP2L2
	Audio Detection Alarm	-	-	-	-	Yes
SD memory Card	Slot	Yes (SDXC) (256GB)	Yes (SDXC) (256GB)	Yes (SDXC) (256GB)	Yes (SDXC) (256GB)	Yes (SDXC) (64GB)
External I/O		No	No	No	No	Yes (1in / 1out)
Monitor Out		-	-	-	-	Yes (mini jack)
Vandal Resistant		IK10	IK10	IK10	IK10	IK10
Water and Dust Resistance		IP67	IP67	IP67	IP67	-
Temperature		-22°F to 140°F	-22°F to 140°F	-22°F to 140°F	-22°F to 140°F	-22°F to 140°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Other Functions		Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR, BLC	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR	Tampering alarm, Network disconnect, IP address conflict, Storage exception 3D DNR, Audio detection, Scene change detection
Mounting Options		See page 75	See page 75	See page 75	See page 75	See page 75




# NETWORK PRODUCTS



CAMERA TYPE		DOME				
Appearance		 A-47-F	 A-47-F2.8	 A-54-V2	 A-54-OD	 A-64
Sensor		1/3 CMOS	1/3 CMOS	1/3 CMOS	1/2.8 CMOS	1/1.8 CMOS
Codec and Transmission	Video Codec	H.264 / MJPEG / H.264+	H.264 / MJPEG / H.264+	H.264 / MPEG4 / MJPEG	H.264 / MJPEG	H.264 / MJPEG
	H.265 / H.264 multi stream	2	2	3	3	3
	JPEG multi stream	1	1	1	1	1
	Built-in Analytics	Yes (Varies)	Yes (Varies)	Yes (Varies)	Yes (Varies)	Yes (Varies)
Max. Resolution		2688 x 1520	2688 x 1520	2048 x 1536	2048 x 1536	3072 x 2048
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	20fps @ 60Hz (2688 x 1520)	20fps @ 60Hz (2688 x 1520)	20fps @ 60Hz (2048 x 1536)	30fps @ 60Hz (2048 x 1536)	24fps @ 60Hz (3072 x 2048)
True WDR		True WDR @ 120 dB	True WDR @ 120 dB	True WDR @ 120 dB	True WDR @ 120 dB	Digital WDR
Day/Night ICR / IR		Yes ICR	Yes ICR	Yes ICR	Yes ICR	Yes (ICR)
Built-in IR LED		Yes (30 m)	Yes (30 m)	Yes (30 m)	Yes (30 m)	Yes (30 m)
ABF (Auto Back Focus) / Auto Focus		-	-	Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color	0.01 Lx	0.01 Lx	0.01 Lx @ F1.2	0.01 Lx @ F1.2	0.01 Lx @ F1.2
	B/W	0.00 Lx with IR	0.00 Lx with IR	0.00 with IR	0.00 with IR	0.00 with IR
Lens		f= 4.0 mm, F2.0	f= 2.8 mm, F2.0	f= 2.8 to 9 mm	f= 2.8 to 9 mm	f= 2.8 to 9 mm
Horizontal field of view	16 : 9	83 deg.	106 deg.	91.2 to 28.3 deg.	91.2 to 28.3 deg.	94.5 to 30.5 deg.
Adjusting Angle	Pan	-30 to +30 deg	-30 to +30 deg	0 to +355 deg	0 to +355 deg	0 to +355 deg
	Tilt	0 to +75 deg	0 to +75 deg	0 to +75 deg	0 to +75 deg	0 to +75 deg
Optical Zoom		-	-	-	-	-
Digital Zoom		4x	4x	4X	4X	4X
Image Stabilizer		-	-	-	-	-
Corridor Mode		-	-	-	-	-
VMD (Video Motion Detection)		Yes	Yes	Yes (4)	Yes (4)	Yes
Analytics		Intrusion, Line cross	Intrusion, Line cross	Intrusion, Line cross, Face detection	Intrusion, Line cross, Face detection	Intrusion, Line cross, Face detection
Max. Connection		-	-	-	-	-
Audio	In (Line) / Out	No / Yes	No / No	Yes / Yes (3.5 mm)	Yes / Yes (3.5 mm)	Yes / Yes (3.5 mm)
	In (Built-in MIC)	Yes	Yes	-	-	-
	Codec	G.711 / G.722.1 / G.726 / MP2L2	G.711 / G.722.1 / G.726 / MP2L2	G.711 / G.722.1 / G.726 / MP2L2	G.711 / G.722.1 / G.726 / MP2L2	G.711 / G.722.1 / G.726 / MP2L2
	Audio Detection Alarm	-	-	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC) (256GB)	Yes (SDXC) (256GB)	Yes (SDXC) (64GB)	Yes (SDXC) (64GB)	Yes (SDXC) (128GB)
External I/O		Yes (1in / 1out)	-	Yes (1in / 1out)	Yes (1in / 1out)	Yes (1in / 1out)
Monitor Out		-	-	Yes (mini jack)	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		IK08	IK08	IK10	IK10	IK10
Water and Dust Resistance		IP67	IP67	-	IP66	IP66
Temperature		-22°F to 140°F	-22°F to 140°F	-22°F to 140°F	-40°F to 140°F (Heater on)	-22°F to 140°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC, 24 V AC / PoE	12 V DC, 24 V AC / PoE
Other Functions		Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR, BLC	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR, BLC	Tampering alarm, Network disconnect, IP address conflict, Storage exception 3D DNR, Audio detection, Scene change detection	Tampering alarm, Network disconnect, IP address conflict, Storage exception 3D DNR, 60fps @1080P, Audio detection, Scene change detection	Tampering alarm, Network disconnect, IP address conflict, Storage exception BLC, 3D DNR, Defog, OLB, Audio detection, Scene change detection
Mounting Options		See page 75	See page 75	See page 75	See page 75	See page 75

