

Panasonic

**i-PRO
EXTREME**

EXTREME PERFORMANCE UNDER EXTREME CONDITIONS



2017 VIDEO SURVEILLANCE CATALOG

WHY PANASONIC?

From the company that brought you the first security camera in 1957 and invented over a dozen industry standards, Panasonic provides industry-leading solutions to capture, record, manage and analyze surveillance video. Panasonic provides a comprehensive lineup of video surveillance products and solutions that offer the industry's highest picture quality, mission-critical reliability and the industry's lowest total cost of ownership. When it counts, you can count on Panasonic video surveillance products and systems to deliver.

SURVEILLANCE AND MONITORING SYSTEMS LINEUP

NEW

i-PRO Extreme ■ 2-3
Aero PTZ ■ 4-5
Smart Coding ■ 6-7
True 4K ■ 8-9
Video Insight ■ 10-11
Ultra 360 ■ 12-13
6, 5, 3 & 1 Series ■ 14-15
Transit Surveillance ■ 16-17
FacePro™ ■ 18-19

KEY BENEFITS

Key Benefits of Panasonic Video Surveillance Cameras ■ 20-25

NETWORK PRODUCTS

PTZ Network Cameras ■ 26-28
Fixed Dome Network Cameras ■ 29-34
360-Degree Dome Network Cameras ■ 35
Boxed Network Cameras ■ 36-38
PT Network Cameras ■ 39
Software and Accessories ■ 40-41
Embedded Recording Solutions and VMS ■ 42-43
Management Software ■ 44-45

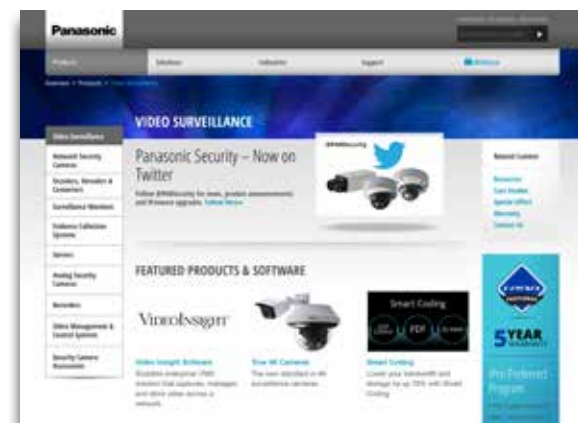
ANALOG PRODUCTS

PTZ Cameras ■ 46
Fixed Dome Cameras ■ 47-48
Fixed Cameras ■ 49
Digital Video Recorders ■ 50
System Controllers ■ 51

COMPATIBILITY CHARTS

Camera Accessories ■ 52
Housing and Mounting Brackets ■ 53-58
Varifocal Lenses for HD Cameras ■ 59
M12 Lenses for HD Cameras ■ 59
Varifocal Lenses for SD Cameras ■ 60
Ready-to-Go Packages ■ 61-62
Monitors ■ 63

INDEX ■ 64-67



Visit www.panasonic.com/security for the most up-to-date news on Panasonic video surveillance products.



Sign up today and enjoy the free benefits

Panasonic's new i-PRO Preferred Program provides added value to your i-PRO video surveillance camera purchase without adding cost. i-PRO Preferred strengthens your warranty, expedites service response, and includes a bundled Video Insight camera license. New and current owners of select i-PRO camera models* are eligible upon registration for a free upgrade to this preferred service status.

Enjoy these benefits:

5 YEAR
WARRANTY

Add a two-year extended warranty to your existing three-year factory warranty upon registration.

VIDEOINSIGHT
UNLIMITED LICENSE

While competitive manufacturers charge an annual camera license fee for each camera connected to their VMS, you'll enjoy a bundled Video Insight camera license with each eligible i-PRO camera.



Receive replacement units shipped the same day with overnight delivery.

Sign up today at www.us.panasonic.com/ipropreferred.

*U.S. purchasers only. Select Panasonic i-PRO cameras with a manufacturing date after October 2014 for both the VI VMS license and the additional two-year warranty extension are eligible.

NEW
H.265

INTRODUCING i-PRO EXTREME

Panasonic Introduces a completely new line up of Extreme Performance i-PRO Cameras, Recorders and Management Software Delivering **EXTREME PERFORMANCE UNDER EXTREME CONDITIONS**

New i-PRO platform cameras deliver Extreme Visibility with outstanding low-light performance from their 1/3" sensors that rival many 1/2" sensor cameras and feature an industry leading 144dB of Extreme Dynamic Range delivering balanced exposure and accurate color in even the most challenging lighting environments. Auto-Intelligence features like automatic scene-detection continuously monitor the field of view and instantly adjust the cameras parameters to optimize for best image capture based on scene dynamics, compensating for motion and constantly changing lighting. i-PRO's Extreme Compression begins with industry standard H.265 encoding generating up to a 50% reduction in bandwidth compared to H.264 and Panasonic's Advanced Smart Coding and Intelligent Face Coding features push that figure up to an 80% reduction. Extreme Reliability is enabled by technologies like HDD Dynamic Power Control for the new WJ-NX400 class recorder that reduces the frequency of HDD failures and greatly extends their working life and Automatic-Failover which allows two recorders to run in tandem for seamless redundancy in mission critical applications. Panasonic's i-PRO Preferred Program stands behind i-PRO's Extreme Reliability by adding 2 years of factory warranty to the standard 3 year warranty on cameras. i-PRO's Extreme Data Security means the new i-PRO Extreme surveillance platform employs PC-level IP-Data Security standards via Panasonic's Secure Communications Suite and robust authentication using Symantec Device Certificates delivering comprehensive end-to-end data protection on all new i-PRO Extreme-based cameras, recorders and video management software.



EXTREME VISIBILITY

ENABLES CAPTURE OF THE HIGHEST QUALITY IMAGES AUTOMATICALLY EVEN IN VERY DYNAMIC AND CHALLENGING LIGHTING ENVIRONMENTS



INTELLIGENT AUTO Continuously monitors scene dynamics and automatically adjusts key camera settings in real-time to optimize captured images

EXTREME SUPER DYNAMIC RANGE Extends Dynamic range to an industry leading 144dB enabling balanced scene exposure even in the most difficult lighting conditions

COLOR NIGHT VISION Delivers outstanding low-light performance with accurate color rendition from a 1/3" sensor, rivaling performance from more costly 1/2" sensor cameras

EXTREME COMPRESSION

INDUSTRY STANDARD H.265 AND PANASONIC'S SMART CODING TECHNOLOGIES DELIVER THE HIGHEST QUALITY IMAGES AT THE LOWEST BITRATES



H.265 COMPRESSION Industry standard H.265 compression delivers high quality images while reducing streaming and storage requirements by approximately 50% over H.264

SMART CODING Working on top of H.265, Smart Coding technologies like GOP Control and Auto-VIQs reduce bandwidth requirements even further for up to an 80% efficiency over H.264

SMART FACIAL CODING Automatically detects faces and self-learns motion-areas of a scene to ensure the highest quality recording of detected faces and regions of interest

EXTREME RELIABILITY

NEW TECHNOLOGIES DELIVER LOW FAILURE RATES AND THE 5 YEAR i-PRO PREFERRED WARRANTY STANDS BEHIND PANASONIC'S HIGH RELIABILITY



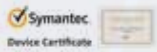
HDD POWER CONTROL HDD Dynamic Power Control technology intelligently powers down HDD's without risking recording loss, extending HDD life up to 7 years*

AUTO-FAILOVER New WJ-NX400 recorders can be connected in tandem to enable seamless recording redundancy for mission critical applications

5 YEAR WARRANTY Panasonic's i-PRO Preferred program adds an additional 2 years to the factory 3 year warranty on i-PRO cameras for a total of 5 years which includes Advanced Exchange**

EXTREME DATA SECURITY

PANASONIC'S SECURE COMMUNICATION SUITE AND SYMANTEC'S DEVICE CERTIFICATION ENSURES ROBUST END-TO-END IP SECURITY



SECURE COMMUNICATION A PC-level security suite embedded in all new i-PRO Extreme Cameras, Recorders and Management Software enabling data and communications encryption

SYMANTEC AUTHENTICATION Panasonic's has partnered with Symantec, the global leader in cybersecurity, to deploy their reliable Device Certificate technology on all i-PRO Extreme devices

FIPS CERTIFIED i-PRO Extreme products meet the Federal Information Processing Standard (FIPS) 140-2 Level 1, as required for FBI and Public Safety use

**i-PRO
EXTREME**

NEW CAMERAS **H.265**

SECURE H.265 CAMERA LINE-UP



NEW H.265 i-PRO HD & Full HD 60fps camera line-up featuring Extreme Visibility, Extreme Compression, Extreme Reliability and Extreme Data Security performance

EXTREME VISIBILITY

- Ultra High Sensitivity 0.008 lx (HD), 0.012 lx (FHD)
- Color Night Vision - Full Color in low light
- Extreme Super Dynamic Range 144dB
- Auto Scene-detection and Optimization

EXTREME COMPRESSION

- H.265 Compression - Fully H.264 Compatible
- Smart Coding - Long GOP Mode, Auto VIQS
- Smart Facial Coding

EXTREME RELIABILITY

- Easy-Install ClearSight™ Dome
- Integrated Image Stabilization on PTZ's
- Reliable night time image capture via built-in IR*

EXTREME DATA SECURITY

- Secure Communication Suite
- Symantec Device Certificates

i-PRO EXTREME H.265 SERIES LINE-UP

CAMERA	MODEL NO.	AVAILABILITY	LENS	TELE LENS	MOTORIZED ZOOM	ABF / AF	IR-LED	T-D/N	SD CARD	AUDIO	I/O	VANDAL RESISTANT	CLEAR SIGHT
Indoor Box	Full HD	WW-S1131	Oct-16	(CS Mount)	—	—	Yes	—	Yes	Yes	In/Out	Yes	—
	HD	WW-S1111	Oct-16	(CS Mount)	—	—	Yes	—	Yes	Yes	In/Out	Yes	—
Outdoor Box	Full HD	WW-S1531LTN	Mar-17	Yes	Yes	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	Yes
	HD	WW-S1531LN	Dec-16	Yes	—	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	Yes
Indoor Dome	Full HD	WW-S2131L	Dec-16	Yes	—	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	—
	HD	WW-S2111L	Dec-16	Yes	—	—	Yes	—	Yes	Yes	In/Out	Yes	—
Indoor Vandal Dome	Full HD	WW-S2231L	Dec-16	Yes	—	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	—
	HD	WW-S2211L	Dec-16	Yes	—	—	Yes	Yes	Yes	Yes	In/Out	Yes	—
Outdoor Vandal Dome	Full HD	WW-S2531LTN	Mar-17	Yes	Yes	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	Yes
	HD	WW-S2531LN	Dec-16	Yes	—	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	Yes
Outdoor Vandal Dome	Full HD	WW-S2531LTN	Mar-17	Yes	Yes	Yes	Yes	Yes	Yes	Yes	In/Out	Yes	Yes
	HD	WW-S2511LN	Dec-16	Yes	—	—	Yes	Yes	Yes	Yes	In/Out	Yes	Yes

RECORDER	MODEL NO.	AVAILABILITY	DESCRIPTION
64-Channel H.265 NVR	WJ-NX400	Dec-16	i-Pro Extreme H.265 Network Video Recorder
Expansion Unit	WJ-HXE400	Dec-16	HDD Expansion Unit for WJ-NX400
Extension Software	WJ-NXE40W	Dec-16	32 Channel Extension Software for WJ-NX400

SOFTWARE	MODEL NO.	AVAILABILITY	DESCRIPTION
Video Management Application	WW-ASM300	Dec-16	i-PRO Extreme H.265 Video Management Software Supports 16 Cameras and 1 NVR free without activation
	WW-ASM300UG	Dec-16	Upgrade License from ASM200 to ASM300
	WW-ASM300CL	FY17 Q1	Concurrent Access Version for ASM300

*Most models

Panasonic

WJ-NX400 **H.265**

SECURE H.265 SYSTEM RECORDER



NEW H.265/H.264 high-throughput and scalable recorder featuring integrated GUI and robust embedded IP security enabling a secure end-to-end PC-Less surveillance solution

SECURE HIGH BANDWIDTH RECORDING

- 64 Channels - 128 Max (H.265/264)
- 384Mbps recording bandwidth
- Secure Communication and Symantec Device Certificates

PC-LESS SURVEILLANCE SOLUTION

- Built-in GUI and Dual HDMI Outputs
- Automatic camera configuration
- 2nd Stream Recording for mobile playback

SCALABLE STORAGE

- (9) Integrated Drive-bays RAID/5/6
- External storage expansion up to 270TB

HIGH RELIABILITY AND REDUNDANCY

- Dynamic HDD Power Management increases HDD life
- Redundant fail-over using 2nd Recorder

SECURE H.265 VIDEO MANAGEMENT



NEW Powerful Windows® application enables a secure, scalable H.265 ready, multi-camera, multi-recorder surveillance management environment

FULLY INTEGRATED & SECURE

- Camera control, viewing and recorder management
- Integrates i-PRO Extreme H.265 & i-PRO H.264 equipment
- Secure Communication and Symantec Device Certificates

POWERFUL USER INTERFACE

- NEW** UI design & 4K native GUI enhances usability
- Automatic camera configuration wizard
- Now include multi-monitor and WJ-CU950 support

SCALABLE AND EXTENDABLE

- Base: 100 recorders, 64 encoders and 256 cameras
- Expandable to thousands of cameras, recorders and encoders

EASY TRIAL OPTIONS

- NEW** FREE limited version supports 16 Cameras/1 Recorder
- No annual license fees

*Results may vary depending on environment and usage.
**Visit Panasonic.com for eligibility requirements and limitations.

NEW

PANASONIC UNVEILS AERO PTZ CAMERA FOR EXTREME ENVIRONMENTS

Panasonic has introduced the Aero PTZ, a new, environmentally rugged pan/tilt/zoom (PTZ) camera built to deliver high-performance surveillance in extreme weather conditions. Lightweight at approx. 17.64 pounds, the Aero PTZ is designed to operate in mission-critical applications including vital infrastructure in cities, ports, airports, traffic, highways, railways and more.

AeroPTZ

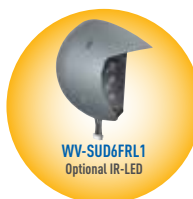
FULL HD RESOLUTION WITH 360-DEGREE VIEWING

- The Aero PTZ delivers Full HD resolution of 1080p at 60 fps with a 30X optical zoom lens
- Hybrid image stabilization suppresses vibrations between 1 to 30 HZ, to keep images stable
- 360-degree Sphere Vision 3D viewing provides 360-degree continuous panning and +/- 90-degree tilt range
- IR Illuminator is integrated with a zoom interlocking lens, which provides up to an additional 500 feet of visibility in complete darkness (Optional)
- Integrated with Smart Coding technology that reduces bandwidth up to 80% without sacrificing image quality
- Super Dynamic Light Range Compensation ensures a wider dynamic range compared to conventional cameras

HIGHLY RUGGED, SLEEK BODY DESIGNED FOR EXTREME CONDITIONS

- High strength, sleek fiber glass body and borosilicate glass provides salt and air corrosion protection, making it highly durable in even the toughest weather conditions from salty wind gusts, to harsh sunshine to the severe arctic cold.
- Unique intelligent-radius bodyline minimizes wind drag for more stability and prevents snow and dirt accumulation
- Fully water and dust proof conforming to IP67, NEMA-4X compliant and IK10 environmental specifications
- Operates in the hottest and coldest conditions from -58°F to +140°F
- Wind load durability at 135mph (operational)
- Built-in wiper and defroster

AERO PTZ CAMERA ACCESSORIES



Panasonic

EXTREME PERFORMANCE UNDER EXTREME CONDITIONS

WV-SUD638

RUGGED PTZ CAMERA FOR EXTREME ENVIRONMENTS

1080p 60fps
30x Optical Zoom

AERO-DYNAMIC DESIGN
360° Spherical profile withstands hurricane force winds **up to 135mph**

IR ILLUMINATOR
Provides up to **500 feet** of visibility in complete darkness (Optional)

FAST AND FLEXIBLE
360° continuous panning, up to 200° per second and +/- 90-degree tilt range

HIGH-STRENGTH FIBER GLASS BODY
Light-weight body (approx. 17 lbs) resists salt air corrosion, conforms to ISO14993 and is IK10 compliant

FLEXIBLE POWER OPTIONS
Operates from 100 to 240 volts AC or **PoE** (60W)

INTEGRATED WIPER & DEFROSTER
Ensures clear visibility in wet and icy conditions

INTEGRATED WITH SMART CODING
Advanced compression technology that reduces bandwidth **up to 80%** without sacrificing video quality

HYBRID IMAGE STABILIZATION
Gyro-driven technology suppresses vibrations between **1 to 30 Hz** to keep images stable

WIDE OPERATING TEMPERATURES
Delivers high performance in extreme hot or cold environments **-58 °F to +140 °F**

WATER AND DUST PROOF
Conforms to IP66, **IP67**, NEMA-4X compliant

EXTENSIVE MOUNTING OPTIONS
Pre-engineered pole mount, wall mount, and corner mounts are available



Shown with optional IR LED

AeroPTZ

UPDATED

PANASONIC INTRODUCES SMART CODING TECHNOLOGY – REDUCE BANDWIDTH WITHOUT SACRIFICING VIDEO QUALITY

Introducing Panasonic Smart Coding, an in-camera surveillance technology that reduces bandwidth usage up to 80% without sacrificing video quality. It delivers the resolution and frame rates you demand, while substantially lowering storage and networking costs.

Smart Coding is available on all standard new 1, 3, 5, 6 & True 4K Series cameras.

And Smart Coding is available on all new i-PRO Extreme (H.265) cameras.

UP TO 80%*
BANDWIDTH REDUCTION

HOW DOES SMART CODING WORK?

Smart Coding combines 2 Encoding Load Reduction technologies & 2 Noise Reduction technologies together to provide a bit rate reduction of up to 80%, in the video without losing image quality.

NOISE REDUCTION

3D-MNR reduces grainy noise generated in low-illuminance environments.

FDF reduces fine noise that is generated at slightly low illuminance.

ENCODING LOAD REDUCTION

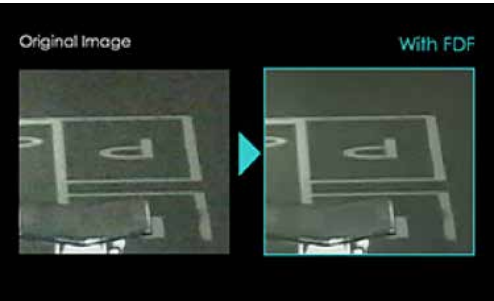
GOP Control reduces encoding data by using p-frame in place of i-frame when no motion is detected.

Auto-VIQS can automatically determine areas with and without motion and reduce the data volume of those without motion.

NOISE REDUCTION

FREQUENCY DIVIDED FILTER (FDF)

To remove fine noise from low-light footage, FDF separates camera output by frequency, removes noise and then recomposes the data, resulting in crisper, cleaner video.



3D-MULTI-PROCESS NOISE REDUCTION (3D-MNR)

3D-MNR reduces bit rates by reducing video noise and grain. The result: cleaner final images that stream at significantly lower bit rates.



ENCODING LOAD REDUCTION

GROUP OF PICTURE (GOP) CONTROL

GOP Control strips out data related to motionless elements in the scene, lowering bit rates. When moving objects enter the frame, the bitrate increases to capture the action.



AUTO-VARIABLE IMAGE QUALITY ON SPECIFIED AREA (VIQS)

Auto-VIQS finds moving areas automatically and reduces image quality of less motion area to save bandwidth.



FOR MORE INFORMATION, VISIT: info.panasonic.com/smart-coding

*3D-MNR & FDF are not available in Panasonic True 4K cameras.

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.



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.



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.

VIDEO INSIGHT v6 – VIDEO MANAGEMENT SOFTWARE NOW BUNDLED WITH MONITORCAST (ACCESS CONTROL)



Now Supporting i-PRO Extreme H.265 Cameras
Including Bundled VI Software License on all Panasonic and Advidia Cameras.

Panasonic acquired Video Insight, a leading developer of video management software, to expand its surveillance recording and monitoring capabilities and fulfill the company's ongoing strategy of delivering choice and flexibility to end users.

Video Insight is a member of the Panasonic Group and a leading IP video surveillance management software used by over 25,000 customers in the financial, government, retail, and transportation sectors with a very strong presence in the education market consisting of 5,000 K-12 school/college customers. Video Insight is the easiest and most cost-effective Enterprise VMS with support for over 3,000 camera models and integration with the top access control solutions in the market.

Panasonic is including a bundled camera license with all recent-model i-PRO and Advidia cameras in combination with Video Insight software. For a list of Panasonic camera models bundled with a unlimited camera license, visit us.panasonic.com/VideoInsight.