CAMERA TYPE		DOME				
Appearance		 A-T-27-V	 B-51	 E-37-FSW	 E-37-V	 E-47-V <i>COMING SOON</i>
Sensor		1/3 CMOS	1/3.2 CMOS	1/2.8 CMOS	1/3 CMOS	1/3 CMOS
Codec and Transmission	Video Codec	TVI	H.264 / MJPEG	H.265 / H.264	H.264 / MJPEG	H.265 / H.264
	H.265 / H.264 multi stream	-	2	3	2	3
	JPEG multi stream	-	1	-	1	-
	Built-in Analytics	-	-	Yes (Varies)	-	Yes (Varies)
Max. Resolution		1920 x 1080	2592 x 1944	2048 x 1536	2304 x 1536	2688 x 1520
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	30fps @ 60Hz 1920 x 1080	15fps @ 60Hz (2592 x 1944)	30fps @ 60Hz (2048 x 1536)	20fps @ 60Hz (2304 x 1536)	30fps @ 60Hz (2688 x 1520)
True WDR		True WDR @ 120dB	Digital WDR	True WDR @ 120 dB	Digital WDR	True WDR @ 120 dB
Day/Night ICR / IR		Yes	Yes (ICR)	-	Yes (ICR)	Yes
Built-in IR LED		EXIR (40m)	Yes (40m)	-	Yes (30m)	Yes (50m)
ABF (Auto Back Focus) / Auto Focus		Remote Focus	Auto Focus	-	Auto Focus	Auto Focus
Min. Illumination	Color	.005 Lx	0.1 Lx @ F 1.2	0.03 Lx @ F2.0	0.1 Lx @ F 1.4	.03 Lx @ F 1.4
	B/W	0 Lux with IR	0.00 with IR	0.01 Lx @ F2.0	0.00 with IR	0 Lx with IR
Lens		2.8mm to 12mm	f= 3 to 9mm F1.2 to F2.1	f= 1.85 mm, F2.0	f= 2.7 to 12.0 mm	2.7mm to 13.5mm
Horizontal field of view	16 : 9	32.1° to 103°	85.7 to 30.5 deg.	151 deg.	92 to 28 deg.	31° to 106°
Adjusting Angle	Pan	0° to 340°	-175 to +175 deg	0 to +355 deg	-	0 to +355 deg
	Tilt	0° to 75°	5 to +170 deg.	0 to +65 deg	-	0 to +65 deg
Optical Zoom		-	3X	-	-	-
Digital Zoom		-	4X	16X	4X	16X
Image Stabilizer		No	-	Yes (EIS)	-	-
Corridor Mode		No	-	-	-	Yes
VMD (Video Motion Detection)		see V2 Encoder	Yes (3)	Yes (4)	Yes	Yes (4)
Analytics		No	-	Face Detection, Tamper, Scene Change	-	Tripwire, Intrusion, Object Abandoned
Max. Connection		-	-	20	-	20
Audio	In (Line) / Out	No	Yes / Yes	Yes / Yes	-	Yes / Yes
	In (Built-in MIC)	No	-	Yes	-	-
	Codec	see V2 Encoder	G.711	G.711a / G.711Mu / AAC / G.726	-	G.711a / G.711Mu / AAC / G.726
	Audio Detection Alarm	No	Yes	Yes	-	No
SD memory Card	Slot	No	Yes (SDXC)	Yes (SDXC) (128GB)	Yes (SDXC) (128GB)	Yes (SDXC) (128GB)
External I/O		No	Yes (1in / 1out)	Yes (1in / 1out)	-	Yes (1in / 1out)
Monitor Out		No	-	Yes	Yes	Yes
Vandal Resistant		IK10	IK10	IK10	IK10	IK10
Water and Dust Resistance		IP67	IP67, NEMA 4	IP67	IP67	IP67
Temperature		-40°F to 140°F	-40°F to 122°F	-22°F to 140°F	-22°F to 140°F	-22°F to 140°F
Power Source		12 V DC, 24VDC	12 V DC / PoE	12 V DC, 12V AC / PoE	12 V DC / PoE	12 V DC, 12V AC / PoE
Other Functions		-	IP address filtering, HTTPS encryption, Password protected user level, Anonymous login, IEEE 802.1X network access control	BLC, 3D DNR, HLC, Auto ICR, Edge Dewarp	-	BLC, HLC, 3D DNR
Mounting Options		See page 76	See page 76	See page 77	See page 77	









# NETWORK PRODUCTS

CAMERA TYPE		PTZ DOME		
Appearance		 <b>A-200-P</b>	 <b>A-300</b>	 <b>B-210</b>
Sensor		1/2.8 CMOS	1/2.8 CMOS	1/2.8 CMOS
Codec and Transmission	Video Codec	H.264 / MPEG4 / MJPEG	H.265 / H.264 / MJPEG	H.264 / MJPEG
	H.265 / H.264 multi stream	3	2	2
	JPEG multi stream	1	1	1
	Built-in Analytics	Yes	Yes	-
Max. Resolution		1920 x 1080	1920 x 1080	1920 x 1080
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	30fps @ 60Hz (1920 x 1080)	30fps @ 60Hz (1920 x 1080)	30fps @ 60Hz (1920 x 1080)
True WDR		Digital WDR	Digital WDR	Digital WDR
Day/Night ICR / IR		Yes (ICR)	Yes (ICR)	Yes (ICR)
Built-in IR LED		-	Yes (150m)	-
ABF (Auto Back Focus) / Auto Focus		Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color	0.3 Lx @ F 1.6	0.05 Lx @ F 1.6	0.1 Lx @ F 1.8
	B/W	0.02 Lx @ F 1.6	0.00 with IR	0.05 Lx @ F1.8
Lens		f= 4.7 to 94 mm, F 1.4 to F 3.5	f= 4.3 to 129.0 mm, F 1.6 to F 3.5	f= 4.9 to 49.0 mm, F 1.8 to F 3.0
Horizontal field of view	16 : 9	58.3 to 3.2 deg.	58.3 to 3.2 deg.	57.8 to 6.9 deg.
Adjusting Angle	Pan	360 deg. Endless	360 deg. Endless	-175 to +175 deg
	Tilt	-5 to +90 deg. Auto flip	-15 to +90 deg. Auto flip	0 to +180 deg. E Flip
Optical Zoom		20X	30X	10X
Digital Zoom		16X	16X	4X
Image Stabilizer		-	-	-
Corridor Mode		-	-	-
VMD (Video Motion Detection)		Yes	Yes	Yes (3)
Analytics		Auto object tracking, Line cross, Face, Audio	Auto object tracking, Line cross, Face, Audio	-
Max. Connection		32	32	-
Audio	In (Line) / Out	Yes / Yes	Yes / Yes	Yes / Yes
	In (Built-in MIC)	-	-	-
	Codec	G.711 / G.722.1 / G.726 / MP2L2	G.711 / G.722.1 / G.726 / MP2L2	G.711
	Audio Detection Alarm	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC) (128GB)	Yes (SDXC) (128GB)	Yes (SDXC)
External I/O		Yes (7in / 2out)	Yes (7in / 2out)	Yes (1in / 1out)
Monitor Out		Yes (mini jack)	Yes (mini jack)	-
Vandal Resistant		IK10	IK10	IK10
Water and Dust Resistance		IP66	IP66	IP67, NEMA 4
Temperature		-22°F to 149°F	-22°F to 149°F	-4°F to 122°F
Power Source		24 V AC / High P. PoE (Included)	24 V AC / High P. PoE (Included)	12 V DC / PoE
Other Functions		Tampering alarm, Network disconnect, IP address conflict, Storage exception BLC, 3D DNR, Defog, HLC, 8 Patrol zones, Region entrance and exit triggers.	Tampering alarm, Network disconnect, IP address conflict, Storage exception BLC, 3D DNR, Defog, HLC, 8 Patrol zones, Region entrance and exit triggers.	IP address filtering, HTTPS encryption, Password protected user level, Anonymous login, IEEE 802.1X network access control, White Balance, Brightness, Contrast, Sharpness, Automatic gain control, Flickerless
Mounting Options		See page 76	See page 76	See page 76