MONITORCAST

MonitorCast is an enterprise access control product that comes bundled with VI Monitor 6. MonitorCast v3.5 features compliment most facilities, allowing them to access to the most used features in the access control industry. In addition, MonitorCast is designed to support Mercury access control boards.



VI TV

VI TV is a security camera video management app on Apple TV that allows users access to live and recorded video from any camera on any Video Insight server.



PRE-CONFIGURED SERVERS

Video Insight Servers come pre-loaded, activated, and tested with the full Video Insight Software Suite. The "plug and play" servers are ready immediately out-of-the box for a quick start to record and view your cameras. We have a wide variety of NVR configurations available based on the number of IP cameras, the amount of storage, and the processing capacity. Both towers and rack mounts are available. For a full list of pre-configured servers, please visit business.panasonic.com/products-videosurveillance-servers.

ADVIDIA

The Advidia brand is a solid performing yet cost effective product set that when coupled with the Video Insight Recording Solution, offers a perfect complement to the Panasonic brand of highly featured products and solutions. Advidia cameras come in many different form factors (bullet, dome & PTZ) to meet your needs. Visit business.panasonic.com/advidia for more information.



YOUR SYSTEM SCALES WITHOUT LIMITATIONS

Video Insight's 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) THAN ANY OTHER ENTERPRISE VMS

Affordability, flexibility and a simple licensing model are what sets Video Insight apart. VI provides the most cost-effective enterprise-class VMS solution on the market. With Video Insight, end users receive a perpetual license that includes a wide range of enterprise features—and no hidden fees.

EASY INTEGRATION WITH EXISTING SYSTEMS

Video Insight easily integrates with your existing systems, including access control and building management. Our robust SDK and API make it easy to integrate video or alarms into a centralized console.

MAXIMIZE UPTIME AND PROTECTION

Maximize protection with redundant recording to multiple Network Video Recorders (NVRs). Health Monitor, automated failover, and easy-to-use load balancing allow migration of cameras between servers. All of these features can provide high system availability for both live and recorded video at all times. User access privileges and security features ensure tamper-free protection of all your video, data and audio.

VI MOBILE—SURVEILLANCE ANYWHERE

VI Mobile is a video management system app that allows authorized "on the go" users to access live and recorded video from any camera on any server. Users can view and control PTZ cameras, and view images in full resolution and high frame rates with H.264. The app imports all settings from a single address, providing users access to individual cameras or groups of cameras in predefined layouts. Users can save or email snapshots, view recorded images by alarm or specific times and view thumbnail images on facility maps. Users can also trigger events to display customized actions on Monitor Station/VI Monitor directly from mobile devices.



DELIVERING SHARPER IMAGES WITH HIGHER SENSITIVITY

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



WV-SFN480

360-degree Indoor Dome
9 Megapixel Network Camera



WV-SFV481

360-degree Vandal Resistant
Outdoor Dome
9 Megapixel Network Camera

COMPLETE WITH POWERFUL ANALYTICS BUILT-IN

HEAT MAP*

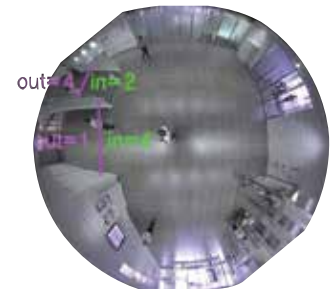
This provides visualization of the traffic patterns by people and how long they stay in one place. For example, you can place products based on how people tend to flow within the store and arrange objects so that they do not interfere with the movement of people.

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.



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

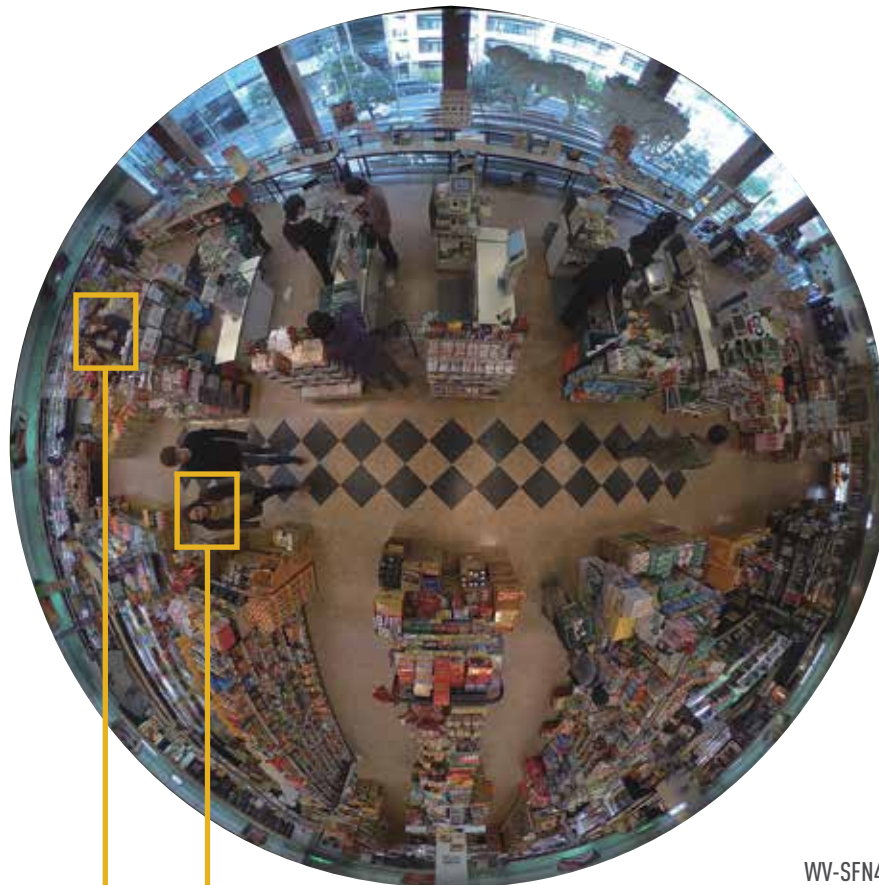
Includes a 12-megapixel high-sensitivity sensor capable of 4K image output for producing high-resolution images up to 9M (3K × 3K) in Fisheye mode. Detailed monitoring in all directions using the wide range of distribution modes and Multi-stream. (Fisheye mode, Panorama mode, Double Panorama mode, Quad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



9M (3K × 3K) HIGH-RESOLUTION
H.264 PERFORMANCE ENABLES
SHARP RENDERING OF OBJECTS
AND PEOPLE'S FACES AT THE
EDGE SECTIONS OF THE FISHEYE

NOW WITH SMART CODING

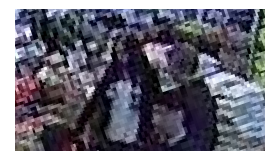
UP TO **80%**
BANDWIDTH REDUCTION

WV-SFN480



26 ft

WV-SF438



13 ft



STANDARD H.264 LINE-UP FEATURES HIGH PERFORMANCE & NEW SMART CODING TECHNOLOGY



The next-generation UniPhier® Camera Platform is the heart of Panasonic's top-of-the-line 6 Series, midrange 5 Series, 3 Series and now entry-level 1 Series camera lines. Featuring a newly developed high-sensitivity MOS Sensor and Shadow H.264 Compression Engine, the powerful UniPhier® Platform delivers sharp and natural color images with exceptional low-light performance capability (down to .01 lux). The new Codec Engine attains the best video compression performance to provide superb image quality while providing savings on bandwidth and the recording system.



The UniPhier® Platform—developed exclusively by Panasonic for use in its 6, 5, 3 and 1 Series cameras—offers innovative functions like Enhanced Super Dynamic Range (133dB) video dynamic range and 60-frames-per-second performance in 1080p and 720p, delivering outstanding performance even in the most dynamic and challenging lighting conditions. The cameras have the ability to encode up to four H.264 streams to ensure simultaneous real-time monitoring, high-resolution recording and mobile access.

NEW 1 SERIES MODELS *NOW AVAILABLE*



WV-SFV110/M



WV-SFN110



WV-SFV130/M



WV-SFN130

ENHANCED SUPER DYNAMIC LIGHT RANGE COMPENSATION

Featuring industry-leading 133db (1 Series up to 122dB) Enhanced Super Dynamic and Adaptive Black Stretch (ABS) technologies, the new 1/3/5/6 Series cameras allow you to see images that you couldn't see before.



Enhanced Super Dynamic:
133dB Wide Dynamic Range



Conventional Super Dynamic Range

EXCEPTIONAL IMAGE QUALITY

The 3/5/6 Series cameras' ultrafast frame rate of 60 fps combines with their high-resolution video quality to ensure crisp, smooth motion for applications in casinos, airports, stadiums and much more.



60 fps Simulated



30 fps Simulated

SMART CODING REDUCES BIT RATES UP TO 80% WITHOUT SACRIFICING IMAGE QUALITY

Smart Coding is the only in-camera surveillance technology that reduces bandwidth usage up to 80% without sacrificing video quality. This more efficient, fully compliant H.264 implementation delivers the same high quality resolution and frame rates to preserve forensic detail, while substantially lowering your storage and network costs.

Panasonic combines three advanced signal processing technologies – Group of Picture Control, 3D-Multi-Process Noise Reduction and Frequency Divided Filter – which together provide a bit rate reduction of up to 80%, in the video without losing image quality.

This breakthrough innovation comes standard on all new 1, 3, 5 and 6 Series cameras, or as a free upgrade for these models.

UP TO **80%**
BANDWIDTH REDUCTION

HIGH SENSITIVITY WITH MULTIPROCESSING NOISE REDUCTION

With a combination of 3D noise reduction and multiprocess noise reduction (MNR), both the bright area and the dark area of an image are faithfully reproduced with minimum noise in high-sensitivity image recording.



WV-SFV631 at 0.57 Lux



Conventional Camera at 0.57 Lux

EASE OF INSTALLATION

The 1/3/5/6 Series cameras are easy to install, with six patterns of holes for various gang boxes, a 4-point locking mechanism to simplify the mounting direction, a non-screw lock PTY mechanism to enable quicker angle adjustment and a flat-bottom body to enable installation without a surface mounting unit.

WEATHER COMPENSATION

To help improve the captured image in poor weather conditions, such as smog, fog or smoke, the visibility of the 1/3/5/6 Series cameras can be enhanced in any weather condition.



Fog Compensation ON



Fog Compensation OFF

SMART DOF (DEPTH OF FIELD)—6 SERIES ONLY

With this new feature, a 6 Series camera controls both the iris and the shutter to deliver a deeper depth of field. The depth of field (DOF) is automatically optimized to enhance focus for both near and far objects within the camera's view.



6 Series



Conventional Fixed Dome Camera

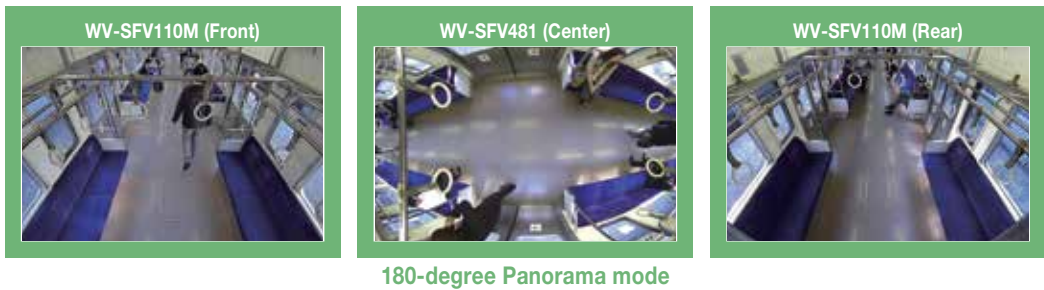
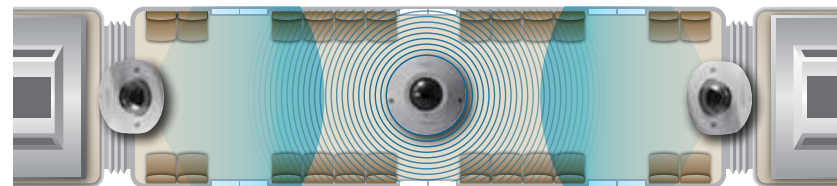
FOR MORE INFORMATION ON **6**, **5**, **3**, AND **1**, VISIT www.us.panasonic.com/uniphier



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



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-SFV481

- 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-SW458MA

- 360° monitoring with a wide variety of transmission modes: Panorama, Double Panorama, Quad PTZ, Single PTZ, and Quad streams (H.264/VGA)
- 1080p Full HD images up to 30 fps
- Compatible with EN50155 "Railway applications" and DIN 5510-2 "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

i-PRO TRANSIT NETWORK VIDEO RECORDER

- Powered by the Intel® Core™ i7 Processor for high-speed performance
- Runs Windows® OS for optimal software compatibility
- Supports two M12 Ethernet connections

RECOMMENDED MOBILE RECORDER FOR BUS (VTC7110)*

Bring unrivaled computing power and exceptional video graphics handling onto the bus with this rugged, mobile-ready recorder. With its ability to record and wirelessly transmit HD video from up to four IP cameras (up to 16 with an optional expansion switch), transit control rooms can be given complete situational awareness of the vehicle in real time.

*This is a product from NEXCOM International Co., Ltd. Contact a sales representative to purchase it.



WV-ASF900W—FacePro™



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

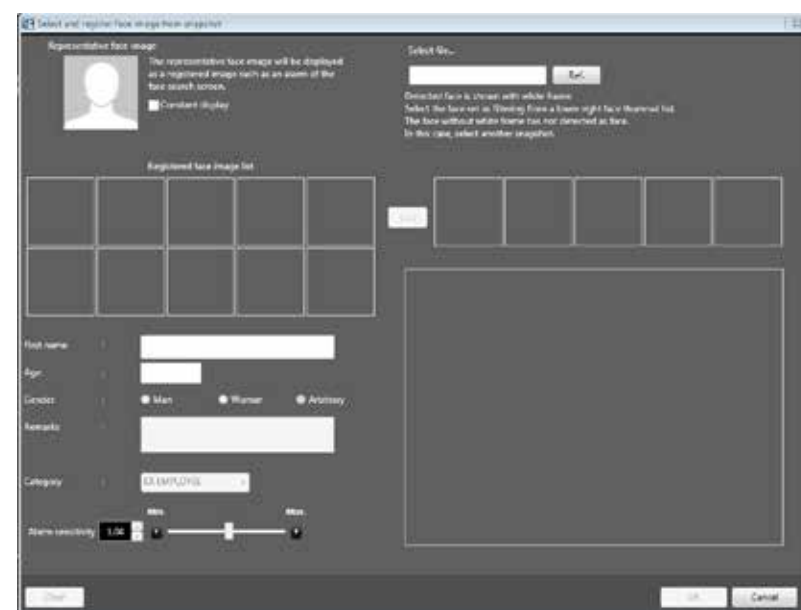
The WV-ASF900W FacePro™ Facial Recognition is a software solution and software engine that automatically performs verification of a person's face using live video streams or digital images from Panasonic i-PRO cameras to match against a database of enrolled faces and perform notification and alerting 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 1,000 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-ASM200W 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 1,000 "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-SP306, WV-SP305 and WV-SC385 models and WV-SPN631, WV-SPN611, WV-SPN531, WV-SPN311 models and WV-SFV631LT model)
- Flexible alarm triggers on matched faces using live cameras
- Requires ASM300/ASM200/ASM970 client software
- Ideal for Panasonic customers who have either WJ-ND400 or WJ-NV200/300 NVR

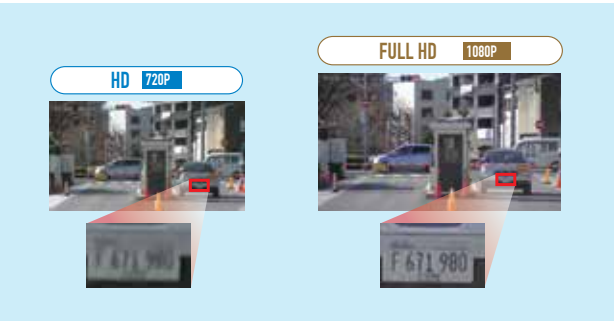
*12 Cameras or more require dual-cpu FacePro server model.

HIGH PICTURE QUALITY, HIGH SENSITIVITY

Providing natural looking, sharp video optimized for a wide range of installation environments and conditions.

HIGH RESOLUTION

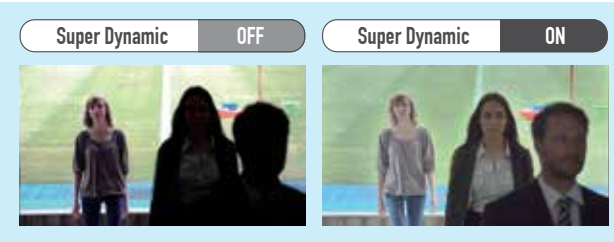
The Panasonic i-PRO SmartHD Series of network cameras are high definition (HD) cameras capable of shooting video at Full HD (1,920x1,080) and HD (1280x720). These cameras can record up to 60 images per second (60 fps), even at Full HD resolutions for the capture of exceptionally clear images of moving objects. The resolution, frame rate, and other parameters can be adjusted for the installation location and subject for obtaining the optimum settings for your specific environment.



ENHANCED SUPER DYNAMIC

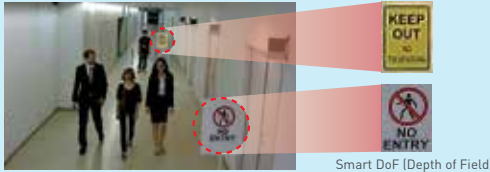
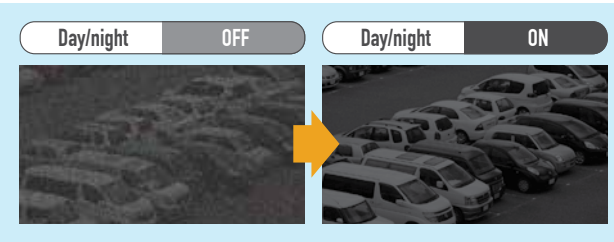
In installation environments with differences in brightness, the Super Dynamic (SD) function brightens dim areas with low visibility and reduces the brightness of areas where blown-out highlights can occur due to over-brightness, providing a natural image that is easy to view. In building entrances and similar locations, this enables the capturing of sharp images of people's faces as they enter from the outside when exposed to direct sunlight.

With the Super Dynamic (SD) function, the camera can be installed without worrying about lighting conditions that vary based on the time of day and season.



DAY/NIGHT AUTOMATIC MODE SWITCHING

In stores, warehouses, and other locations where it is bright during the day but dark at night, the camera can automatically determine the brightness of the area and record video under the optimum conditions. During nighttime hours, the camera automatically switches to black-and-white video for providing footage with high visibility.



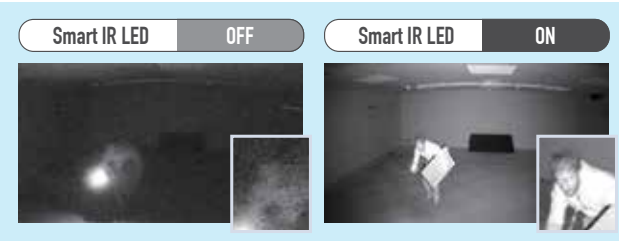
Smart DoF (Depth of Field)

The i-PRO SmartHD Series cameras are ideal for shooting in locations with depth. When recording areas with depth, such as straight passageways or wide spaces, the optimum image can be captured with focal points simultaneously at both the near and far ends of the image.

0 LUX PITCH DARK LOCATIONS

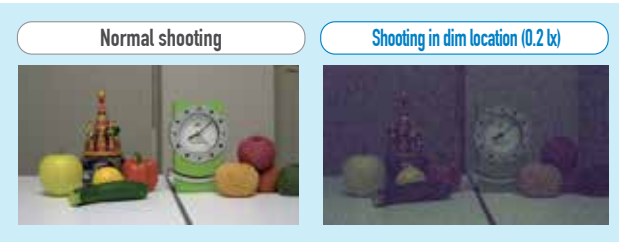
Cameras with a **Smart IR LED** can be used to monitor environments that are completely dark. This enables areas without the level of illumination required to be monitored to prevent graffiti, illegal dumping, and property destruction.

Smart IR LED can illuminate a wide area so that monitoring is not limited to a specific part of the image. The built-in IR LED of the 6 Series can capture subjects up to 30 meters away. Light levels are automatically adjusted for blown out highlights and screen whitening when the IR LED shines on a subject close-by, making the right areas highly visible. The IR LED is covered to make it difficult to detect from the outside or to know which way the lens is pointing.



STRONG LOW LIGHT PERFORMANCE IN COLOR

Monitoring is possible even in dim locations. Panasonic's proprietary technology enables high-sensitivity shooting that enables distinguishing of color hues even in dimly-lit locations.