CAMERA TYPE		360 DOME	
Appearance		 <p><b>NEW</b></p> <p><b>A-427-V</b></p>	 <p><b>B-5360</b></p>
Sensor		1/2.7 CMOS x 4	1/3.2 CMOS
Codec and Transmission	Video Codec	H.265 / MJPEG / H.264	H.264 / MJPEG
	H.265 / H.264 multi stream	3	2
	JPEG multi stream	1	1
	Built-in Analytics	Yes (Varies)	-
Max. Resolution		1920 x 1080 x 4	2592 x 1944
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	30fps @ 60Hz (1920 x 1080) x 4	15fps @ 60Hz (2592 x 1944)
True WDR		True WDR @ 120 dB	Digital WDR
Day/Night ICR / IR		-	-
Built-in IR LED		-	-
ABF (Auto Back Focus) / Auto Focus		Auto Focus each lens	-
Min. Illumination	Color	-	0.1 Lx @ F 2.0
	B/W	-	0.1 Lx @ F 2.0
Lens		f= 3.0 to 9 mm each lens	f=1.185 mm, F2.0
Horizontal field of view	16 : 9	35 to 100 deg. each lens	189.7 deg. or 360 deg.
Adjusting Angle	Pan	0 to +355 deg	-
	Tilt	0 to +135 deg	-
Optical Zoom		-	-
Digital Zoom		16X	10X
Image Stabilizer		-	-
Corridor Mode		Yes	-
VMD (Video Motion Detection)		Yes (4) each lens	Yes (4)
Analytics		Intrusion, Line cross, Face, Crowd Audio, wander /detection	-
Max. Connection		-	-
Audio	In (Line) / Out	Yes / Yes	Yes / Yes (3.5 mm)
	In (Built-in MIC)	Yes	-
	Codec	G.711 / G.722.1 / G.726 / MP2L2 / PCM / AAC	G.711
	Audio Detection Alarm	Yes	Yes
SD memory Card	Slot	Yes (SDXC) (128GB)	Yes (SDXC)
External I/O		Yes (1in / 1out)	-
Monitor Out		-	-
Vandal Resistant		IK10	IK10
Water and Dust Resistance		IP67	IP68, NEMA 4, EN50155
Temperature		-22°F to 140°F	-4°F to 122°F
Power Source		DC12V:23W, AC24V:50W / PoE	PoE
Other Functions		Tampering alarm, Network disconnect, IP address conflict, Storage exception BLC, 3D DNR, Defog, OLB, Audio detection, Scene change detection, Region Enter/Exit, Object Unattended/removed	IP address filtering, HTTPS encryption, Password protected user level, Anonymous login, IEEE 802.1X network access control. V1 software dewarp 360, 2x 180
Mounting Options		See page 75	See page 77




# NETWORK PRODUCTS

CAMERA TYPE		BULLET		
Appearance		 <b>A-18-F</b>	 <b>A-28-F</b>	 <b>A-28-Z</b>
Sensor		1/3 CMOS	1/2.8 CMOS	1/2.8 CMOS
Codec and Transmission	Video Codec	H.264 / MJPEG / H.264+	H.265 / MJPEG / H.264	H.265 / MJPEG / H.264
	H.265 / H.264 multi stream	2	3	2
	JPEG multi stream	1	1	1
	Built-in Analytics	Yes (Varies)	Yes (Varies)	Yes (Varies)
Max. Resolution		1280 x 960	1920 x 1080	1920 x 1080
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	30fps @ 60Hz (1280 x 960)	30fps @ 60Hz (1920 x 1080)	60fps @ 60Hz (1920 x 1080)
True WDR		True WDR @ 120 dB	True WDR @ 120 dB	True WDR @ 120 dB
Day/Night ICR / IR		Yes ICR	Yes ICR	Yes (ICR)
Built-in IR LED		Yes (30 m)	Yes (30 m)	Yes (120m)
ABF (Auto Back Focus) / Auto Focus		-	-	Auto Focus
Min. Illumination	Color	0.01 Lx	0.005 Lx	0.002 Lx @ F 1.2
	B/W	0.00 Lx with IR	0.000 Lx with IR	0.00 with IR
Lens		f= 6.0 mm, F2.0	f= 6.0 mm, F1.6	f= 4.7 to 122mm
Horizontal field of view	16 : 9	46 deg.	52 deg.	70.5 to 3 deg.
Adjusting Angle	Pan	0 to +360 deg	0 to +360 deg	-
	Tilt	0 to +90 deg	0 to +90 deg	-
Optical Zoom		-	-	26X
Digital Zoom		4x	4x	16X
Image Stabilizer		-	-	Yes (EIS)
Corridor Mode		-	-	-
VMD (Video Motion Detection)		Yes	Yes (2)	Yes
Analytics		Intrusion, Line cross	Intrusion, Line cross	Auto object tracking, Line cross, Face, Audio
Max. Connection		-	-	-
Audio	In (Line) / Out	No / No	No / No	Yes / Yes (3.5 mm)
	In (Built-in MIC)	-	-	-
	Codec	-	-	G.711 / G.722.1 / G.726 / MP2L2
	Audio Detection Alarm	-	-	Yes
SD memory Card	Slot	-	Yes (SDXC) (256GB)	Yes (SDXC) (128GB)
External I/O		No	No	Yes (1in / 1out)
Monitor Out		-	-	Yes (mini jack)
Vandal Resistant		-	-	-
Water and Dust Resistance		IP67	IP67	IP67
Temperature		-22°F to 140°F	-22°F to 140°F	-22°F to 140°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Other Functions		Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR, BLC	Tampering alarm, Network disconnect, IP address conflict, Storage exception BLC, 3D DNR, Defog, OLB, Audio detection, Scene change detection, Region Enter/Exit, Object Unattended/removed
Mounting Options				