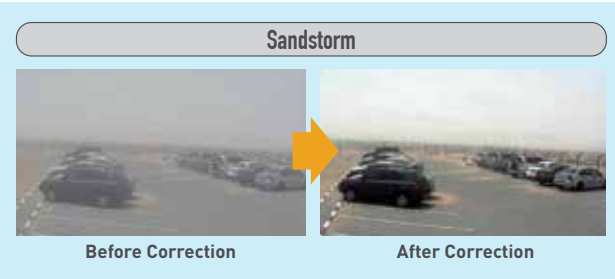
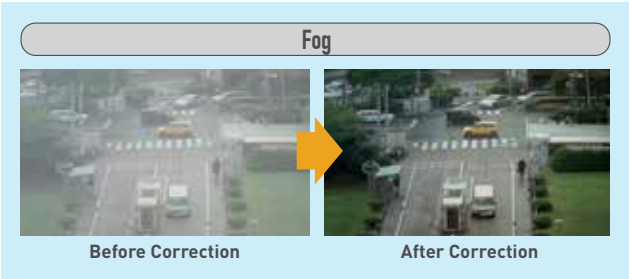


*Supported functions and specifications differ according to the models. See the specifications for each model.

IMAGE COMPENSATION

FOG / SANDSTORM COMPENSATION

A full array of features are provided for optimum shooting in fog, sandstorms, and other hazy environments. Hazeiness due to fog or a sandstorm is automatically removed by this function providing clear, sharp video footage.

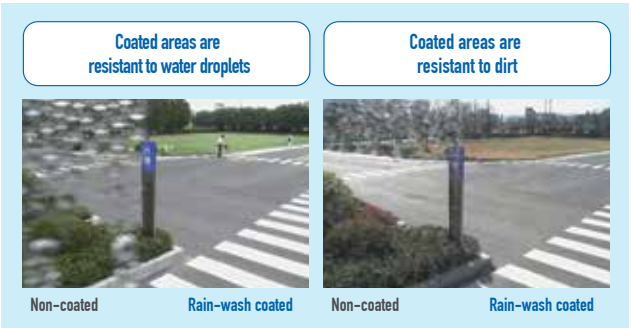


VISIBILITY ENHANCEMENT COATING

Water droplets from rain can adhere to the dome cover of the camera and hinder the shooting of clear images. In our Rain-wash coated models, a special coating is applied so that water droplets are repelled allowing clear images to be recorded even during rainfall. This coating is also effective at repelling dirt so that cleaning of the dome cover is required less frequently.

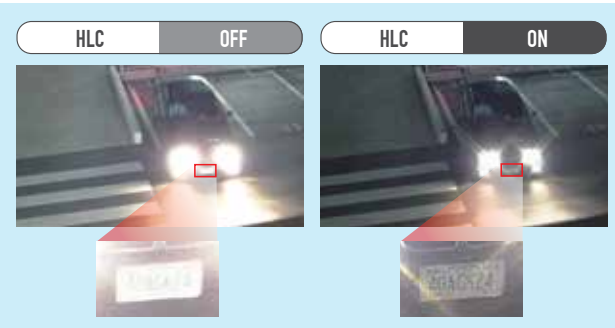


* WV-SFV781L / WV-SPV781L / WV-SW598 / WV-SW397A / WV-SW396A / WV-SW395A



HIGH LIGHT COMPENSATION

For cameras installed at locations along roads or at entrances and exits to parking lots, the glare of headlights and other strong light sources shining into the camera lens can prevent the reading of license plates and surrounding areas. Enabling the HLC (High light compensation) function reduces the brightness of strong light sources and enhances the surrounding areas for optimum video recording.



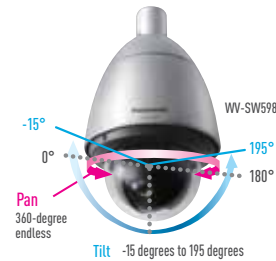
*Supported functions and specifications differ according to the models. See the specifications for each model.

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.

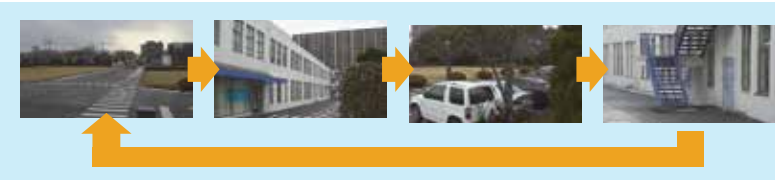
PTZ CAMERA FOR WIDE RANGE MONITORING AND A HIGH ZOOM RATIO

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 WV-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

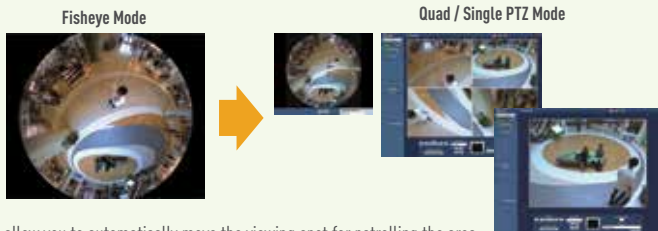
The 360-degree Network Camera can capture images around the camera lens in all directions. Available modes include Fisheye, Double Panorama, Panorama, Quad PTZ, and 4 Stream, and the camera can output video images based on the selected video mode for reduced loads on the viewing system.



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 (WV-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.



*Supported functions and specifications differ according to the models. See the specifications for each model.

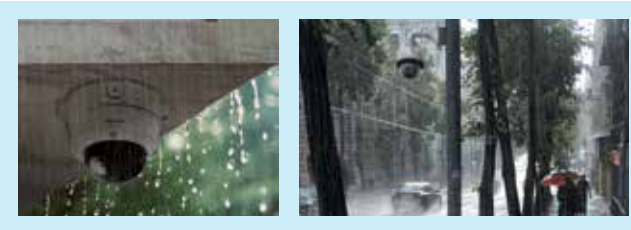
SUPPORT FOR VARIOUS INSTALLATION ENVIRONMENTS

Panasonic network cameras are available in a full lineup of products custom-tailored for a wide range of installation environments. Their specialized design also helps to reduce the work required for installation.

SELECT THE SPECIALIZED MODEL FOR YOUR INSTALLATION ENVIRONMENT

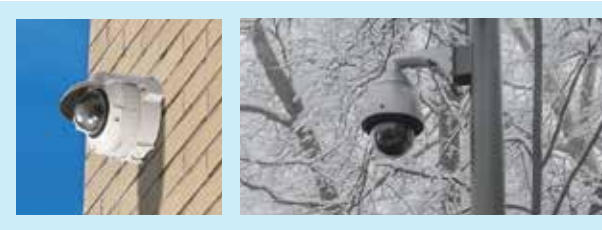
Rainwater protection for outdoor installations

The outdoor models have a waterproof and dustproof structure that is rated IP66 for outdoor installation without requiring insertion in a special housing or other weatherproofing protection.



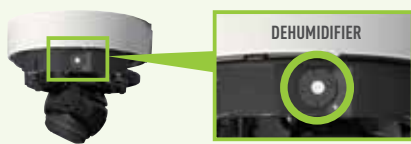
Temperature protection for outdoor installations

Models can be selected to match your specific installation conditions and can be installed in environments with temperatures ranging from +55°C to -50°C. *The supported temperature range varies depending on the specific model.



DEHUMIDIFICATION DEVICE

The network camera outdoor models have a built-in dehumidifier device to lower the internal humidity for preventing cloudiness due to condensation. This eliminates blurry video images caused by clouding of the camera dome cover when installed in locations with high humidity or extreme temperature changes over the course of the day.



Vandal Resistant

When installed in locations that are prone to vandalism and tampering, measures are required for preventing damage to the camera. Models featuring the Vandal Resistant mechanism are ideal for installation in these types of locations.



VANDAL RESISTANT MECHANISM

Models featuring the Vandal Resistant mechanism include a shock absorber around the internal lens. Even if the dome cover is subjected to a potentially damaging impact, the shock absorber will absorb this impact to protect the internal structure from damage.



*Supported functions and specifications differ according to the models. See the specifications for each model.

SUPPORT FOR VARIOUS INSTALLATION ENVIRONMENTS (continued)

Panasonic network cameras are available in a full lineup of products custom-tailored for a wide range of installation environments. Their specialized design also helps to reduce the work required for installation.

Onboard Model

A lineup of network cameras is also available with anti-vibration and other specific features for installation in cars, buses, and other vehicles. The WV-SBV131M, WV-SBV111M, WV-SW155MA, WV-SW158, WV-SW458MA, and WV-SFV481 are compliant with the EN50155 European railway standards.



Mount on the Outside of the Vehicle

The rugged mobile network camera WV-SBV131M, WV-SBV111M meets the United States Department of Defense Military Standards MIL-STD-810G to withstand even the harshest of environments. Also meeting the highest International Protection Standards IP6K9K, the camera is dust tight and waterproof. Meeting such standards allows the camera to be mounted on the outside of busses and trains, which are constantly shaking and rained on. The lenses' hard coated surface allows the vehicle to be put through a carwash. Capable of withstanding temperatures ranging from -40 °C and up to +60 °C (-40 °F and up to 140 °F) the camera is highly versatile.



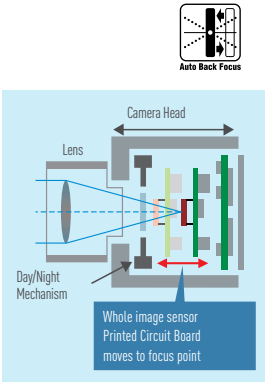
Reduced Installation Time

The i-PRO SmartHD Series cameras include a number of features for reducing the time required for installation. If you want to change the camera direction after installation, the camera direction can be changed in 90° steps without removing the base (SFV, SFR, SFN models). The dome cover can also be easily removed to change the direction of the lens. For Outdoor Box type cameras (SPW models), the stay can be bent to one of two levels to allow installation with a high degree of freedom.



ABF (Auto back Focus)

The ABF feature automatically adjusts the image sensor position when changing from color to B/W mode, optimize the back focus required for clear, sharp images. In addition, the one-push Auto Back Focus feature sharply reduces the time required to focus cameras during installation, allowing focus to be set using the optional system controller. The ABF function can also automatically sense and adjust to slight focal length changes due to parts warping caused by temperature changes in the area where the camera is installed.



Please find the Transit camera specifications on page 25.

*Supported functions and specifications differ according to the models. See the specifications for each model.

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

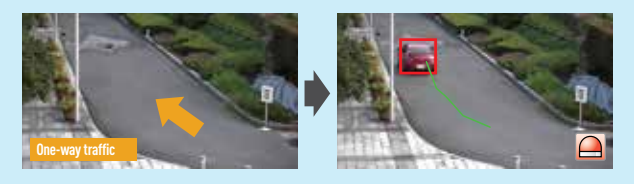
Crossing over the fence



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.

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

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

LOITERING DETECTION

Objects staying longer than a specified time



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

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.

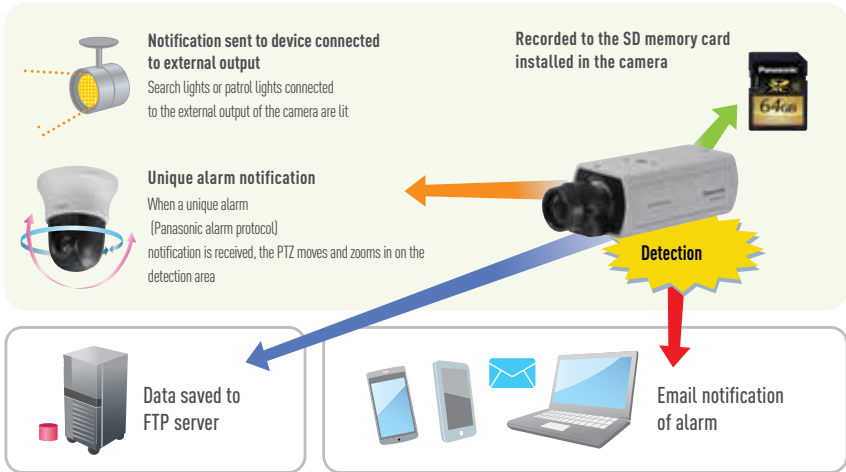
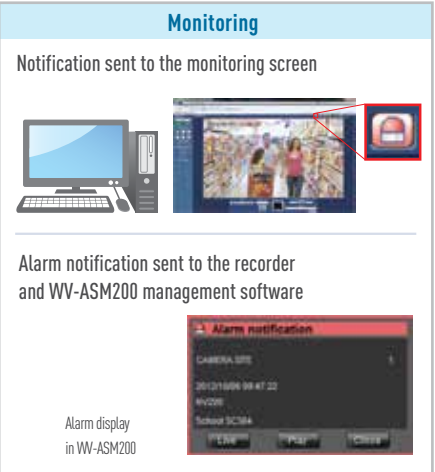
CROSS LINE DETECTION *2

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





*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.

CAMERA TYPE		PAN TILT ZOOM		
Appearance		<div> <div>NEW</div> <div>Available September 2016</div>  <div> <div>ONVIF S</div> <div>VW-SUD638</div> <div>HD1080P</div> </div> </div>	 <div> <div>ONVIF S G</div> <div>VW-SW598A</div> <div>HD1080P</div> </div>	 <div> <div>ONVIF S G</div> <div>VW-SW397B</div> <div>HD720P</div> </div>
Sensor		1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	2	2
	JPEG multi stream	6 (Variable)	6	6
	Smart Coding	—	—	—
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080	1280 x 720
	4 : 3	1280 x 960	1280 x 960	1280 x 960
Max. FPS @Max. Resolution	H.264	60 fps (1080p)	30 fps (1080p)	30 fps (2.4 MP)
	JPEG	30 fps (1080p)	30 fps (1080p)	30 fps (2.4 MP)
Super Dynamic / WDR / BLC		Super-D	Super-D	Super-D
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color	0.06 lx @F1.6	0.15 lx @F1.6	0.3 lx @F1.6
	Color (Sens up)	0.004 lx (16x)	0.009 lx (16x)	0.019 lx (16x)
	B/W	0.0 lx @F1.6 (w/IR)	0.018 lx @F1.6	0.04 lx @F1.6
	B/W (Sens up)	—	0.001 lx (16x)	0.003 lx (16x)
Lens		f= 4.3 to 129 mm, F1.6	f= 4.3 to 129 mm, F1.6	f= 4.3 to 129 mm, F1.6
Angular field of view	16 : 9	H: 2.3 to 64 deg. / V: 1.3 to 38 deg.	H: 2.6 to 64.6 deg. / V: 1.6 to 38.2 deg.	H: 2.6 to 64.6 deg. / V: 1.6 to 38.2 deg.
	4 : 3	H: 1.8 to 50 deg. / V: 1.3 to 38 deg.	H: 1.4 to 44.4 deg. / V: 1.1 to 33.8 deg.	H: 1.4 to 44.4 deg. / V: 1.1 to 33.8 deg.
Pan	Range	Endless	Endless	Endless
	Speed	200 deg/sec	300 deg/sec	300 deg/sec
Tilt	Range	Upright: -50 to +90 deg. / Forward tilt: -90 to +90 deg. / Hanging: +30 to -90 deg.	-15 to +195 deg.	-15 to +195 deg.
	Speed	200 deg/sec	300 deg/sec	300 deg/sec
360 Pan-Flip		—	—	—
Number of Preset Positions		256	256	256
Patrol		Yes	Yes	Yes
Auto Tracking		Yes	Yes (advanced)	Yes (advanced)
Optical Zoom		30x	30x	30x (45x with Extra Zoom at HD)
Digital Zoom		12x	12x	12x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		—	—	—
VIQS		Yes (8-areas)	Yes (2-areas)	Yes (2-areas)
Max. Connection		14	14	14
Audio	In (Line)	Yes	Yes	Yes
	In (Built-in MIC)	—	—	—
	Out	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)
	Audio Detection Alarm	Yes	Yes	Yes
SD memory Card	Slot	—	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	—	—
	Audio REC	—	Yes	Yes
External I/O		Yes (3) (*4)	Yes (3) (*3)	Yes (3) (*3)
Monitor Out		—	Yes (Composite)	Yes (Composite)
Vandal Resistant		20J, IK10	20J, IK10	20J, IK10
Water and Dust Resistance		IP67 / IP66 / NEMA 4X	IP66 / NEMA 4	IP66
Temperature		-58°F to +140°F	-58°F to +131°F (24 V / 60 W PoE) (*4) -22°F to +131°F (PoE+)	-58°F to +131°F (24 V) -22°F to +131°F (PoE+)
Power Source		AC100 to 240V / 60W Injector	24 V AC / PoE+	24 V AC / PoE+
Dehumidification device		Yes	Yes	Yes
Other Functions		Built-in wiper, Defloster	Built-in heater, Rain wash coating, Auto Eyelid Mechanism	Built-in heater, Auto Eyelid Mechanism, Rain wash coating (VW-SW397A)
Mounting Options		See page 50	See page 50	See page 50






(*2): Only for SD REC (*3): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) (*4): Tested PoE injector

CAMERA TYPE		PAN TILT ZOOM		
Appearance		 <div> <div>ONVIF S</div> <div>VW-SW395A</div> <div>HD720P</div> </div>	 <div> <div>ONVIF S G</div> <div>VW-SC588A</div> <div>HD1080P</div> </div>	 <div> <div>ONVIF S G</div> <div>VW-SC387A</div> <div>HD720P</div> </div>
Sensor		1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / MPEG-4 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	2	2	2
	JPEG multi stream	6	6	6
	Smart Coding	—	—	—
Max. Resolution	16 : 9	1280 x 720	1920 x 1080	1280 x 720
	4 : 3	1280 x 960	1280 x 960	1280 x 960
Max. FPS @Max. Resolution	H.264	30 fps (1.3 MP)	30 fps (1080p)	30 fps (2.4 MP)
	JPEG	30 fps (1.3 MP)	30 fps (1080p)	30 fps (2.4 MP)
Super Dynamic / WDR / BLC		Super-D	Super-D	Super-D
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color	0.5 lx @F1.6	0.5 lx @F1.6	0.3 lx @F1.6
	Color (Sens up)	0.03 lx (16x)	0.03 lx (16x)	0.019 lx (16x)
	B/W	0.06 lx @F1.6	0.06 lx @F1.6	0.04 lx @F1.6
	B/W (Sens up)	0.004 lx (16x)	0.004 lx (16x)	0.003 lx (16x)
Lens		f= 4.7 to 84.6 mm, F1.6	f= 4.3 to 129 mm, F1.6	f= 4.3 to 129 mm, F1.6
Angular field of view	16 : 9	H: 3.2 to 55.2 deg. / V: 1.9 to 31.9 deg.	H: 2.34 to 65.1 deg. / V: 1.36 to 38.4 deg.	H: 2.34 to 65.1 deg. / V: 1.36 to 38.4 deg.
	4 : 3	H: 3.2 to 55.2 deg. / V: 2.4 to 42.1 deg.	H: 1.6 to 45.2 deg. / V: 1.2 to 34.3 deg.	H: 1.6 to 45.2 deg. / V: 1.2 to 34.3 deg.
Pan	Range	0 to +350 deg.	Endless	Endless
	Speed	300 deg/sec	300 deg/sec	300 deg/sec
Tilt	Range	-30 to +90 deg.	-25 to +205 deg.	-25 to +205 deg.
	Speed	100 deg/sec	300 deg/sec	300 deg/sec
360 Pan-Flip		Yes	—	—
Number of Preset Positions		64	256	256
Patrol		—	Yes	Yes
Auto Tracking		Yes	Yes (advanced)	Yes (advanced)
Optical Zoom		18x	30x	30x (45x with Extra Zoom at HD)
Digital Zoom		12x	12x	12x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		—	—	—
VIQS		—	Yes (2-areas)	Yes (2-areas)
Max. Connection		14	14	14
Audio	In (Line)	Yes	Yes	Yes
	In (Built-in MIC)	—	—	—
	Out	Yes	Yes	Yes
	Codec	G.711 / G.726	G.711 / G.726 / AAC (*1)	G.711 / G.726 / AAC (*1)
	Audio Detection Alarm	—	Yes	Yes
SD memory Card	Slot	Yes (SDHC)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	—	—
	Audio REC	—	Yes	Yes
External I/O		Yes (3) (*3)	Yes (3) (*2)	Yes (3) (*2)
Monitor Out		Yes (Composite)	Yes (Mini-jack)	Yes (Mini-jack)
Vandal Resistant		20J, IK10	—	—
Water and Dust Resistance		IP66	—	—
Temperature		-40°F to +122°F (24 V) -22°F to +122°F (PoE+)	+14°F to +131°F	+14°F to +131°F
Power Source		24 V AC / PoE+	12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	—	—
Other Functions		Built-in heater, Rain wash coating (VW-SW395A)	Dome less	Dome less
Mounting Options		See page 50	See pages 48, 49	See pages 48, 49





(*1): Only for SD REC (*2): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)

CAMERA TYPE		PAN TILT ZOOM	
<div> <div>Appearance</div> <div>  <div> Onvif S WV-SC385 HD720P </div> </div> </div>		<div> <div>Appearance</div> <div>  <div> Onvif S WV-SC384 4K HD720P </div> </div> </div>	
Sensor		1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG
	H.264 multi stream	2	2
	JPEG multi stream	6	6
	Smart Coding	—	—
Max. Resolution	16 : 9	1280 x 720	1280 x 720
	4 : 3	1280 x 960	1280 x 960
Max. FPS @Max. Resolution	H.264	30 fps (1.3 MP)	30 fps (1.3 MP)
	JPEG	30 fps (1.3 MP)	30 fps (1.3 MP)
Super Dynamic / WDR / BLC		Super-D	WDR
Day/Night		Yes (ICR)	Yes (Electrical)
ABF (Auto Back Focus) / Focus Assist		Auto Focus	Auto Focus
Min. Illumination	Color	0.5 lx @F1.6	0.6 lx @F1.6
	Color (Sens up)	0.03 lx (16x)	0.038 lx (16x)
	B/W	0.06 lx @F1.6	0.5 lx @F1.6
	B/W (Sens up)	0.004 lx (16x)	0.03 lx (16x)
Lens		f= 4.7 to 84.6 mm, F1.6	f= 4.7 to 84.6 mm, F1.6
Angular field of view	16 : 9	H: 3.2 to 55.2 deg. / V: 1.9 to 31.9 deg.	H: 3.2 to 55.2 deg. / V: 1.9 to 31.9 deg.
	4 : 3	H: 3.2 to 55.2 deg. / V: 2.4 to 42.1 deg.	H: 3.2 to 55.2 deg. / V: 2.4 to 42.1 deg.
Pan	Range	0 to +350 deg.	0 to +350 deg.
	Speed	300 deg/sec	300 deg/sec
Tilt	Range	-30 to +90 deg.	-30 to +90 deg.
	Speed	100 deg/sec	100 deg/sec
360 Pan-Flip		Yes	Yes
Number of Preset Positions		64	64
Patrol		—	—
Auto Tracking		Yes	—
Optical Zoom		18x	18x
Digital Zoom		12x	8x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		—	—
VIQS		—	—
Max. Connection		14	14
Audio	In (Line)	Yes	Yes
	In (Built-in MIC)	—	—
	Out	Yes	Yes
	Codec	G.711 / G.726	G.711 / G.726
Audio Detection Alarm		—	—
SD memory Card	Slot	Yes (SDHC)	Yes (SDHC)
	Password & Alter Detection	—	—
	Audio REC	—	—
External I/O		Yes (3/1)	Yes (3/1)
Monitor Out		Yes (Mini-jack)	Yes (Mini-jack)
Vandal Resistant		—	—
Water and Dust Resistance		—	—
Temperature		+14°F to +122°F	+14°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—
Other Functions		—	—
Mounting Options		See pages 48, 49	See pages 48, 49






(*1): Only for SD REC (*2): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)

CAMERA TYPE		FIXED DOME				
Appearance		 Onvif S G WV-SFV781L 4K Engine	 Onvif S G WV-SFV631LT HD1080P	 Onvif S G WV-SFV631L HD1080P	 Onvif S G WV-SFV611L HD720P	 Onvif S G WV-SFV531 HD1080P
Sensor		1/1.7 MOS	1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4	4	4
	JPEG multi stream	2	6 (Variable)	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes (GOP Only)	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	3840 x 2160	1920 x 1080	1920 x 1080	1280 x 720	1920 x 1080
	4 : 3	4000 x 3000	2048 x 1536 (*1)	2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)
Max. FPS @Max. Resolution	H.264	30fps (4K)	60fps (1080p)	60fps (1080p)	60fps (720p)	60fps (1080p)
	JPEG	15fps (12 MP)	30fps (3 MP)	30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)
Super Dynamic / WDR / BLC		WDR	Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		ABF	ABF	ABF	ABF	ABF
Min. Illumination	Color	0.3 lx @F1.6	0.06 lx @F1.6	0.04 lx @F1.3	0.01 lx@F1.3	0.07 lx @F1.6
	Color (Sens up)	0.02 lx (16x)	0.0045 lx (16x)	0.003 lx (16x)	0.0007 lx (16x)	0.005 lx (16x)
	B/W	0.0 lx @F1.6 (w/IR)	0.0 lx @F1.6 (w/IR)	0.0 lx @F1.3 (w/IR)	0.0 lx @F1.3 (w/IR)	0.01 lx @F1.6
	B/W (Sens up)	—	—	—	—	0.0007 lx (16x)
Lens		f=4.2 to 25.2 mm, F1.6 Motorized	f= 9 to 22 mm, F1.6 Motorized	f= 2.8 to 10 mm, F1.3 Motorized	f= 2.8 to 10 mm, F1.3 Motorized	f=2.8 to 9.5 mm, F1.6
Angular field of view	16 : 9	H: 17 to 96 deg. V: 9.3 to 54 deg.	H: 13.8 to 33.0 deg. V: 7.7 to 17.8 deg.	H: 28.8 to 102.6 deg. V: 16.0 to 56.0 deg.	H: 26.4 to 93.7 deg. V: 14.8 to 51.6 deg.	H: 31 to 109 deg. V: 18 to 59 deg.
	4 : 3	H: 17 to 100 deg. V: 13 to 75 deg.	H: 11.5 to 27.0 deg. V: 8.6 to 19.9 deg.	H: 23.7 to 84.3 deg. V: 17.8 to 62.4 deg.	H: 26.4 to 93.7 deg. V: 20 to 69.3 deg.	H: 26 to 89 deg. V: 20 to 66 deg.
Adjusting Angle	Pan	-180 to +180 deg.	-180 to +180 deg.	-180 to +180 deg.	-180 to +180 deg.	-180 to +180 deg.
	Tilt	0 to +85 deg.	0 to +85 deg.	0 to +85 deg.	0 to +85 deg.	-85 to +85 deg.
Optical Zoom		6x	2.4x	3.6x	3.6x	3.3x
Digital Zoom		4x	4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		—	Yes (Type2)	Yes (Type2)	Yes (Type2)	Yes (Type2)
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14	14
Audio	In (Line)	Yes	Yes	Yes	Yes	Yes
	In (Built-in MIC)	—	—	—	—	—
	Out	Yes	Yes	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC
	Audio Detection Alarm	—	Yes	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC x 2)	Yes (SDXC x 2)	Yes (SDXC x 2)	Yes (SDXC)
	Password & Alter Detection	—	Yes (V1.52)	Yes (V1.52)	Yes (V1.52)	Yes
	Audio REC	Yes	Yes	Yes	Yes	Yes
External I/O		Yes (3) (*3)	Yes (3) (*4)	Yes (3) (*4)	Yes (3) (*4)	Yes (3) (*4)
Monitor Out		Yes (RCA)	Yes (mini jack)	Yes (mini jack)	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		20J, IK10	50J, IK10	50J, IK10	50J, IK10	50J, IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-49°F to +122°F	-49°F to +122°F	-49°F to +122°F	-49°F to +122°F	-49°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes	Yes	Yes	Yes
Other Functions		Smart-DoF, Built-in heater, Rain wash coating, Built-in IR LED	Smart-DoF, Built-in heater, Built-in IR LED	Smart-DoF, Built-in heater, Built-in IR LED	Smart-DoF, Built-in heater, Built-in IR LED	Built-in heater
Mounting Options		See pages 46, 47	See pages 46, 47	See pages 46, 47	See pages 46, 47	See pages 46, 47





(*1): w/Super resolution (*2): Only for SD REC (*3): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out, Day/Night Out) (x1 for each) (*4): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)

CAMERA TYPE		FIXED DOME			
Appearance		 ONVIF S VW-SFV311A HD720P	 ONVIF S VW-SFV310A HD720P	<i>NEW</i>  ONVIF S VW-SFV130/VW-SFV130M (*5) HD1080P	<i>NEW</i>  ONVIF S VW-SFV110/VW-SFV110M(*5) HD720P
Sensor		1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4	4
	JPEG multi stream	6 (Variable)	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080 (*1) / 1280 x 720	1920 x 1080 (*1) / 1280 x 720	1920 x 1080	1280 x 720
	4 : 3	1280 x 960	1280 x 960	2048x1536	1280 x 960
Max. FPS @Max. Resolution	H.264	60fps (720p)	60fps (720p)	30fps (3MP)	30fps (1.3MP)
	JPEG	30fps (1.3 MP)	30fps (1.3 MP)	30fps (3MP)	30fps (1.3MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Super Dynamic	Super Dynamic
Day/Night		Yes (ICR)	Yes (Electrical)	Yes (Electrical)	Yes (Electrical)
ABF (Auto Back Focus) / Focus Assist		ABF	Focus Assist	—	—
Min. Illumination	Color	0.01 lx @F1.6	0.01 lx @F1.6	0.1 lx @F2.3	0.04 lx @F2.3
	Color (Sens up)	0.0007 lx (16x)	0.0007 lx (16x)	0.007 lx (16x)	0.003 lx (16x)
	B/W	0.003 lx @F1.6	0.008 lx @F1.6	0.08 lx @F2.3	0.03 lx @F2.3
	B/W (Sens up)	0.0002 lx (16x)	0.0005 lx (16x)	0.005 lx (16x)	0.002 lx (16x)
Lens		f= 2.8 to 10 mm, F1.6	f= 2.8 to 10 mm, F1.6	f= 2.8mm, F2.3	f= 2.8mm, F2.3
Angular field of view	16 : 9	H: 28 to 99 deg. V: 16 to 54 deg.	H: 28 to 99 deg. V: 16 to 54 deg.	H: 108 deg. V: 60 deg.	H: 100 deg. V: 55 deg.
	4 : 3	H: 28 to 99 deg. V: 21 to 72 deg.	H: 28 to 99 deg. V: 21 to 72 deg.	H: 89 deg. V: 66 deg.	H: 100 deg. V: 73 deg.
Adjusting Angle	Pan	-180 to +180 deg.	-180 to +180 deg.	-20 to +20 deg.	-20 to +20 deg.
	Tilt	-85 to +85 deg.	-85 to +85 deg.	-20 to +90 deg.	-20 to +90 deg.
Optical Zoom		3.6x	3.6x	—	—
Digital Zoom		4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes	Yes	Yes (Type2)	Yes (Type2)
VIOS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14
Audio	In (Line)	Yes	—	—	—
	In (Built-in MIC)	—	—	Yes	Yes
	Out	Yes	—	—	—
	Codec	G.711 / G.726 / AAC	—	G.711 / G.726 / AAC	G.711 / G.726 / AAC
	Audio Detection Alarm	Yes	—	Yes	Yes
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes	Yes	Yes
	Audio REC	Yes	—	Yes	Yes
External I/O		Yes (3) (*3)	Yes (3) (*4)	—	—
Monitor Out		Yes (mini jack)	Yes (mini jack)	—	—
Vandal Resistant		50J, IK10	50J, IK10	IK10	IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-49°F to +122°F (in operation)	-49°F to +122°F (in operation)	-49°F to +140°F	-49°F to +140°F
Power Source		12 V DC / PoE	12 V DC / PoE	PoE	PoE
Dehumidification device		Yes	Yes	—	—
Other Functions		Built-in heater	Built-in heater	Railway Application (EN50155-T3, EN50121, EN45545, EN50498 and ECE-R10 (SFV130M))	Railway Application (EN50155-T3, EN50121, EN45545, EN50498 and ECE-R10 (SFV110M))
Mounting Options		See pages 46, 47	See pages 46, 47	TBA	TBA




(*1): with Simple Full-HD mode (tentative name) (*2): Alarm In1(Day/Night In), Alarm In3(AUX Out), Alarm In3(AUX Out) (x1 for each) (*3): Alarm In1 (Day/Night In, Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each) (*4): Alarm In1 (Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each) (*5): SFV110/130: 10BASE-T/100BASE-TX, RJ45 connector, SFV110M/130M: 10BASE-T/100BASE-TX, M12 connector

CAMERA TYPE		FIXED DOME				
Appearance		<i>NEW</i>  ONVIF S G VW-SBV131M (*4) HD1080P	<i>NEW</i>  ONVIF S G VW-SBV111M (*4) HD720P	 ONVIF S VW-SW115 HD720P	 ONVIF S G VW-SFR631L HD1080P	 ONVIF S G VW-SFR611L HD1080P
Sensor		1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	2	4	4
	JPEG multi stream	6 (Variable)	6 (Variable)	6	6 (Variable)	6 (Variable)
	Smart Coding	—	—	—	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1280 x 720	1280 x 720	1920 x 1080	1280 x 720
	4 : 3	2048 x 1536 (*2)	1280 x 960	1280 x 960	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.264	30fps (1080p)	30fps (720p)	30fps (1.3 MP)	60fps (1080p)	60fps (720p)
	JPEG	30fps (3 MP)	30fps (1.3 MP)	30fps (1.3 MP)	30fps (3 MP) (*1)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		WDR	WDR	Super-D	Enhanced SD	Enhanced SD
Day/Night		Yes (Electrical)	Yes (Electrical)	Yes (Electrical)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		—	—	—	ABF	ABF
Min. Illumination	Color	0.1 lx @F2.2	0.04 lx @F2.2	0.8 lx @F2.2	0.04 lx @F1.3	0.01 lx @F1.3
	Color (Sens up)	0.007 lx (16x)	0.003 lx (16x)	0.05 lx (16x)	0.003 lx (16x)	0.0007 lx (16x)
	B/W	0.06 lx @F2.2	0.03 lx @F2.2	0.6 lx @F2.2	0.0 lx @F1.3(w/IR)	0.0 lx @F1.3(w/IR)
	B/W (Sens up)	0.004 lx (16x)	0.002 lx (16x)	0.04 lx (16x)	—	—
Lens		f= 1.95 mm, F2.2	f= 1.95 mm, F2.2	f= 1.95 mm, F2.2	f= 2.8 to 10 mm, F1.3 Motorized	f= 2.8 to 10 mm, F1.3 Motorized
Angular field of view	16 : 9	H: 109 deg. V: 73 deg.	H: 104 deg. V: 69 deg.	H: 104 deg. V: 68 deg.	H: 28.8 to 102.9 deg. V: 16.0 to 56.2 deg.	H: 26.4 to 94.0 deg. V: 14.7 to 51.8 deg.
	4 : 3	H: 97 deg. V: 79 deg.	H: 104 deg. V: 85 deg.	H: 104 deg. V: 85 deg.	H: 23.8 to 84.6 deg. V: 17.8 to 62.6 deg.	H: 26.4 to 94.0 deg. V: 19.8 to 69.5 deg.
Adjusting Angle	Pan	-170 to +170 deg.	-170 to +170 deg.	-30 to +30 deg.	-180 to +180 deg.	-180 to +180 deg.
	Tilt	-90 to +90 deg.	-90 to +90 deg.	-30 to +30 deg.	0 to +85 deg.	0 to +85 deg.
Optical Zoom		—	—	—	3.6x	3.6x
Digital Zoom		3x	3x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		—	—	—	Yes (Type2)	Yes (Type2)
VIOS		Yes (8-areas)	Yes (8-areas)	Yes (1-area)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14	14
Audio	In (Line)	Yes	Yes	—	Yes	Yes
	In (Built-in MIC)	—	—	—	—	—
	Out	Yes	Yes	—	Yes	Yes
	Codec	G.726(ADPCM)	G.726(ADPCM)	—	G.711 / G.726 / AAC	G.711 / G.726 / AAC
	Audio Detection Alarm	—	—	—	Yes	Yes
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDHC)	Yes (SDXC x 2)	Yes (SDXC x 2)
	Password & Alter Detection	—	—	—	Yes (V1.52)	Yes (V1.52)
	Audio REC	—	—	—	Yes	Yes
External I/O		—	—	—	Yes (3) (*2)	Yes (3) (*2)
Monitor Out		—	—	—	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		IK10	IK10	20J, IK10	20J, IK10	20J, IK10
Water and Dust Resistance		IP6K9K / IP66 / NEMA 4X	IP6K9K / IP66 / NEMA 4X	IP66 / NEMA 4X	—	—
Temperature		-49°F to +140°F	-49°F to +140°F	-22°F to +122°F	+14°F to +122°F	+14°F to +122°F
Power Source		PoE	PoE	PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—	—	—
Other Functions		MIL-STD-810G EN50155-T3, EN50121, EN45545, EN50498, ECE-R10	MIL-STD-810G EN50155-T3, EN50121, EN45545, EN50498, ECE-R10	EN50155, EN50121	Smart-DoF, Built-in IR LED	Smart-DoF, Built-in IR LED
Mounting Options		TBA	TBA		See pages 46, 47	See pages 46, 47




(*1): w/Super resolution (*2): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) (*3): Alarm In1, Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) (*4): SBV111M/131M: 10BASE-T/100BASE-TX, M12 connector

CAMERA TYPE		FIXED DOME			
Appearance					
Sensor		1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4	4
	JPEG multi stream	6 (Variable)	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080 (*1) / 1280 x 720	1920 x 1080 (*1) / 1280 x 720	1920 x 1080
	4 : 3	2048 x 1536 (*1)	1280 x 960	1280 x 960	2048 x 1536 (*2)
Max. FPS @Max. Resolution	H.264	60fps (1080p)	60fps (720p)	60fps (720p)	60fps (1080p)
	JPEG	30fps (3 MP) (*1)	30fps (1.3 MP)	30fps (1.3 MP)	30fps (3 MP) (*2)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Day/Night		Yes (ICR)	Yes (ICR)	Yes (Electrical)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		ABF	ABF	Focus Assist	ABF
Min. Illumination	Color	0.07 lx @F1.6	0.01 lx @F1.6	0.01 lx @F1.6	0.04 lx @F1.3
	Color (Sens up)	0.005 lx (16x)	0.0007 lx (16x)	0.0007 lx (16x)	0.003 lx (16x)
	B/W	0.01 lx @F1.6	0.003 lx @F1.6	0.008 lx @F1.6	0.0 lx @F1.3 (w/IR)
	B/W (Sens up)	0.0007 lx (16x)	0.0002 lx (16x)	0.0005 lx (16x)	—
Lens		f=2.8 to 9.5 mm, F1.6	f= 2.8 to 10 mm, F1.6	f= 2.8 to 10 mm, F1.6	f= 2.8 to 10 mm, F1.3 Motorized
Angular field of view	16 : 9	H: 31 to 109 deg. V: 18 to 59 deg.	H: 28 to 99 deg. V: 16 to 54 deg.	H: 28 to 99 deg. V: 16 to 54 deg.	H: 29.3 to 104.1 deg. V: 16.2 to 56.8 deg.
	4 : 3	H: 26 to 89 deg. V: 20 to 66 deg.	H: 28 to 99 deg. V: 21 to 72 deg.	H: 28 to 99 deg. V: 21 to 72 deg.	H: 24.0 to 85.5 deg. V: 18.0 to 63.3 deg.
Adjusting Angle	Pan	+120(right) to -240(left) deg.	+120 to -240 deg.	+120 to -240 deg.	-180 to +180 deg.
	Tilt	-85 to +85 deg.	-85 to +85 deg.	-85 to +85 deg.	0 to +85 deg.
Optical Zoom		3.3x	3.6x	3.6x	3.6x
Digital Zoom		4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes (Type2)	Yes	Yes	Yes (Type2)
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14
Audio	In (Line)	Yes	Yes	—	Yes
	In (Built-in MIC)	—	—	—	—
	Out	Yes	Yes	—	Yes
	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC	—	G.711 / G.726 / AAC
	Audio Detection Alarm	Yes	Yes	—	Yes
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC x 2)
	Password & Alter Detection	Yes	Yes	Yes	Yes (V1.52)
	Audio REC	Yes	Yes	—	Yes
External I/O		Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*4)	Yes (3) (*5)
Monitor Out		Yes (mini jack)	Yes (mini jack)	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		20J, IK10	20J, IK10	20J, IK10	—
Water and Dust Resistance		—	—	—	—
Temperature		+14°F to +122°F	+14°F to +122°F	+14°F to +122°F	+14°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—	—
Other Functions		—	—	—	Smart-DoF, Built-in IR LED
Mounting Options		See pages 46, 47	See pages 46, 47	See pages 46, 47	See pages 46, 47






(*1): with Simple Full-HD mode (tentative name) (*2): w/Super resolution (*3): Alarm In1 (Day/Night In, Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)
 (*4): Alarm In1 (Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each) (*5): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) (*6): Alarm In1, Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)