CAMERA TYPE		BULLET		
Appearance		 <b>A-38-F</b>	 <b>A-55</b>	 <b>A-65</b>
Sensor		1/3 CMOS	1/3 CMOS	1/1.8 CMOS
Codec and Transmission	Video Codec	H.264 / MJPEG / H.264+	H.264 / MPEG4 / MJPEG	H.264 / MJPEG
	H.265 / H.264 multi stream	2	3	3
	JPEG multi stream	1	1	1
	Built-in Analytics	Yes (Varies)	Yes (Varies)	Yes (Varies)
Max. Resolution		2304 x 1296	2048 x 1536	3072 x 2048
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	20fps @ 60Hz (2304 x 1296)	30fps @ 60Hz (2048 x 1536)	24fps @ 60Hz (3072 x 2048)
True WDR		True WDR @ 120 dB	True WDR @ 120 dB	Digital WDR
Day/Night ICR / IR		Yes ICR	Yes ICR	Yes (ICR)
Built-in IR LED		Yes (30 m)	Yes (30 m)	Yes (50 m)
ABF (Auto Back Focus) / Auto Focus		-	Auto Focus	Auto Focus
Min. Illumination	Color	0.01 Lx	0.01 Lx @ F1.2	0.01 Lx @ F1.2
	B/W	0.00 Lx with IR	0.00 with IR	0.00 with IR
Lens		f= 6.0 mm, F2.0	f= 2.8 to 9 mm	f= 2.8 to 9 mm
Horizontal field of view	16 : 9	55.4 deg.	91.2 to 28.3 deg.	94.5 to 30.5 deg.
Adjusting Angle	Pan	0 to +355 deg	-	-
	Tilt	0 to +75 deg	-	-
Optical Zoom		-	-	-
Digital Zoom		4x	4X	4X
Image Stabilizer		-	-	-
Corridor Mode		-	-	-
VMD (Video Motion Detection)		Yes	Yes (4)	Yes
Analytics		(Intrusion, Line cross)	Intrusion, Line cross, Face detection	Intrusion, Line cross, Face detection
Max. Connection		-	-	-
Audio	In (Line) / Out	No / No	Yes / Yes (3.5 mm)	Yes / Yes (3.5 mm)
	In (Built-in MIC)	-	-	-
	Codec	-	G.711 / G.722.1 / G.726 / MP2L2	G.711 / G.722.1 / G.726 / MP2L2
	Audio Detection Alarm	-	Yes	Yes
SD memory Card	Slot	-	Yes (SDXC) (128GB)	Yes (SDXC) (128GB)
External I/O		No	Yes (1in / 1out)	Yes (1in / 1out)
Monitor Out		-	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		-	-	IK10
Water and Dust Resistance		IP67	IP66	IP66
Temperature		-22°F to 140°F	-22°F to 140°F	-22°F to 140°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC, 24 V AC / PoE
Other Functions		Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, 3D DNR	Tampering alarm, Network disconnect, IP address conflict, Storage exception 3D DNR, 60fps @1080P, Audio detection, Scene change detection, BLC, Defog	Tampering alarm, Network disconnect, IP address conflict, Storage exception BLC, 3D DNR, Defog, OLB, Audio detection, Scene change detection
Mounting Options			See page 75	See page 75




















# NETWORK PRODUCTS

CAMERA TYPE		ENCODERS			
Appearance					
		<b>VP-1</b>	<b>VP-4</b>	<b>VP-8-V2</b>	<b>VP-16-V2</b>
Codec and Transmission	Video Codec	H.264	H.264	H.264	H.264
	Built-in Analytics	-	-	Yes (Varies)	Yes (Varies)
Max. Resolution		D1	D1	1920 x 1080	1920 x 1080
Max. FPS @Max. Resolution	H.265 / H.264 / JPEG	30fps @ D1	30fps @ D1	30fps @ 1920 X 1080	30fps @ 1920 X 1080
Analytics		-	-	Line Crossing and Intrusion Detection	Line Crossing and Intrusion Detection
Audio	In (Line) / Out	Yes / Yes	Yes / Yes	4 in / 1 out	4 in / 1 out
	Codec	-	-	G.711u	G.711u
External I/O		Yes (1in / 1out)	-	Yes (8in / 4out)	Yes (16in / 8out)
Temperature		14°F to 131°F	14°F to 131°F	14°F to 131°F	14°F to 131°F
Power Source		12 VDC	12 VDC	12 VDC	12 VDC
Other Functions		Encoder based motion detection	Encoder based motion detection	Encoder based motion detection	Encoder based motion detection