CAMERA TYPE		FIXED DOME		
Appearance				
Sensor		1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4
	JPEG multi stream	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes	Yes	Yes
Max. Resolution	16 : 9	1280 x 720	1920 x 1080	1920 x 1080(*1) / 1280 x 720
	4 : 3	1280 x 960	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.264	60fps (720p)	60fps (1080p)	60fps (720p)
	JPEG	30fps (1.3 MP)	30fps (3 MP) (*1)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		ABF	ABF	ABF
Min. Illumination	Color	0.01 lx @F1.3	0.07 lx @F1.6	0.01 lx @F1.6
	Color (Sens up)	0.0007 lx (16x)	0.005 lx (16x)	0.0007 lx (16x)
	B/W	0.0 lx @F1.3 (w/IR)	0.01 lx @F1.6	0.003 lx @F1.6
	B/W (Sens up)	—	0.0007 lx (16x)	0.0002 lx (16x)
Lens		f= 2.8 to 10 mm, F1.3 Motorized	f=2.8 to 9.5 mm, F1.6	f= 2.8 to 10 mm, F1.6
Angular field of view	16 : 9	H: 26.6 to 95.1 deg. V: 14.9 to 52.3 deg.	H: 32 to 110 deg. V: 18 to 60 deg.	H: 28 to 100 deg. V: 16 to 54 deg.
	4 : 3	H: 26.7 to 95.1 deg. V: 20.0 to 70.2 deg.	H: 27 to 91 deg. V: 20 to 66 deg.	H: 28 to 100 deg. V: 21 to 73 deg.
Adjusting Angle	Pan	-180 to +180 deg.	+120(right) to -240(left) deg.	+120 to -240 deg.
	Tilt	0 to +85 deg.	-85 to +85 deg.	-85 to +85 deg.
Optical Zoom		3.6x	3.3x	3.6x
Digital Zoom		4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes (Type2)	Yes (Type2)	Yes
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14
Audio	In (Line)	Yes	Yes	Yes
	In (Built-in MIC)	—	—	—
	Out	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC
	Audio Detection Alarm	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC x 2)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes (V1.52)	Yes	Yes
	Audio REC	Yes	Yes	Yes
External I/O		Yes (3) (*6)	Yes (3) (*2)	Yes (3) (*2)
Monitor Out		Yes (mini jack)	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		—	—	—
Water and Dust Resistance		—	—	—
Temperature		+14°F to +122°F	+14°F to +122°F	+14°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—
Other Functions		Smart-DoF, Built-in IR LED	—	—
Mounting Options		See pages 46, 47	See pages 46, 47	See pages 46, 47





(*1): with Simple Full-HD mode (tentative name) (*2): Alarm In1 (Day/Night In, Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)
 (*3): Alarm In1 (Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)

CAMERA TYPE		FIXED DOME		
Appearance		 ONVIF S VW-SFN310A HD720P	<i>NEW</i>  ONVIF S G VW-SFN130 HD1080P	<i>NEW</i>  ONVIF S VW-SFN110 HD720P
Sensor		1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4
	JPEG multi stream	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080(*1) / 1280 x 720	1920 x 1080	1280 x 720
	4 : 3	1280 x 960	2048 x 1536	1280 x 960
Max. FPS @Max. Resolution	H.264	60fps (720p)	30fps (3MP)	30fps (1.3MP)
	JPEG	30fps (1.3 MP)	30fps (3MP)	30fps (1.3MP)
Super Dynamic / WDR / BLC		Enhanced SD	Super Dynamic	Super Dynamic
Day/Night		Yes (Electrical)	Yes (Electrical)	Yes (Electrical)
ABF (Auto Back Focus) / Focus Assist		Focus Assist	—	—
Min. Illumination	Color	0.01 lx @F1.6	0.1 lx @F2.3	0.04 lx @F2.3
	Color (Sens up)	0.0007 lx (16x)	0.007 lx (16x)	0.003 lx (16x)
	B/W	0.008 lx @F1.6	0.08 lx @F2.3	0.03 lx @F2.3
	B/W (Sens up)	0.0005 lx (16x)	0.005 lx (16x)	0.002 lx (16x)
Lens		f= 2.8 to 10 mm, F1.6	f= 2.8mm, F2.3	f= 2.8mm, F2.3
Angular field of view	16 : 9	H: 28 to 100 deg. V: 16 to 54 deg.	H: 108 deg. V: 60 deg.	H: 100 deg. V: 55 deg.
	4 : 3	H: 28 to 100 deg. V: 21 to 73 deg.	H: 89 deg. V: 66 deg.	H: 100 deg. V: 73 deg.
Adjusting Angle	Pan	+120 to -240 deg.	-20 to +20 deg.	-20 to +20 deg.
	Tilt	-85 to +85 deg.	-20 to +90 deg.	-20 to +90 deg.
Optical Zoom		3.6x	—	—
Digital Zoom		4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes	Yes (Type2)	Yes (Type2)
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14
Audio	In (Line)	—	—	—
	In (Built-in MIC)	Yes	Yes	Yes
	Out	—	—	—
	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC
	Audio Detection Alarm	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes	Yes
	Audio REC	Yes	Yes	Yes
External I/O		Yes (3) (*3)	—	—
Monitor Out		Yes (mini jack)	—	—
Vandal Resistant		—	—	—
Water and Dust Resistance		—	—	—
Temperature		+14°F to +122°F	+32°F to +104°F	+32°F to +104°F
Power Source		12 V DC / PoE	PoE	PoE
Dehumidification device		—	—	—
Other Functions		—	—	—
Mounting Options		See pages 46, 47	TBA	TBA






(*1): with Simple Full-HD mode (tentative name) (*2): Alarm In1 (Day/Night In, Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)
(*3): Alarm In1 (Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)

CAMERA TYPE		360-DEGREE DOME				
Appearance		 ONVIF S G VW-SFV481 4K Engine	 ONVIF S VW-SW458/SW458MA(*1) HD1080P	 ONVIF S G VW-SFN480 4K Engine	 ONVIF S VW-SF448 HD1080P	 ONVIF S VW-SF438 HD1080P
Sensor		1/2 MOS	1/3 MOS	1/2 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	2	2	2	2	2
	JPEG multi stream	2	6	2	6	6
	Smart Coding	Yes (GOP Only)	—	Yes (GOP Only)	—	—
Max. Resolution	16 : 9	2560 x 1440	1920 x 1080	2560 x 1440	1920 x 1080	1920 x 1080
	4 : 3	2560 x 1920 2992 x 2992 (1:1)	H.264: 1280 x 960 JPEG : 2048 x 1536	2560 x 1920 2992 x 2992 (1:1)	H.264: 1280 x 960 JPEG : 2048 x 1536	H.264: 1280 x 960 JPEG : 2048 x 1536
Max. FPS @Max. Resolution	H.264	30fps (4 M)	30fps (1080p)	30fps (4 M)	30fps (1080p)	30fps (1080p)
	JPEG	30fps (4 M)	15fps (3 MP) / 30fps (1080p)	30fps (4 M)	15fps (3 MP) / 30fps (1080p)	15fps (3 MP) / 30fps (1080p)
Super Dynamic / WDR / BLC		WDR	Super-D	WDR	Super-D	Super-D
Day/Night		Yes (ICR)	Yes (Electrical)	Yes (Electrical)	Yes (Electrical)	Yes (Electrical)
ABF (Auto Back Focus) / Focus Assist		ABF	—	ABF	—	—
Min. Illumination	Color	0.3 lx @F1.9	1.5 lx @F2.4	0.3 lx @F1.9	1.5 lx @F2.4	1.5 lx @F2.4
	Color (Sens up)	0.02 lx (16x)	0.1 lx (16x)	0.02 lx (16x)	0.1 lx (16x)	0.1 lx (16x)
	B/W	0.04 lx @F1.9	1.2 lx @F2.4	0.2 lx @F1.9	1.2 lx @F2.4	1.2 lx @F2.4
	B/W (Sens up)	0.003 lx (16x)	0.08 lx (16x)	0.01 lx (16x)	0.08 lx (16x)	0.08 lx (16x)
Lens		f= 1.38 mm, F1.9	f= 0.837 mm, F2.4	f= 1.38 mm, F1.9	f= 0.837 mm, F2.4	f= 0.837 mm, F2.4
Angular field of view	1 : 1	H: 180 deg. V: 180 deg.	H: 182 deg. V: 176 deg.	H: 180 deg. V: 180 deg.	H: 182 deg. V: 176 deg.	H: 188 deg. V: 181 deg.
Adjusting Angle	Pan	±45 deg.	—	±45 deg.	—	—
	Tilt	±45 deg.	—	±45 deg.	—	—
Optical Zoom		—	—	—	—	—
Digital Zoom		4x	4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes (Type3)	—	Yes (Type3)	—	—
VIQS		Yes (8-areas)	Yes (2-areas)	Yes (8-areas)	Yes (2-areas)	Yes (2-areas)
Max. Connection		14	14	14	14	14
Audio	In (Line)	Yes	Yes	Yes	Yes	Yes
	In (Built-in MIC)	—	—	Yes	Yes	Yes
	Out	Yes	Yes	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC	G.711 / G.726	G.711 / G.726 / AAC	G.711 / G.726	G.711 / G.726
	Audio Detection Alarm	—	—	—	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	—	—	—	—
	Audio REC	Yes (ACC)	—	Yes (ACC)	—	—
External I/O		Yes (3) (*2)	Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*4)	Yes (3) (*3)
Monitor Out		Yes (RCA)	—	Yes(RCA)	—	—
Vandal Resistant		50J, IK10	50J, IK10	—	20J, IK10	—
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	—	—	—
Temperature		-40°F to +122°F	-40°F to +122°F	Ceiling / Wall /Mount bracket: +14°F to +122°F Desktop / Tripod: +14°F to +104°F	+14°F to +122°F	+14°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes	—	—	—
Other Functions		360° monitoring, EN50155-T3, EN50121, DIN5510	360° monitoring, EN50155-T3, EN50121, DIN5510, ECE-R10(WV-SW458MA)	360° monitoring	360° monitoring, Mechanical shutter	360° monitoring
Mounting Options		See pages 46, 47	See pages 46, 47			





(*1): SW458: 10BASE-T/100BASE-TX, RJ45 connector, SW458MA: 10BASE-T/100BASE-TX, M12 connector (*2): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)
(*3): Alarm In1, Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) (*4): Alarm In1(Privacy action in), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)

CAMERA TYPE		BOX			
Appearance		 OnVIF SG VW-SPV781L 4K Engine	 OnVIF SG VW-SPW631LT HD1080P	 OnVIF SG VW-SPW631L HD1080P	 OnVIF SG VW-SPW611L HD720P
Sensor		1/1.7 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4	4
	JPEG multi stream	2	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes (GOP Only)	Yes	Yes	Yes
Max. Resolution	16 : 9	3840 x 2160	1920 x 1080	1920 x 1080	1280 x 720
	4 : 3	4000 x 3000	2048 x 1536 (*1)	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.264	30fps (4K)	60fps (1080p)	60fps (1080p)	60fps (720p)
	JPEG	15fps (12 MP)	30fps (3 MP)	30fps (3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		WDR	Enhanced SD	Enhanced SD	Enhanced SD
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		ABF	ABF	ABF	ABF
Min. Illumination	Color	0.3 lx @F1.6	0.06 lx @F1.6	0.04 lx @F1.3	0.01 lx @F1.3
	Color (Sens up)	0.02 lx (16x)	0.004 lx (16x)	0.003 lx (16x)	0.0007 lx (16x)
	B/W	0.0 lx @F1.6 (w/IR)	0.0 lx @F1.6(w/IR)	0.0 lx @F1.3(w/IR)	0.0 lx @F1.3(w/IR)
	B/W (Sens up)	—	—	—	—
Lens		f=4.2 to 25.2 mm, F1.6 Motorized	f= 9 to 22 mm, F1.6 Motorized	f= 2.8 to 10 mm, F1.3 Motorized	f= 2.8 to 10 mm, F1.3 Motorized
Angular field of view	16 : 9	H: 17° to 97 deg. V: 9.4 to 55 deg.	H: 13.8 to 33.5 deg. V: 7.7 to 18.1 deg.	H: 30.9 to 105.4 deg. V: 17.4 to 57.3 deg.	H: 28.4 to 96.2 deg. V: 16.1 to 52.8 deg.
	4 : 3	H: 18 to 101 deg. V: 13 to 76 deg.	H: 11.5 to 27.4 deg. V: 8.6 to 20.1 deg.	H: 25.8 to 86.4 deg. V: 19.3 to 63.9 deg.	H: 28.4 to 96.2 deg. V: 21.4 to 71.0 deg.
Adjusting Angle	Pan	—	—	—	—
	Tilt	—	—	—	—
Optical Zoom		6x	2.4x	3.6x	3.6x
Digital Zoom		4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		—	Yes (Type2)	Yes (Type2)	Yes (Type2)
VIOS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14
Audio	In (Line)	Yes	Yes	Yes	Yes
	In (Built-in MIC)	—	—	—	—
	Out	Yes	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC
		Audio Detection Alarm	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC x 2)	Yes (SDXC x 2)	Yes (SDXC x 2)
	Password & Alter Detection	—	Yes	Yes	Yes
	Audio REC	Yes	Yes (AAC)	Yes (AAC)	Yes (AAC)
External I/O		Yes (3) (*3)	Yes (3) (*4)	Yes (3) (*4)	Yes (3) (*4)
Monitor Out		Yes (RCA)	Yes (RCA)	Yes (RCA)	Yes (RCA)
Vandal Resistant		20J, IK10	—	—	—
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-49°F to +122°F	-40°F to +122°F	-40°F to +122°F	-40°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes	Yes	Yes
Other Functions		Built-in heater, Rain wash coating, Built-in IR LED	Built-in heater, Built-in IR LED	Built-in heater, Built-in IR LED	Built-in heater, Built-in IR LED
Mounting Options		See page 51	See page 51	See page 51	See page 51






(*1): w/Super resolution (*2): Only for SD REC (*3): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out, Day/Night Out) (x1 for each) (*4): Alarm In1(Day/Night In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)

CAMERA TYPE		BOX				
Appearance		 OnVIF SG VW-SPW611 HD720P	NEW  OnVIF SG VW-SPW531AL HD1080P	NEW  OnVIF SG VW-SPW311AL HD720P	 Lens not included OnVIF SG VW-SPN631 HD1080P	 Lens not included OnVIF SG VW-SPN611 HD720P
Sensor		1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4	4	4
	JPEG multi stream	6 (Variable)	6 (Variable)	6 (Variable)	6 (Variable)	6 (Variable)
	Smart Coding	Yes	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1280 x 720	1920 x 1080	1920 x 1080 (*1) / 1280 x 720	1920 x 1080	1280 x 720
	4 : 3	1280 x 960	2048 x 1536	1920 x 1080 (*1)	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.264	60fps (720p)	60fps (1080p)	60fps (720p)	60fps (1080p)	60fps (720p)
	JPEG	30fps (1.3 MP)	30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP) (*1)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Focus Assist		ABF	ABF	ABF	ABF	ABF
Min. Illumination	Color	0.01 lx @F1.3	0.07 lx @F1.6	0.02 lx @F1.6	0.04 lx @F1.4	0.01 lx @F1.4
	Color (Sens up)	0.0007 lx (16x)	0.005 lx (16x)	0.005 lx (16x)	0.003 lx (16x)	0.0007 lx (16x)
	B/W	0.003 lx @F1.3	0.0 lx @F1.6(w/IR)	0.0 lx @F1.6(w/IR)	0.01 lx @F1.4	0.003 lx @F1.4
	B/W (Sens up)	0.0002 lx (16x)	—	—	0.0007 lx (16x)	0.0002 lx (16x)
Lens		f= 2.8 to 10 mm, F1.3 Motorized	f= 2.8 to 10 mm, F1.6	f= 2.8 to 10 mm, F1.6	CS Mount	CS Mount
Angular field of view	16 : 9	H: 28.4 to 96.2 deg. V: 16.1 to 52.8 deg.	H: 31 to 112 deg. V: 17 to 60 deg.	H: 28 to 102 deg. V: 16 to 55 deg.	—	—
	4 : 3	H: 28.4 to 96.2 deg. V: 21.4 to 71.0 deg.	H: 26 to 91 deg. V: 19 to 67 deg.	H: 28 to 102 deg. V: 21 to 74 deg.	—	—
Adjusting Angle	Pan	—	-180 to +180 deg.	-180 to +180 deg.	—	—
	Tilt	—	0 to +90 deg.	0 to +90 deg.	—	—
Optical Zoom		3.6x	3.6x	3.6x	—	—
Digital Zoom		4x	4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes (Type2)	Yes (Type2)	Yes (Type2)	Yes (Type2)	Yes (Type2)
VIOS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14	14
Audio	In (Line)	Yes	Yes	Yes	Yes	Yes
	In (Built-in MIC)	—	—	—	—	—
	Out	Yes	Yes	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC
		Audio Detection Alarm	Yes	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC x 2)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC x 2)	Yes (SDXC x 2)
	Password & Alter Detection	Yes	Yes	Yes	Yes	Yes
	Audio REC	Yes (AAC)	Yes (AAC)	Yes (AAC)	Yes (AAC)	Yes (AAC)
External I/O		Yes (3) (*4)	Yes (3) (*2)	Yes (3) (*2)	Yes (3) (*2)	Yes (3) (*2)
Monitor Out		Yes (RCA)	Yes (RCA)	Yes (RCA)	Yes (RCA)	Yes (RCA)
Vandal Resistant		—	—	—	—	—
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	—	—
Temperature		-40°F to +122°F	-40°F to +122°F	-40°F to +122°F	+14°F to +122°F	+14°F to +122°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes	Yes	—	—
Other Functions		Built-in heater	Built-in IR LED	Built-in IR LED	Optional Extension Unit	Optional Extension Unit
Mounting Options		See page 51	See page 51	See page 51	See page 51	See page 51

(*1): with Simple Full-HD mode (tentative name) (*2): Alarm In1 (Day/Night In, Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)

CAMERA TYPE		BOX / CYLINDER			
Appearance					
Sensor		1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	4	4	4	2
	JPEG multi stream	6 (Variable)	6 (Variable)	6 (Variable)	6
	Smart Coding	Yes	Yes	Yes	—
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080 (*1) / 1280 x 720	1920 x 1080 (*1) / 1280 x 720	1280 x 720
	4 : 3	2048 x 1536	1280 x 960	1280 x 960	1280 x 960
Max. FPS @Max. Resolution	H.264	60fps (1080p)	60fps (720p)	60fps (720p)	30fps (1.3 MP)
	JPEG	30fps (3 MP)	30fps (1.3 MP)	30fps (1.3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD	BLC
Day/Night		Yes (ICR)	Yes (ICR)	Yes (Electrical)	Yes (Electrical)
ABF (Auto Back Focus) / Focus Assist		ABF	ABF	Focus Assist	—
Min. Illumination	Color	0.04 lx @F1.4	0.01 lx @F1.4	0.01 lx @F1.4	0.8 lx @F2.2
	Color (Sens up)	0.003 lx (16x)	0.0007 lx (16x)	0.0007 lx (16x)	0.05 lx (16x)
	B/W	0.01 lx @F1.4	0.003 lx @F1.4	0.008 lx @F1.4	0.4 lx @F2.2
	B/W (Sens up)	0.0007 lx (16x)	0.0002 lx (16x)	0.0005 lx (16x)	0.03 lx (16x)
Lens		CS Mount	CS Mount	CS Mount	f= 3.54 mm, F2.2
Angular field of view	16 : 9	—	—	—	H: 70.3 deg. V: 42.6 deg.
	4 : 3	—	—	—	H: 70.3 deg. V: 55.4 deg.
Adjusting Angle	Pan	—	—	—	—
	Tilt	—	—	—	—
Optical Zoom		—	—	—	—
Digital Zoom		4x	4x	4x	4x
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/extension software)		Yes (Type2)	Yes (Type2)	Yes (Type2)	—
VIOS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (1-area)
Max. Connection		14	14	14	14
Audio	In (Line)	Yes	Yes	—	—
	In (Built-in MIC)	—	—	Yes	—
	Out	Yes	Yes	—	—
	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC	G.711 / G.726 / AAC	—
SD memory Card	Audio Detection Alarm	Yes	Yes	Yes	—
	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	—
	Password & Alter Detection	Yes	Yes	Yes	—
	Audio REC	Yes (AAC)	Yes (AAC)	Yes (AAC)	—
External I/O		Yes (3) (*3)	Yes (3) (*2)	Yes (3) (*3)	—
Monitor Out		Yes (RCA)	Yes (RCA)	Yes (RCA)	—
Vandal Resistant		—	—	—	—
Water and Dust Resistance		—	—	—	—
Temperature		+14°F to +122°F	+14°F to +122°F	+14°F to +122°F	+32°F to +104°F
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—	—
Other Functions		—	—	—	—
Mounting Options		See page 51	See page 51	See page 51	See page 51

(*1): with Simple Full-HD mode (tentative name) (*2): Alarm In1 (Day/Night In, Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)
 (*3): Alarm In1 (Auto time adjustment), Alarm In 2 (Alarm Out), Alarm In 3 (AUX Out) (x1 for each)

CAMERA TYPE		PAN / TILT				
Appearance						
Sensor		1/4 MOS	1/4 MOS	1/4 MOS	1/4 MOS	1/4 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG
	H.264 multi stream	2	2	2	2	2
	JPEG multi stream	6	6	6	6	6
	Smart Coding	—	—	—	—	—
Max. Resolution	16 : 9	1280 x 720	1280 x 720	640 x 360	1280 x 720	640 x 360
	4 : 3	1280 x 960	1280 x 960	800 x 600	1280 x 960	800 x 600
Max. FPS @Max. Resolution	H.264	30fps (1.3 MP)	30fps (1.3 MP)	30fps (SVGA)	30fps (1.3 MP)	30fps (SVGA)
	JPEG	30fps (1.3 MP)	30fps (1.3 MP)	30fps (SVGA)	30fps (1.3 MP)	30fps (SVGA)
Super Dynamic / WDR / BLC		BLC	BLC	BLC	BLC	BLC
Day/Night		Yes (Electrical)	Yes (Electrical)	Yes (Electrical)	Yes (Electrical)	Yes (Electrical)
ABF (Auto Back Focus) / Focus Assist		—	—	—	—	—
Min. Illumination	Color	0.6 lx @F2.2	0.6 lx @F2.2	0.6 lx @F2.2	0.6 lx @F2.2	0.6 lx @F2.2
	Color (Sens up)	0.038 lx (16x)	0.038 lx (16x)	0.038 lx (16x)	0.038 lx (16x)	0.038 lx (16x)
	B/W	0.5 lx @F2.2	0.5 lx @F2.2	0.5 lx @F2.2	0.5 lx @F2.2	0.5 lx @F2.2
	B/W (Sens up)	0.03 lx (16x)	0.03 lx (16x)	0.03 lx (16x)	0.03 lx (16x)	0.03 lx (16x)
Lens		f= 1.95 mm, F2.2	f= 1.95 mm, F2.2	f= 1.95 mm, F2.2	f= 1.95 mm, F2.2	f= 1.95 mm, F2.2
Angular field of view	16 : 9	H: 85 deg. V: 53 deg.	H: 85 deg. V: 53 deg.	H: 85 deg. V: 53 deg.	H: 85 deg. V: 53 deg.	H: 85 deg. V: 53 deg.
	4 : 3	H: 85 deg. V: 68 deg.	H: 85 deg. V: 68 deg.	H: 85 deg. V: 68 deg.	H: 85 deg. V: 68 deg.	H: 85 deg. V: 68 deg.
Pan	Range	-47.5 to +47.5 deg.	-47.5 to +47.5 deg.	-47.5 to +47.5 deg.	-47.5 to +47.5 deg.	-47.5 to +47.5 deg.
	Speed	80 deg/sec	80 deg/sec	80 deg/sec	80 deg/sec	80 deg/sec
Tilt	Range	-45 to +10 deg.	-45 to +10 deg.	-45 to +10 deg.	-45 to +10 deg.	-45 to +10 deg.
	Speed	80 deg/sec	80 deg/sec	80 deg/sec	80 deg/sec	80 deg/sec
360 Pan-Flip		—	—	—	—	—
Number of Preset Positions		64	64	64	64	64
Patrol		—	—	—	—	—
Auto Tracking		—	—	—	—	—
Optical Zoom		—	—	—	—	—
Digital Zoom		16x	16x	16x	16x	16x
VMD (Video Motion Detection)		Yes	Yes	Yes	Yes	Yes
i-VMD (Intelligent VMD) (w/extension software)		—	—	—	—	—
VIOS		—	—	—	—	—
Max. Connection		14	14	14	14	14
Audio	In (Line)	Yes	Yes	Yes	Yes	Yes
	In (Built-in MIC)	Yes	Yes	Yes	Yes	Yes
	Out	Yes	Yes	Yes	Yes	Yes
	Codec	G.711 / G.726	G.711 / G.726	G.711 / G.726	G.711 / G.726	G.711 / G.726
SD memory Card	Audio Detection Alarm	—	—	—	—	—
	Slot	Yes	—	Yes	Yes	Yes
	Password & Alter Detection	—	—	—	—	—
	Audio REC	—	—	—	—	—
External I/O		Yes (3) (*1)	Yes (3) (*1)	Yes (3) (*1)	Yes (3) (*1)	Yes (3) (*1)
Monitor Out		Yes	Yes	Yes	Yes	Yes
Vandal Resistant		—	—	—	—	—
Water and Dust Resistance		IP55	IP55	IP55	—	—
Temperature		-4°F to +122°F	-4°F to +122°F	-4°F to +122°F	+32°F to +104°F	+32°F to +104°F
Power Source		12 V DC / PoE	12 V DC	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—	—	—
Other Functions		—	Wireless (11 n/b/g)	—	—	—
Mounting Options						

(*1) : Alarm In1, Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)



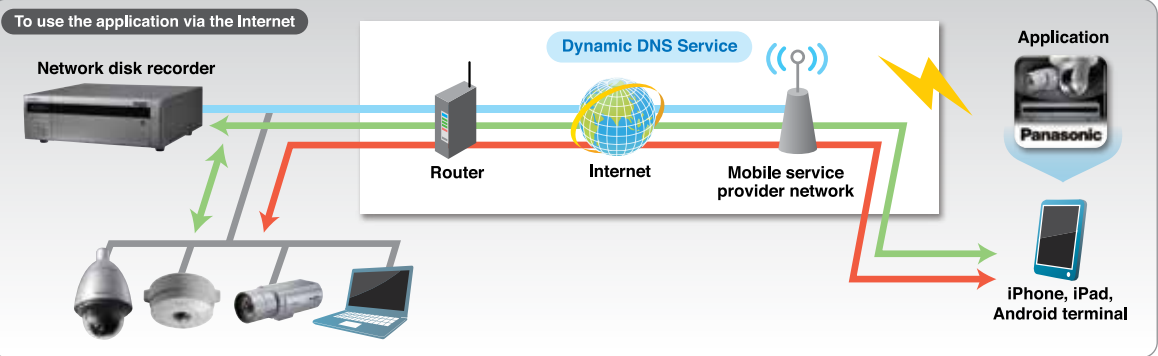
Panasonic Security Viewer App **VERSION 2.2**

Panasonic Security Viewer is an application that can view the images from i-PRO SmartHD Series Network Cameras and Network Disk Recorders (WJ-NV200/WJ-NV300/WJ-ND400/WJ-HD716/WJ-HD616).

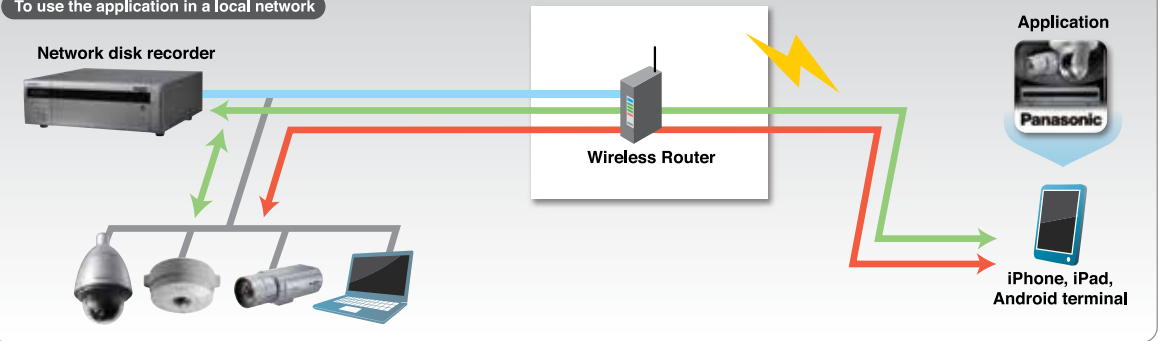
By connecting a terminal to a 3G/4G or wireless LAN (Wi-Fi), it is possible to view live images from cameras and recorded images stored on recorders.

Preface

To use the **Panasonic Security Viewer** via the Internet, it is recommended to register in the Dynamic DNS (DDNS) service.



To use the application in a local network



A PC is required to register a Dynamic DNS Service and configure the settings of the router.

● Download the Panasonic Security Viewer application on the Google Play™ store, Apple App Store.

Features of the application



Network disk recorder

- Live image: Live images from the network cameras connected to the recorder
- Playing back recorded images: To play back the images stored on the recorder
 - * Re-encoding playback images for smartphones or tablet PC screen size/ frame rate
- Time and date search: To search the images to play back based on the time and date

Network camera

- Network camera control* (Resolution switchover, focus, panning/tilting, zoom, preset position switchover)
 - * Depends on the network camera functions.

Android™

Outline of the application

Application name	Panasonic Security Viewer version 2.1
OS	Android™ OS 4.0 is recommended.
How to get the application	Download from the Google Play™ store.
Date to start the service	End of June
Operation check terminals	Panasonic Toughpad FZ-A1, JT-B1, Galaxy S2, Galaxy S3, Galaxy S4

● Download the application from here.

Android™ <http://security.panasonic.com/pss/security/psv/android/index.html>

iPhone®/iPad®

Outline of the application

Application name	Panasonic Security Viewer version 2.1
OS	iOS 5.1 or later
How to get the application	Download from the App Store.
Date to start the service	End of June
Operation check terminals	iPhone4s, iPhone5, iPhone5S, iPad2, iPod touch (5th)

● Download the application from here.

iPhone®/iPad® <http://security.panasonic.com/pss/security/psv/ios/index.html>

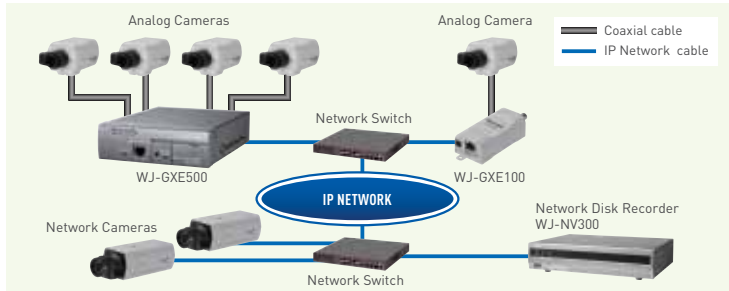
Easily migrate to an advanced IP system while still using the existing assets of your analog system

Effective utilization of analog cameras

ENCODER

- Analog cameras can be connected to the IP network simply by connecting them to the encoder.
- A maximum of four analog cameras can be connected to the WV-GXE500, and one analog camera can be connected to the WV-GXE100.
- Video captured by analog cameras can be saved to a recorder installed on the IP network in the same way as network cameras.

Basic System Connection Example



4 CH H.264 Video Encoder

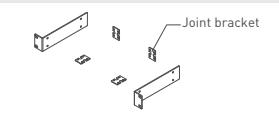
WJ-GXE500

(12 V DC or PoE)



Optional Accessory

EIA 48.26 cm (19 inch)
Rack Mount Bracket
WV-Q204/2S
(for mounting three
WJ-GXE500)



1 CH H.264 Video Encoder

WJ-GXE100

(12 V DC or PoE)

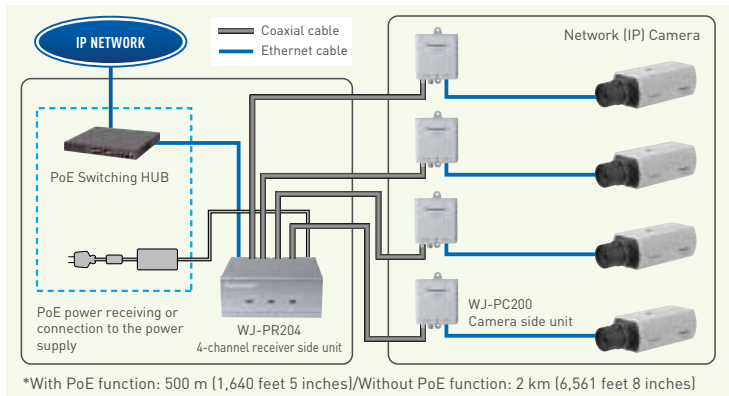


Effective utilization of cabling

COAXIAL LAN CONVERTER

- The coaxial cables of existing analog cameras can be used for expanding the reach of the IP network.

Basic System Connection Example



*With PoE function: 500 m (1,640 feet 5 inches)/Without PoE function: 2 km (6,561 feet 8 inches)

Coaxial LAN cables can be used up to distances of 2 km.
Power can also be supplied to PoE cameras for distances of up to 500 m, PoE+ cameras for distances of up to 300 m.

Coaxial - LAN Converter with PoE function

4-channel receiver side unit

WJ-PR204

1-channel receiver side unit

WJ-PR201

(Indoor use only)

Camera side unit

WJ-PC200



NEW Receiver side unit

Camera side unit

Optional Accessory

Rack Mount Connecting
Fitting
BY-HCA10A
(for mounting three or
four Receiver side unit)



Network Video Decoder

Multi Channel High Definition Video Decoder

WJ-GXD400

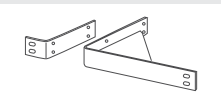
(12 V DC, 100 V - 240 V AC adaptor attached)



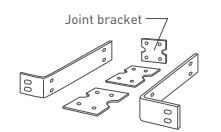
- Up to 256 cameras, including cameras connected to the i-Pro Network Video Encoder (WJ-GXE500), can be registered
- HDMI interface supporting 1,920 x 1,080 display size
- 1x 4VGA image with 2x VGA images or 6x VGA images can be displayed in multiscreen mode
- Each of VGA images can be displayed at 25 frames/s.
- Superior reliability and installation flexibility with an embedded OS
- Up to 64 camera groups can be registered and called up in response to power on, group sequence and schedule program.

Optional Accessories

EIA 48.26 cm (19 inch)
Rack Mount Bracket
WV-Q204/1S
(for mounting one WJ-GXD400)



EIA 48.26 cm (19 inch)
Rack Mount Bracket
WV-Q204/2S
(for mounting two WJ-GXD400)



*Only 3 pieces of joint brackets are necessary.
One piece of joint bracket will be unnecessary.

Network Disk Recorder

WJ-ND400

(120 V AC: NTSC, 220-240 V AC: PAL)



- H.264, MPEG-4 and JPEG multi format
- Up to 64 network cameras can be connected and recorded (Video and Audio)
- Various Recording Mode: Manual, Schedule including Event (Pre/Post), Emergency
- VMD search (works with i-PRO cameras or WJ-NT314)
- Up to 54 HDD slots with 9 HDD slots in the main unit and five WJ-HDE400 optional Extension Units each with 9 HDD slots
- RAID5/6, Embedded OS, Data encryption for reliability
- Optional HDD: 6TB HDD Canister/6000; 4TB HDD Canister/4000; 3TB HDD Canister/3000; 2TB HDD Canister/2000

Optional Accessory



Network Disk Recorder

WJ-NV300

(120 V AC: NTSC, 220 V -240 V AC: PAL)



NTSC model

- H.264 and JPEG multi format
- 16(NTSC) / 9(PAL) network cameras can be connected and recorded as default. Up to 32*1 network cameras can be connected and recorded.
- Quick setup by automatic camera detection and simple setup wizard without the use of PC
- Simple mouse operation by new GUI without the use of PC
- Supports the Full HD output (HDMI)
- HDD capacity is expandable up to 20 HDD slots (2 HDD slots in the main unit and 2 optional WJ-HDE400 Hard Disk Extension Units each with 9 HDD slots).
- Supports 360-degree network microphone (WV-SMR10)

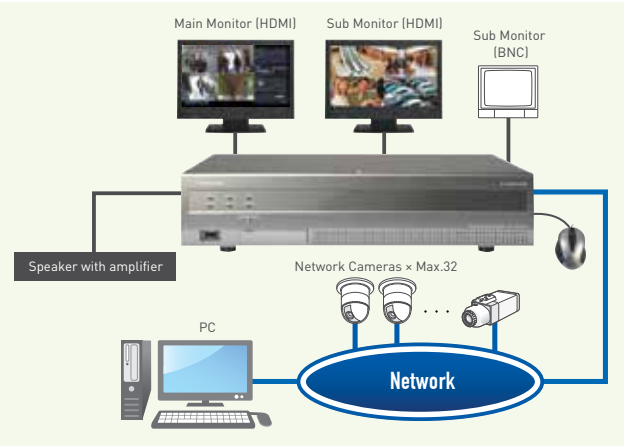
*1 Two Additional Camera Kits WJ-NVE30 are necessary.(NTSC) Three Additional Camera Kits WJ-NVE30 are necessary.(PAL)

Additional Camera kit : WJ-NVE30

Optional Accessory

Hard Disk Extension Unit WJ-HDE400	Power Source : 220 ~ 240 V AC, 50 Hz (PAL) 120 V AC, 60 Hz (NTSC)
	Power Consumption : approx. 130 W
	Dimensions : 430 mm (W) x 132 mm (H) x 400 mm (D) [16-15/16" (W) x 5-3/16" (H) x 15-12/16" (D)] (excluding rubber feet and projections)
	Weight : 13.5 kg (29.8 lbs.) [When no HDD exist] 20 kg (44.15 lbs.) [When 9 HDDs are installed]

Easy Operation and Setup without PC



Additional Business Intelligence Kit WJ-NVF30

Additional Business Intelligence Kit NVF20 is a license kit intended to improve the usefulness of Network Disk Recorder WJ-NV300 / WJ-NV200.



- New statistical processing functions such as "People counting" and "Face matching / Age & Gender judgment"
- The number of detected human faces can be displayed on a statistical chart separated by age & gender for a single day or a specified time period.
- Age distribution groups are displayed by separate colors.
- The statistical data can be saved as a CSV file on a SDHC/SD memory card or on a PC connected over a network.

* CSV file: A file that can be edited using a spreadsheet software such as Microsoft® Office Excel®

* To use this product, it is necessary to register the license (Registration Key) for Additional Business Intelligence Kit into the WJ-NV300/WJ-NV200 in use.

VIDEOINSIGHT™ v6

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 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

Monitor Station, Web Client and Mobile App share powerful features that allow you to access live and recorded video no matter where you are.

SUPPORT FOR 3,000 CAMERAS FROM 100+ 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.

WV-ASC970 / WV-ASM970



PMPU3000 VERSION 17

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-ASM970W VERSION 17

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.

WV-ASM200W

I-PRO MANAGEMENT SOFTWARE

- Supports 16:9 video stream and 16:9 HD monitor; displays 16:9 and 4:3 videos from IP cameras on the same screen
- H.264 recording data in the SD/SDHC memory card can be downloaded
- Convert file format from n3r (proprietary format) to MP4 and WMV
- 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-ASM200W (the number of cameras depends on the recorder and encoder)
- Up to 16x 30 ips/camera images can be displayed in H.264 1.5 Mbps mode
- Fisheye image correction/de-warp
- Software License Products
 - WV-SAE100W: Face Detection XML
 - WV-SAE200W: iVMD

WV-ASM200W with WV-ASE201W



(System Controller WV-CU950 and monitor displays are optional.)