## CAMERA ACCESSORIES

MODEL	DESCRIPTION / TYPE	COMPATIBILITY	IMAGE
<b>A-MD-WM</b>	Wall Mount	A-17, A-27, A-37	
<b>A-MD-ICM</b>	Incline	A-17, A-27, A-37	
<b>A-MWM-MINI</b>	Metal Wall Mount	A-17, A-27, A-37	
<b>A-34-CAP METAL</b>	Cap	A-17, A-27, A-37	
<b>A-MD-GBA</b>	Gang Box Adapter	A-17, A-27, A-37	
<b>A-44-FM</b>	Flush Mount	A-17, A-27, A-37, A-44, A-54	
<b>A-44-OD-MB</b>	Wall Mount	A-17, A-27, A-37, A-44, A-54	
<b>A-POLE MOUNT</b>	Pole Mount	A-17, A-27, A-37, A-44, A-54	
<b>A-44-PENDANT</b>	Pendant	A-17, A-27, A-37, A-44, A-54	
<b>A-MC-OD</b>	Cap	A-54-OD, A-64	
<b>A-MWM</b>	Wall Mount	A-54-OD, A-64	
<b>A-MWB</b>	Wall Mount	A-54-OD, A-64	
<b>ABAP-5</b>	Gang Box Adapter	A-55, A-65	
<b>A-46-CW</b>	Ceiling Wedge Mount	A-47, A-47-F	
<b>A-46-PM</b>	Pendant	A-47, A-47-F	
<b>A-46-WM</b>	Wall Mount	A-47, A-47-F	
<b>A-MLT-CAP</b>	Cap	A-427-V	

# COMPATIBILITY CHARTS

CAMERA ACCESSORIES			
MODEL	DESCRIPTION/TYPE	COMPATIBILITY	IMAGE
<b>A-200-PARAPET</b>	Parapet	A-200-P, A-300, A-427-V	
<b>A-200-PM</b>	Pole Mount	A-200-P, A-300, A-427-V	
<b>A-200-WM</b>	Wall Mount	A-200-P, A-300, A-427-V	
<b>A-200-CM</b>	Ceiling Mount	A-200-P, A-300, A-427-V	
<b>A-200-CNR</b>	Corner Mount	A-200-P, A-300, A-427-V	
<b>A-200-LPM</b>	Long Pendant Mount	A-200-P, A-300, A-427-V	
<b>A-200-IFM</b>	Flush Mount	A-200 PTZ	
<b>A-MC-140</b>	Cap	A-T-27-V	
<b>B-31-FM</b>	Flush Mount	B-31	
<b>B-210-FM</b>	Flush Mount	B-210, B-51	
<b>B-31-GN</b>	Gooseneck Mount	B-210, B-51, B-33	
<b>B-31-MK</b>	Mount Head	B-210, B-51, B-33	
<b>B-31-PM</b>	Pole Mount	B-210, B-51, B-33	
<b>B-31-ST</b>	Pendant Mount	B-210, B-51, B-33	
<b>B-31-CMB</b>	Corner Mount	B-210, B-51, B-33	
<b>B-AD-WM</b>	Wall Mount	B-210, B-51, B-33	
<b>B-OD-WM</b>	Wall Mount	B-210, B-51, B-33	

## CAMERA ACCESSORIES

MODEL	DESCRIPTION/TYPE	COMPATIBILITY	IMAGE
<b>B-MD-EP</b>	Extension Pole	B-5360	
<b>B-MD-GB</b>	Gang Box Adapter	B-5360	
<b>B-MD-MK</b>	Mount Head	B-5360	
<b>B-MD-PM-Kit</b>	Pendant Mount Kit	B-5360	
<b>B-MD-ST</b>	Pendant Tube	B-5360	
<b>B-MD-WM</b>	Wall Mount	B-5360	
<b>E-A137-JB</b>	Junction Box	E-37-V	
<b>E-A151-CM</b>	Corner Mount	E-37-V	
<b>E-A152-PM</b>	Pole Mount	E-37-V	
<b>E-B200-FM</b>	Flush Mount	E-37-V	
<b>E-B203-WM</b>	Wall Mount	E-37-V	
<b>E-A101-CAP</b>	Cap	E-37-FSW, E-47-V	
<b>E-A138-JB</b>	Junction Box	E-37-FSW, E-47-V	
<b>E-A152E-PM</b>	Pole Mount	E-37-FSW, E-47-V	
<b>E-B201-FM</b>	Flush Mount	E-37-FSW, E-47-V	
<b>E-B300C-CB</b>	Pendant Mount	E-37-FSW, E-47-V	
<b>E-B302S-WM</b>	Wall Mount	E-37-FSW, E-47-V	





# Panasonic

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#### FOR SERVICE SUPPORT

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pscnaparts@us.panasonic.com  
1.800.334.4881

#### FOR MORE INFORMATION, CONTACT US

1.877.803.8492  
security.us.panasonic.com  
B2BSales@us.panasonic.com