WV-ASE201W / ASE202W / ASE203W / ASE204W / ASE205W / ASE231W

EXTENSION SOFTWARE

- WV-ASE201W: Three monitors, system controller (WV-CU950) support
- WV-ASE202W: Max. 64 screen support
- WV-ASE203W: Increases number of recorder registration
- WV-ASE204W: Supports WJ-GXD400
- WV-ASE205W: Image compensation (Fog/Snow)
- WV-ASE231W: Client for WV-ASF900W

FACEPRO – WV-ASF900W

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







ASF9001R32G1TB4C
1-Rack 32GB Server and FacePro Software with 4-channel licenses





WV-ASFE901W
FacePro Single Channel Expansion

WV-ASFE904W
FacePro Four Channel Expansion License

CAMERA TYPE		PTZ	
Indoor / Outdoor		OUTDOOR	INDOOR
Appearance		 	 
		WV-CW594A	WV-CS584
Sensor		1/4 type interline transfer CCD	1/4 type interline transfer CCD
Resolution	Horizontal	650 TV lines	650 TV lines
Super Dynamic / WDR / BLC		Super-D	Super-D
Day/Night		Yes (ICR)	Yes (ICR)
Focus Adjustment		Auto Focus	Auto Focus
Built-in IR LED		—	—
Min. Illumination	Color	0.5 lx	0.5 lx
	Color (Sens up)	0.016 lx	0.016 lx
	B/W	0.04 lx	0.04 lx
	B/W (Sens up)	0.0013 lx	0.0013 lx
Lens		f= 3.3 to 119 mm, F1.4	f= 3.3 to 119 mm, F1.4
Angular field of view		H: 1.7° (Tele) to 60.2° (Wide) V: 1.3° (Tele) to 46.0° (Wide)	H: 1.7° (Tele) to 60.2° (Wide) V: 1.3° (Tele) to 46.0° (Wide)
Adjusting Angle	Pan	360° endless	360° endless
	Tilt	-5° to 185° (horizontal - vertical - horizontal)	-5° to 185° (horizontal - vertical - horizontal)
	Optical Zoom	36x	36x
	Digital Zoom	20x	20x
VMD (Video Motion Detection)		Yes	Yes
i-VMD (Intelligent VMD)		Scene Change	Scene Change
Camera title (OSD)		Yes	Yes
External I/O		4 inputs (ALARM IN 1 - ALARM IN 4) 2 outputs (ALARM / AUX1, BW / AUX2)	4 inputs (ALARM IN 1 - ALARM IN 4) 2 outputs (ALARM / AUX1, BW / AUX2)
Vandal Resistant		—	—
Water and Dust Resistance		IP66	—
Dehumidification device		—	—
Temperature		-58°F to +122°F	+14°F to +122°F
Power Source		24 V AC	24 V AC
Other Functions		WV-CW594A : Rain wash coating	—
Options	Smoke Dome Cover	—	Smoke Dome Cover WV-CS4SA 
	Bracket	Wall Mount Bracket WV-Q122A 	Ceiling Mount Bracket WV-Q105A 
			Embedded Ceiling Mount Bracket WV-Q126A 
		Ceiling Mount Bracket WV-Q121B 	Pendant Mount Bracket WV-Q117A 
			Wall Mount Bracket WV-Q118B 
	Heater Unit	—	—
Mounting Options		See page 50	See pages 48, 49

CAMERA TYPE		DOME		
Indoor / Outdoor		OUTDOOR	INDOOR	
Appearance		<div>NEW</div> <div></div> <div>WV-CW634S, WV-CW634F</div>	<div></div> <div>WV-CF624</div>	<div></div> <div>WV-CF634</div>
		1/3 type interline transfer CCD		1/3 type interline transfer CCD
Resolution	Horizontal	700 TV lines or more	650 TV lines	650 TV lines
Super Dynamic / WDR / BLC		Super-D	Super-D	Super-D
Day/Night		Yes (ICR)	Yes (ICR)	Yes (ICR)
Focus Adjustment		ABF	Manual	ABF
Built-in IR LED		—	—	—
Min. Illumination	Color	0.08 lx	0.08 lx	0.08 lx
	Color (Sens up)	0.0024 lx	0.0025 lx	0.0025 lx
	B/W	0.008 lx	0.008 lx	0.008 lx
	B/W (Sens up)	0.00024 lx	0.0003 lx	0.0003 lx
Lens		f= 3.8 to 8.0 mm, F1.4	f= 2.8 to 10 mm, F1.4	f= 2.8 to 10 mm, F1.4
Angular field of view		H: 33.6° (Tele) to 74.9° (Wide) V: 25.2° (Tele) to 55.7° (Wide)	H: 27.6° (Tele) to 100.8° (Wide) V: 20.7° (Tele) to 73.8° (Wide)	H: 27.6° (Tele) to 100.8° (Wide) V: 20.7° (Tele) to 73.8° (Wide)
Adjusting Angle	Pan	±170°	180° to -170°	180° to -170°
	Tilt	±75°	±90°	±90°
	Optical Zoom	2.1x	3.6x	3.6x
	Digital Zoom	2x	2x	2x
VMD (Video Motion Detection)		Yes	Yes	Yes
i-VMD (Intelligent VMD)		Scene Change	Scene Change	Scene Change
Camera title (OSD)		Yes	Yes	Yes
External I/O		—	—	—
Vandal Resistant		IEC 60068-2-75 test Eh, 50J	—	—
Water and Dust Resistance		IP66	—	—
Dehumidification device		—	—	—
Temperature		+14°F to +140°F -30°C to 60°C (With optional heater)	+14°F to +122°F	+14°F to +122°F
Power Source		24 V AC or 12 V DC	24 V AC or 12 V DC	24 V AC or 12 V DC
Other Functions		—	—	—
Options	Smoke Dome Cover	Smoke Dome Cover WV-CW4SA 	—	—
	Bracket	Mount Bracket (for WV-CW634F) WV-Q115A 	Embedded Ceiling Mount Bracket (Sail white) WV-Q174B 	Embedded Ceiling Mount Bracket (Sail white) WV-Q174B 
		Embedded Ceiling Mount Bracket WV-Q169A 		
	Heater Unit	Heater Unit WV-CW5HA 	—	—
Mounting Options		See pages 46, 47	See pages 46, 47	See pages 46, 47

CAMERA TYPE		DOME				BOX
Indoor / Outdoor		INDOOR				OUTDOOR
Appearance		 WV-CF344	 WV-CF354	 WV-CF314L	 WV-CW314L	
Sensor		1/3 type interline transfer CCD	1/3 type interline transfer CCD	1/3 type interline transfer CCD	1/3 type interline transfer CCD	
Resolution	Horizontal	650 TV lines	650 TV lines	650 TV lines	650 TV lines	
Super Dynamic / WDR / BLC		BLC	BLC	BLC	BLC	
Day/Night		Yes (Electrical)	Yes (Electrical)	Yes (ICR)	Yes (ICR)	
Focus Adjustment		Focus Assist	ABF	ABF	ABF	
Built-in IR LED		—	—	Yes (20 m)	Yes (50 m)	
Min. Illumination	Color	0.08 lx	0.08 lx	0.08 lx	0.08 lx	
	Color (Sens up)	0.0025 lx	0.0025 lx	0.0025 lx	0.0025 lx	
	B/W	0.05 lx	0.05 lx	0 lx (with IR LED)	0 lx (with IR LED)	
	B/W (Sens up)	0.0016 lx	0.0016 lx	—	—	
Lens		f= 2.8 to 10 mm, F1.4	f= 2.8 to 10 mm, F1.4	f= 2.8 to 10 mm, F1.3	f= 2.8 to 10 mm, F1.3	
Angular field of view		H: 27.6° (Tele) to 100.3° (Wide) V: 20.7° (Tele) to 73.5° (Wide)	H: 27.8° (Tele) to 100.3° (Wide) V: 20.9° (Tele) to 73.4° (Wide)	H: 27.65° (Tele) to 100.8° (Wide) V: 20.75° (Tele) to 73.85° (Wide)	H: 27.65° (Tele) to 100.8° (Wide) V: 20.75° (Tele) to 73.85° (Wide)	
Adjusting Angle	Pan	180° to -170°	180° to -170°	180° to -170°	—	
	Tilt	±90°	±90°	0 to 75°	—	
	Optical Zoom	3.6x	3.6x	3.6x	3.6x	
	Digital Zoom	2x	2x	2x	2x	
VMD (Video Motion Detection)		Yes	Yes	Yes	Yes	
i-VMD (Intelligent VMD)		Scene Change	Scene Change	Scene Change	Scene Change	
Camera title (OSD)		Yes	Yes	Yes	Yes	
External I/O		—	—	—	—	
Vandal Resistant		—	—	—	—	
Water and Dust Resistance		—	—	—	IP66	
Dehumidification device		—	—	—	—	
Temperature		+14°F to +122°F	+14°F to +122°F	+14°F to +122°F	+14°F to +122°F	
Power Source		24 V AC or 12 V DC	24 V AC or 12 V DC	24 V AC or 12 V DC	24 V AC or 12 V DC	
Other Functions		—	—	—	—	
Options	Smoke Dome Cover	—	—	—	—	
	Bracket	Embedded Ceiling Mount Bracket (Sail white) WV-Q174B 	Embedded Ceiling Mount Bracket (Sail white) WV-Q174B 	—	—	
	Heater Unit	—	—	—	—	
Mounting Options		See pages 46, 47	See pages 46, 47	See pages 46, 47	See page 51	

CAMERA TYPE		BOX			
Indoor / Outdoor		INDOOR			
Appearance		 WV-CP630/WV-CP634	 WV-CP620/WV-CP624	 WV-CP300/WV-CP304	 WV-CP310/WV-CP314
Sensor		1/3 type interline transfer CCD	1/3 type interline transfer CCD	1/3 type interline transfer CCD	1/3 type interline transfer CCD
Resolution	Horizontal	700 TV lines	650 TV lines	650 TV lines	650 TV lines
Super Dynamic / WDR / BLC		Super-D	Super-D	BLC	BLC
Day/Night		Yes (ICR)	Yes (ICR)	Yes (Electrical)	Yes (ICR)
Focus Adjustment		ABF	Focu Assist	Focu Assist	Focu Assist
Built-in IR LED		—	—	—	—
Min. Illumination	Color	0.08 lx	0.08 lx	0.08 lx	0.08 lx
	Color (Sens up)	0.003 lx	0.0025 lx	0.0025 lx	0.0025 lx
	B/W	0.008 lx	0.008 lx	0.05 lx	0.008 lx
	B/W (Sens up)	0.0003 lx	0.00025 lx	0.0016 lx	0.00025 lx
Lens		optional	optional	optional	optional
Angular field of view		—	—	—	—
Adjusting Angle	Pan	—	—	—	—
	Tilt	—	—	—	—
	Optical Zoom	—	—	—	—
	Digital Zoom	2x	2x	2x	2x
VMD (Video Motion Detection)		Yes	Yes	Yes	Yes
i-VMD (Intelligent VMD)		Scene Change	Scene Change	Scene Change	Scene Change
Camera title (OSD)		Yes	Yes	Yes	Yes
External I/O		ALARM IN : 1 (OFF / ALARM / VMD PERMIT / BW) ALARM OUT : 1 (OFF / ALARM / BW)	Alarm IN 1pc, Alarm OUT 1pc	—	—
Vandal Resistant		—	—	—	—
Water and Dust Resistance		—	—	—	—
Dehumidification device		—	—	—	—
Temperature		+14°F to +122°F	+14°F to +122°F	+14°F to +122°F	+14°F to +122°F
Power Source		WV-CP630: 120 V AC WV-CP634: 12 V DC or 24 V AC	WV-CP620: 120 V AC WV-CP624: 12 V DC or 24 V AC	WV-CP300: 120 V AC WV-CP304: 12 V DC or 24 V AC	WV-CP310: 120 V AC WV-CP314: 12 V DC or 24 V AC
Other Functions		—	—	—	—
Options	Smoke Dome Cover	—	—	—	—
	Bracket	—	—	—	—
	Heater Unit	—	—	—	—
Mounting Options		See page 51	See page 51	See page 51	See page 51



WJ-HD716



WJ-HD716 (120V AC: NTSC)
16 CH REAL-TIME H.264 DIGITAL DISK RECORDER

WJ-HD616 (120V AC: NTSC)
16 CH H.264 DIGITAL DISK RECORDER

- Dual HDMI Full HD 1080i (1920 x 1080) display
- H.264 (high-profile) codec reduces bandwidth by up to 40% compared with MPEG-4
- SD5 Link (Super Dynamic 5 Link) with intelligent-Video Motion Detection (i-VMD) alarm
- Real-time recording (WJ-HD716) and 16CH 2x monitors real-time live
- Up to 31 HDD slots with four HDD slots in the main unit and three WJ-HDE400 optional extension units, each with nine HDD slots

OPTIONAL ACCESSORIES

RAID Board
WJ-HDB601A
Built-in DVD Drive
WJ-HDB611A

Hard Disk Extension Unit
WJ-HDE400

6TB HDD
Canister/6000

4TB HDD
Canister/4000

3TB HDD
Canister/3000

POE Plus Injector
IEEE 802.3at/IEEE 802.3af
PPOEP01101
Supports indoor and outdoor PTZ cameras



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



WV-CU650
RS-485 SYSTEM CONTROLLER WITH
3D-JOYSTICK AND JOG/SHUTTLE

- For smooth operation of PS data interfaced devices and 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











CAMERA ACCESSORIES			
MODEL	DESCRIPTION/TYPE	COMPATIBILITY	IMAGE
WV-CF5SA	Smoke Dome	WV-SFN631L/611L, WV-SFN310A/311A, WV-SFN531	
WV-CS4S	Smoke Dome	WV-CS584	
WV-CS5C	Clear Dome	WV-SC588A, WV-SC387A	
WV-CS5S	Smoke Dome	WV-SC588A, WV-SC387A	
WV-CR1S	Smoke Dome	WV-SFR631L/611L, WV-SFR310A/311A, WV-SFR531	
WV-CW4C	Clear Dome	WV-NW502S, WV-CW504S, WV-CW364S/334S	
WV-CW4SA	Smoke Dome	WV-NW502S, WV-CW634S, WV-CW364S/334S	
WV-CW7S	Smoke Dome	WV-SFV631L/631LT/611L, WV-SFV310A/311A, WV-SFV531	
WV-CW6SA	Smoke Dome	WV-SW158/155/155MA/152/152M, WV-SF138/135/132	
WV-Q7118	Extended Shade Cover	WV-SFV631L/631LT/611L, WV-SW3XX, WV-SW5XX, WV-SFV310/311, WV-SFV531	
WV-CW5HA	Optional Heater	WV-CW634S/WV-CW364S/334S	

HOUSING AND MOUNTING BRACKETS FOR DOME CAMERAS								
			CAMERA TYPE					
			OUTDOOR VANDAL			INDOOR DOME		
MODEL NO.	PICTURE	DESCRIPTION/TYPE						
WV-Q169A		Indoor Embedded Ceiling Mount Bracket	Yes		Yes			
WV-Q174B		Indoor Embedded Ceiling Mount Bracket					Yes	Yes (Except WV-CF314L)
PRCM1		Indoor Embedded Ceiling Mount Bracket	Yes		Yes		Yes	Yes
PPMS1		Indoor Indoor Pendant Mount Housing, Black					Yes (Except WV-SFR631L/611L)	Yes
PPMS1B		Indoor Indoor Pendant Mount Housing, Beige					Yes (Except WV-SFR631L/611L)	Yes
PS484S		Outdoor Vandal-resistant Shroud	Yes	Yes	Yes			
PPM484S		Outdoor Vandal-resistant Pole Mount	Yes	Yes	Yes			
PCM484S		Outdoor Vandal-resistant Corner Mount	Yes	Yes	Yes			
PHM484S		Outdoor Vandal-resistant Hanging Mount	Yes	Yes	Yes			
PWM484S		Outdoor Vandal-resistant Wall Mount	Yes	Yes	Yes			
WV-Q7118		Outdoor Extended Sun Shade	Yes		Yes			
WV-Q124		Outdoor Shroud Bracket requires WV-Q122A	Yes	Yes	Yes			
PWM781		Outdoor Wall Mount & Shroud				Yes		

HOUSING AND MOUNTING BRACKETS FOR INDOOR PTZ CAMERAS					
			CAMERA TYPE		
			PTZ		
MODEL NO.	PICTURE	DESCRIPTION/TYPE			
WV-Q117		Indoor/Pendant Suspended Ceiling Mount			Yes
WV-Q118B		Indoor/Wall Mount Bracket, Silver			Yes
WV-Q119		Indoor/Wall Mount Bracket, White	Yes		
WV-Q126 WV-Q126A		Indoor/Ceiling Embedded Ceiling Mount Bracket	Yes (WV-Q126A)		Yes
WV-Q154C		Indoor/Wall Mount Bracket—Clear Dome		Yes	
WV-Q154S		Indoor/Wall Mount Bracket—Smoke Dome		Yes	
WV-Q155C		Indoor/Ceiling Embedded Ceiling Mount Bracket—Clear Dome		Yes	
WV-Q155S		Indoor/Ceiling Embedded Ceiling Mount Bracket—Smoke Dome		Yes	
WV-Q156C		Indoor/Ceiling Ceiling Mount Bracket—Clear Dome		Yes	
WV-Q156S		Indoor/Ceiling Ceiling Mount Bracket—Smoke Dome		Yes	
WV-Q157		Inner Dome Cover		Yes	
PISM5V		Indoor/Pendant/Clear 5" Indoor Vandalresistant Housing		Yes	
PIDV7CN		Indoor/Ceiling/Vandal 7" Indoor Recessed Ceiling Housing with Clear Dome	Yes	Yes	Yes









HOUSING AND MOUNTING BRACKETS FOR INDOOR PTZ CAMERAS (CONT.)					
			CAMERA TYPE		
			PTZ		
MODEL NO.	PICTURE	DESCRIPTION/TYPE			
PIDV7SN		Indoor/Ceiling/Vandal 7" Indoor Recessed Ceiling Housing with Smoke Dome	Yes	Yes	Yes
PDM9		Indoor/Ceiling 9" Indoor Recessed Ceiling Housing (Dome not included)			Yes
PID9		Indoor/Ceiling 9" Indoor Recessed Ceiling Housing (Dome not included)	Yes	Yes	Yes
POSM5V		Outdoor/Ceiling – 5" Outdoor Vandalresistant Housing 24V AC to 12V DC Converter		Yes	
PODV9CPTA		Outdoor/Pendant – 9" Outdoor Vandalresistant Dome Housing with Pendant Mount – Clear/H&B	Yes	Yes	Yes
PODV9CWTA		Outdoor/Wall – 9" Outdoor Vandalresistant Dome Housing with Wall Mount – Clear/H&B	Yes	Yes	Yes
POD9CA		Outdoor/Pendant – 9" Outdoor Dome Housing with Pendant Mount, Silver – Clear/H&B	Yes	Yes	Yes
POD9CWA		Outdoor/Wall – 9" Outdoor Dome Housing with Wall Mount, Silver – Clear/H&B	Yes	Yes	Yes
POD9CTA		Outdoor/Pendant – 9" Outdoor Dome Housing with Pendant Mount, White – Clear/H&B	Yes	Yes	Yes
POD9CWTA		Outdoor/Wall – 9" Outdoor Dome Housing with Wall Mount, White – Clear/H&B	Yes	Yes	Yes
PPFD9C		Outdoor/Pendant – 9" Outdoor Pressurized Dome Housing for Analog Camera – Clear/H&B			Yes
PPFD9CN		Outdoor/Pendant – 9" Outdoor Pressurized Dome Housing for Network Camera – Clear/H&B	Yes	Yes	

HOUSING AND MOUNTING BRACKETS FOR OUTDOOR PTZ CAMERAS						
			CAMERA TYPE			
			PTZ			
MODEL NO.	PICTURE	DESCRIPTION/TYPE	 WV-SW598A/ WV-SW397B	 WV-SW395A	 WV-CW594A	
PPRM30G		Outdoor Parapet Mount Short, Black	Yes	Yes	Yes	
PPRM30GB		Outdoor Parapet Mount Short, Beige	Yes	Yes	Yes	
PWM30G		Outdoor Parapet Mount Long, Black	Yes	Yes	Yes	
PWM30GB		Outdoor Parapet Mount Long, Beige	Yes	Yes	Yes	
PWM20G		Outdoor Gooseneck Wall Mount, Black	Yes	Yes	Yes	
PWM20GB		Outdoor Gooseneck Wall Mount, Beige	Yes	Yes	Yes	
PWM20GS		Outdoor Gooseneck Wall Mount, Silver	Yes	Yes	Yes	
PSRCW2000B		Outdoor Parapet Rooftop Mount, Black	Yes	Yes	Yes	
WV-Q122A		Outdoor Wall Mount Bracket	Yes	Yes	Yes	
WV-Q121		Outdoor Ceiling Mount Bracket	Yes	Yes	Yes	





HOUSING AND MOUNTING BRACKETS FOR OUTDOOR PTZ CAMERAS (CONT.)						
			CAMERA TYPE			
			PTZ			
MODEL NO.	PICTURE	DESCRIPTION/TYPE	 WV-SW598A/ WV-SW397B	 WV-SW395A	 WV-CW594A	 WV-SUD638
PB24B		Outdoor Heavy Duty Junction Box	Compatible with PWM20G series, PWM638	Compatible with PWM20G series, PWM638	Compatible with PWM20G series, PWM638	Compatible with PWM20G series, PWM638
PACA4 PACA4B		Outdoor Corner Mount Adaptor PACA4-Black, PACA4B-Beige	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638
PAPM4 PAPM4B		Outdoor Pole Mount Adaptor PAPM4-Black, PAPM4B-Beige	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638	Compatible with PWM20G series, WV-Q122A, WV-SPWxxx series, PWM638
PAPM6		Outdoor Wall/Pole Mount Adaptor	Compatible with PWM20G series, PWM638	Compatible with PWM20G series, PWM638	Compatible with PWM20G series, PWM638	Compatible with PWM20G series, PWM638
PPMF12D		Outdoor Pendant Mount	Yes	Yes	Yes	No
PWM638		Outdoor Wall Mount Bracket	No	No	No	Yes

HOUSING AND MOUNTING BRACKETS FOR FIXED CAMERAS						
			CAMERA TYPE			
			FIXED			
MODEL NO.	PICTURE	DESCRIPTION/TYPE	 WV-SPV781L WV-SPW631LT/SPW631/ WV-SPW611L/SPW611 WV-SPW311AL/531AL	 WV-SPN310A/311A WV-SPN531 WV-SPN631/611	 WV-SP105/102	 WV-CP500 SERIES WV-CP600/CP300 SERIES
WV-Q120A		Outdoor Adapter Box	Included (Except WV-SP-W311AL/531AL)			
PUM8		Indoor/Wall Universal Camera Mount (Max. Weight 3 lbs.)		Yes	Yes	Yes
POD8CF		Outdoor/Pendant 8" Outdoor Dome Housing for Fixed Camera with Pendant Mount – Clear/H&B		Yes	Yes	Yes
POD8CWF		Outdoor/Wall 8" Outdoor Dome Housing for Fixed Camera with Wall Mount – Clear/H&B		Yes	Yes	Yes
POH1100		Outdoor/Wall 10" Outdoor Housing Wall Mount Included				Yes
POH1100HB		Outdoor/Wall 10" Outdoor Housing with Heater and Blowers Wall Mount Included – H&B				Yes
POH1100NWME		Outdoor/Wall 10" Outdoor Housing with Heater and Blowers with PoE Plus Wall Mount Included – H&B		Yes	Yes	
POH1100NWM		Outdoor/Wall – 10" Outdoor Housing with Heater and Blowers with PoE Plus with Midspan Wall Mount Included – H&B		Yes	Yes	
PACA4 PACA4B		Outdoor Pole Mount Adaptor PAMP4-Black, PAMP4B-Beige	Yes			
PAPM4 PAPM4B		Outdoor Pole Mount Adaptor PAMP4-Black, PAMP4B-Beige	Yes			
NEW PEHV1000		Indoor/Corner Elevator Housing Brushless Steel/Tempered Glass Vandal				
NEW PEHV1000SFN130		Indoor/Corner Elevator Housing Brushless Steel/Tempered Glass Vandal Includes WV-SFN130 camera				

VARIFOCAL LENSES FOR HD CAMERAS								
SIZE	MODEL NO.	PICTURE	COMPANY	FOCAL LENGTH (MM)	APERTURE RATIO @ WIDE	AUTO IRIS	 WV-SPN631/611 SP509/SP508	 WV-SPN310/311 WV-SPN531
1/3"	PLAMP2206		Fujinon	2.2~6.0	F1.3	Yes	Yes	Yes
1/3"	PLAMP2406		Tamron	2.4~6.0	F1.2	Yes	Yes	Yes
1/3"	PLAMP2808		Fujinon	2.8~8.0	F1.2	Yes	Yes	Yes
1/3"	PLAMP2812		Fujinon	2.8~12.0	F1.4	Yes	Yes	Yes
1/2"	PLAMP0722		Ricon	7.0~22.0	F1.4	Yes	Yes	Yes
1/3"	PLAMP0550		Tamron	5.0~50.0	F1.4	Yes	Yes	Yes
1/3"	PLZ15/33		Fujinon	15.0~50.0	F1.5	Yes	Yes	Yes

M12 LENSES FOR HD CAMERAS										
SIZE	MODEL NO.	PICTURE	COMPANY	FOCAL LENGTH (MM)	APERTURE RATIO @ WIDE	AUTO IRIS	 WV-SW158/ SF138	 WV-SW155/ SF135	 WV-SFN110/ SFN130, WV-SFV110/ SFV130	 WV-SW115
1/3"	PLM12MP028/1		Evetar	2.8	F2.0	No	Yes	Yes	Included	Yes
1/3"	PLM12MP060/1		Evetar	6.0	F1.8	No	Yes	Yes	Yes	Yes
1/3"	PLM12MP120/1		Evetar	12.0	F1.8	No	Yes	Yes	Yes	Yes
	PLM12MP019/1		Sunny	1.95	F2.2	No	Included	Included	Yes	Included

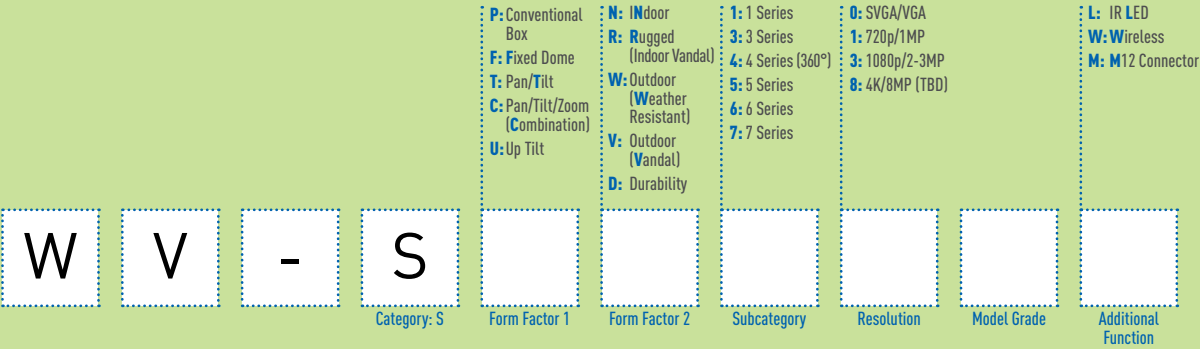
VARIFOCAL LENSES FOR SD CAMERAS								
SIZE	MODEL NO.	PICTURE	COMPANY	FOCAL LENGTH (MM)	APERTURE RATIO @ WIDE	AUTO IRIS	 WV-CW634 SERIES	 WV-CP500 SERIES WV-CP600 SERIES WV-CP300 SERIES
1/2"	PLAHS1770		Fujinon	7.0~70.0	F1.8	Yes		
1/3"	WV-LZA61/2S		Panasonic	3.8~8.0	F1.4	Yes		Yes
1/3"	WV-LZ62/8S		Panasonic	5.0~40.0	F1.6	Yes		Yes
1/3"	PLA22T3DN		Tamron	2.2	F1.2	Yes	Yes	Yes
1/3"	PLZ27/5DN		Fujinon	2.7~13.5	F1.3	Yes		Yes
1/3"	PLZ29/27		Fujinon	2.9~8.0	F0.95	Yes	Yes	Yes
1/3"	PLZ5/10		Fujinon	5.0~50.0	F1.6	Yes		Yes
1/3"	PLZ15/33		Fujinon	15.0~50.0	F1.5	Yes	Yes	Yes
1/3"	PLZ20/5		Tamron	20.0~100.0	F1.6	Yes		Yes

READY-TO-GO PACKAGES				
		CAMERA	LENS	HOUSING
				
		Camera	Lens	Housing
WV-CW634F		WV-CW634F	Factory 3.8-8mm	Factory Flush Mount
WV-CW634F/09		WV-CW634F	PLAMP0722 7-22mm	Factory Flush Mount
WV-CW634F/15		WV-CW634F	PLZ15/33 15-50mm	Factory Flush Mount
WV-CW634F/22		WV-CW634F	PLAMP2206 2.2-6mm	Factory Flush Mount
WV-CW634S		WV-CW634S	Factory 3.8-8mm	Factory Surface Mount
WV-CW634S/09		WV-CW634S	PLAMP0722 7-22mm	Factory Surface Mount
WV-CW634S/15		WV-CW634S	PLZ15/33 15-50mm	Factory Surface Mount
WV-CW634S/22		WV-CW634	PLAMP2206 2.2-6mm	Factory Surface Mount

READY-TO-GO PACKAGES (CONT.)				
		CAMERA	LENS	HOUSING
				
		Camera	Lens	Housing
POC314L2		WV-CP314	PLAMP2812 2.8-12mm	POH1000HB
POC314L5		WV-CP314	PLZ25/10 5.0-50mm	POH1000BH
POC634L2		WV-CP634	PLAMP2812 2.8-12mm	POH1000HB
POC634L5		WV-CP634	PLZ5/10 5.0-50mm	POH1000BH
POCSPN311L2		WV-SPN311A	PLAMP2812 2.8-12mm	POH1000HB
POCSPN311L5		WV-SPN311A	PLAMP0550 5.0-50mm	POH1000BH
POCSPN531LMP05		WV-SPN531	PLAMP0550 5.0-50mm	POH1000HB
POCSPN531LMP24		WV-SPN531	PLAMP2406 2.4-6.0mm	POH1000HB

MONITORS					
MODEL	TYPE	INFO	IMAGE	DESCRIPTION	COMPATIBLE WITH
PLCD9C	Monitors	LCD Monitors		9" LCD monitor, 800 x 600	
PLCD9C/2	Monitors	LCD Monitors		2-9" LCD monitor, 800 x 600 with rack mount	
PLCD15V	Monitors	LCD Monitors		15" LCD monitor, 1024 x 768, 4:3 aspect ratio, two built-in speakers, 2x BNC input, S-Video in/output, RGB input	
PLCD19P	Monitors	LCD Monitors		19" LCD, 1280 x 1024, 5:4 aspect ratio, two built-in speakers, 2x BNC input, S-Video in/output, RGB input, DVI input, HDMI input	
PLCD24HDA	Monitors	LCD Monitors		24" Full HD LCD, 1920 x 1080, 16:9 aspect ratio, two built-in speakers, 2x BNC input, S-Video in/output, RGB input, DVI input, HDMI input	
PLCD27HDA	Monitors	LCD Monitors		27" Full HD LED, 1920 x 1080, 16:9 Aspect Ratio, two built-in speakers, 2x BNC input, S-Video in/output, DVI input, HDMI input	
PLCD42HDA	Monitors	LCD Monitors		42" Full HD LED, 1920 x 1080, 16:9 aspect ratio, two built-in speakers, 2x BNC input, S-Video in/output, DVI input, HDMI input, pedestal stand	
PRMK08	Monitors	Accessories	Image Not Available	Rack mount kit for PLCD15V, PLCD20P monitors	PLCD15V PLCD19P

NEW NETWORK CAMERA MODEL NUMBER FORMAT



VIDEO INSIGHT LICENSE BUNDLED WITH PANASONIC CAMERAS MANUFACTURED AFTER OCTOBER 2014

Panasonic is bundling a Video Insight software license with the purchase of Panasonic cameras manufactured after October 2014 to save security professionals valuable time and money.

ELIGIBLE PANASONIC CAMERAS

PTZ Dome

SW598/SW598A, SW397A/SW397B, SW396/396A, SW395/395A, SC588/SC588A, SC387/SC387A, SC386, SC385, SC384

Outdoor Vandal Fixed Dome

SFV781L, SFV631L/LT, SFV611L, SFV531, SW559, SW558, NW502S, SFV311, SFV310, SW355, SW352, SW158, SW155, SW155MA, SW152/152M, SW115, SFV110/M, SFV130/M

Indoor Vandal Fixed Dome

SFR631L, SFR611L, SFR531, SF549, SF548, SFR311, SFR310, SF346, SF342

Indoor Fixed Dome

SFN631L, SFN611L, SFN531, SF539, SF538, SFN311L, SFN311, SFN310, SF336, SF335, SF332, SF138, SF135, SF132, SFN110, SFN130

Outdoor Box

SPV781L, SPW631L/LT, SPW611L, SPW611, SW316L, SW316, SW314, SPW531AL, SPW311AL

Indoor Box

SPN631, SPN611, SPN531, SP509, SP508, SPN311, SPN310, SP306, SP305, SP304V, SP302, SP105, SP102

360° Dome

SFV481, SFN480, SW458, SW458MA, SF448, SF438

PT Camera

SW175, SW174W, SW172, ST165, ST162, BL-VT164W, BL-VT164, BL-VP104W, BL-VP104, BL-VP101

Encoder

GXE500, GXE100

How to tell if your Panasonic camera was manufactured after October 2014:

1. Find the serial number on your camera and/or carton box.
2. The first letter of the serial number code indicates the year of production, where M=2013, N=2014, O=2015.
3. The second letter indicates the month of production, where A=January, B=February, C=March, etc.

For example, October 2014 will be NJ*****.

For more information, visit:

us.panasonic.com/products-videosurveillance-videoinsight

BY

WJ-PR204/WJ-PR201/WJ-PC200 Coaxial-LAN Converter with POE Function . . .35

BY-HCA10 Rack Mount Connecting Fitting35

CA

Canister/2000 2TB HDD Drive37, 44

Canister/3000 3TB HDD Drive37, 44

PA

Panasonic Security Viewer App Version 2.134

PM

PMPU3000 IP Matrix Appliance38

PP

PPMS1 Indoor Pendant Mount Housing, Black47

PPMS1B Indoor Pendant Mount Housing, Beige47

PR

PRCM1 Embedded Ceiling Mount Bracket47

PW

PPOEP01I01 POE injector44

PWM20G Gooseneck Wall Mount, Black50

PWM20GB Gooseneck Wall Mount, Beige50

PWM20GS Gooseneck Wall Mount, Silver50

WJ

WJ-GXD400 Multichannel High-definition Video Decoder35

WJ-GXE100 1 CH H.264 Video Encoder35

WJ-GXE500 4 CH H.264 Video Encoder35

WJ-HD616 16 CH H.264 Digital Disk Recorder44

WJ-HD716 16 CH Real-time H.264 Digital Disk Recorder44

WJ-HDB601 RAID Board (WJ-HD616/HD716)44

WJ-HDB611 Built-in DVD Drive (WJ-HD616/HD716)44

WJ-HDE400 Hard Disk Extension Unit36, 44

WJ-ND400 Network Disk Recorder37

WJ-NV300 Network Disk Recorder37

WV-A

WV-ASC970 IP Matrix Client Software38

WV-ASE201W/ASE202W/ASE203W/ASE204W Extension Software39

WV-ASF900W Series Facial Recognition Analytics Platform39

WV-ASM200W i-PRO Management Software38, 39

WV-ASM970 IP Matrix Client Software38

WV-C

WV-CF314L Indoor IR LED Day/Night Fixed Dome Camera42

WV-CF344/CF354 Indoor Day/Night Fixed Dome Camera42

WV-CF5SA Smoke Dome Cover46

WV-CF624/CF634 Indoor Super Dynamic 6 Day/Night Fixed Dome Camera41

WV-CP300/CP304/CP310/CP314 Day/Night Camera43

WV-CP620/CP624 Super Dynamic 6 Day/Night Fixed Camera43

WV-CP630/CP634 Super Dynamic 6 Day/Night Camera with ABS (Adaptive Black Stretch)43

WV-CR1S Smoke Dome Cover46

WV-CS4S Smoke Dome Cover46

WV-CS5C Clear Dome Cover46

WV-CS5S Smoke Dome Cover46

WV-CS584 Super Dynamic 6 Day/Night Dome Camera40, 48, 49

WV-CU650 RS-485 System Controller with 3D-Joystick and Jog/Shuttle45

WV-CU950 Ethernet System Controller with 3D-Joystick and Jog/Shuttle38, 45

WV-CW314L Weather-Resistant IR LED Day/Night Fixed Camera42

WV-CW4SA Smoke Dome Cover41, 46

WV-CW5HA Heater Unit41, 46

WV-CW634S/CW634F Indoor/Outdoor Super Dynamic 6 Vandal-resistant Fixed Dome Camera41, 47

WV-CW594A Super Dynamic 6 Weather-resistant PTZ Dome Camera40, 50

WV-CW6SA Smoke Dome Cover46

WV-CW7S Smoke Dome Cover46

WV-Q

WV-Q105A Ceiling Mount Bracket40

WV-Q115A Mount Bracket for WV-CW634F41

WV-Q117 Pendant Mount Bracket48

WV-Q118A Wall Mount Bracket48

WV-Q119 Wall Mount Bracket48

WV-Q126 Embedded Ceiling Mount Bracket48

WV-Q126A Embedded Ceiling Mount Bracket48

WV-Q154C Wall Mount Brackets, Clear48

WV-Q154S Wall Mount Brackets, Smoke48

WV-Q155C Embedded Ceiling Mount Brackets, Clear48

WV-Q155S Embedded Ceiling Mount Brackets, Smoke48

WV-Q156C Indoor Dome Covers, Clear48

WV-Q156S Indoor Dome Covers, Smoke48

WV-Q157 Inner Dome Cover48

WV-Q169A Embedded Ceiling Mount Bracket47

WV-Q174B Embedded Ceiling Mount Bracket, Sail White47

WV-Q204/1S Rack Mount Bracket35

WV-Q204/2S Rack Mount Bracket35

WV-Q7118 Extended Sun Shade46, 47

WV-S

WV-SBV111M Indoor/Outdoor Fixed Network Camera25

WV-SBV131M Indoor/Outdoor Fixed Network Camera25

WV-SC384 IHD PTZ Dome Network Camera22

WV-SC385 Super Dynamic HD PTZ Network Camera22, 48, 49

WV-SC387B Super Dynamic HD PTZ Dome Network Camera21

WV-SC588A Super Dynamic Full HD PTZ Dome Network Camera21, 48, 49

WV-SUD638 Super Dynamic Rugged/Extreme Weather-resistant
HD PTZ Dome Network Camera2, 20

WV-SFN110 Indoor HD Dome Network Camera28

WV-SFN130 Indoor Enhanced Super Dynamic Full HD Dome Network Camera28

WV-SF438 Indoor Enhanced 360-degree Super Dynamic Dome Network Camera29

WV-SF448 360 Degree Super Dynamic Vandal-resistant Network Camera29

WV-SFN310A Indoor Super Dynamic HD Dome Network Camera28

WV-SFN311A Indoor Super Dynamic HD Dome Network Camera27

WV-SFN480 Ultra 360 Degree Indoor Network Camera
Built on 4K Ultra HD Engine10, 29

WV-SFN531 Super Dynamic Full HD Dome Network Camera27

WV-SFN611L Indoor Enhanced Super Dynamic
HD Dome Network Camera27

WV-SFN631L Indoor Enhanced Super Dynamic
Full HD Dome Network Camera26

WV-SFR310A Indoor Super Dynamic HD
Vandal-resistant Dome Network Camera26

WV-SFR311A Indoor Super Dynamic HD
Vandal-resistant Dome Network Camera26

WV-SFR531 Super Dynamic Full HD
Vandal-resistant Dome Network Camera26

WV-SFR611L Indoor Enhanced Super Dynamic
HD Vandal-resistant Dome Network Camera25

WV-SFR631L Indoor Enhanced Super Dynamic
Full HD Vandal-resistant Dome Network Camera25

WV-SFV310A Indoor/Outdoor Enhanced Super Dynamic
HD Vandal-resistant and Waterproof Dome Network Camera24

WV-SFV311A Indoor/Outdoor Enhanced Super Dynamic
HD Vandal-resistant and Waterproof Dome Network Camera24

WV-SFV481 Indoor/Outdoor 360-Degree
Vandal-resistant Dome 9 Megapixel Network Camera10, 29

WV-SFV531 Indoor/Outdoor Super Dynamic Full HD
Vandal-resistant and Waterproof Dome Network Camera23

WV-SFV611L Indoor/Outdoor Enhanced Super Dynamic
HD Vandal-resistant and Waterproof Dome Network Camera23

WV-SFV631L Indoor/Outdoor Enhanced Super Dynamic
Full HD Vandal-resistant and Waterproof Dome Network Camera23

WV-SFV631LT Indoor/Outdoor Super Dynamic Full HD
Vandal-resistant and Waterproof Dome Network Camera23

WV-SFV781L Indoor/Outdoor 4K Vandal-resistant
Dome Network Camera6, 23

WV-SP105 HD Network Camera32

WV-SPN310A Enhanced Super Dynamic HD Network Camera32

WV-SPN311A Enhanced Super Dynamic HD Network Camera32

WV-SPN531A Super Dynamic Full HD Network Camera32

WV-SPN611 Super Dynamic HD Network Camera31

WV-SPN631 Super Dynamic Full HD Network Camera31

WV-ST162 Indoor Pan-Tilt Network Camera33

WV-ST165 Indoor Pan-Tilt Network Camera33

WV-SPV781L Indoor/Outdoor 4K Vandal-resistant
Weatherproof Network Camera30, 60

WV-SPW311AL Super Dynamic HD Weatherproof Network Camera31

WV-SPW531AL Super Dynamic HD Weatherproof Network Camera31

WV-SPW611 Super Dynamic HD Weatherproof Network Camera31

WV-SPW611L Super Dynamic HD Weatherproof Network Camera30

WV-SPW631L Super Dynamic Full HD Weatherproof Network Camera30

WV-SPW631LT Super Dynamic Full HD Weatherproof
Long Focus-type Network Camera30

WV-SW115 Indoor/Outdoor Super Dynamic HD
Vandal-resistant Wall Mount Network Camera25

WV-SFV110/SFV110M Indoor/Outdoor Super Dynamic
HD Vandal-resistant Dome Network Camera24

WV-SFV130/SFV130M Indoor/Outdoor Super Dynamic Full HD
Vandal-resistant Dome Network Camera24

WV-SW172 Outdoor Pan-Tilt Network Camera33

WV-SW174W Outdoor Pan-Tilt Wireless Network Camera33

WV-SW175 Outdoor Pan-Tilt Network Camera33

WV-SW395A Super Dynamic Weather-resistant
HD PTZ Dome Network Camera21

WV-SW397B Super Dynamic Weather-resistant
HD PTZ Dome Network Camera20

WV-SW598A Super Dynamic Weather-resistant
HD PTZ Dome Network Camera20

WV-SW458/SW458MA Indoor/Outdoor 360-Degree
Super Dynamic Vandal-resistant Dome Network Cameras29

COMPATIBILITY CHARTS46-51

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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