

Panasonic
BUSINESS

Security Systems
Intelligent Network Surveillance
Solutions



III-PRO

July
2020



i-PRO

The Power of Truth

Panasonic Security is provided
by Panasonic i-PRO Sensing Solutions

In October 2019, Panasonic i-PRO Sensing Solutions Co., Ltd., was established as a global leader of advanced sensing technologies in the fields of Intelligent Surveillance, Public Safety, and Industrial/Medical Imaging, building on a legacy of over 60 years of Panasonic innovation.

Panasonic's LEGACY

Over 60 years of innovation
A global sales network
The leader in quality



i-PRO ORIGINALITY

Open partnerships
Fast and reliable
A specialist in sensing solutions

SOLUTIONS

- Intelligent Surveillance Solutions Business
- Law Enforcement Solutions Business
- Industrial Medical Vision Solutions Business

DEVICES / SERVICES

- Surveillance Camera Systems
- Evidence & Investigation Support Systems
- Facial Recognition Systems
- Medical & Industrial Cameras
- Image Analyzing Software
- Cloud Imaging Services

TECHNOLOGIES

- Video Capturing Technology
- Sensing Technology
- AI Video Analysis Technology
- Data Security Technology

■ Panasonic Security

Panasonic Security provides industry-leading solutions to capture, record, manage and analyze surveillance video. We offer a complete and comprehensive lineup of video surveillance products and solutions with the industry's highest image quality, mission-critical reliability and lowest total cost. Our goal at Panasonic Security is simple: to make your life easier. We've reengineered our hardware and software for a plug and play platform that delivers enhanced point-to-point data security and enterprise-level management—all housed in powerful, intuitive software.

KEY ADVANTAGES OF i-PRO SECURITY PRODUCTS

RELIABILITY

More than just meeting industry standards

DATA SECURITY

Preparing for the threat of cyber attack

DATA COMPRESSION

Reduced load for minimized network and data storage cost.

DATA ANALYTICS

Improved efficiency and reduction of system load via edge & cloud.

IMAGE QUALITY

Capturing evidence in extreme environments

Panasonic

An Imaging Solution Provider

For more information, visit ipro.panasonic.com

Panasonic



**EXTREME
Compression**

**EXTREME
Visibility**

*Extreme
Core
Technologies*

**EXTREME
Data Security**

**EXTREME
Reliability**

**EXTREME
Analytics**

Extreme performance under Extreme conditions

ACTIVE SENSING

Capture data with
strong sensing devices

ACTIVE ANALYTICS

Transform DATA
into INFORMATION

■ Contents

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AI-based high-precision analysis enables surveillance and crime prevention operations.

H.265 AI Network Camera

WV-X2571LN / **WV-X2551LN**
(Outdoor Dome models)

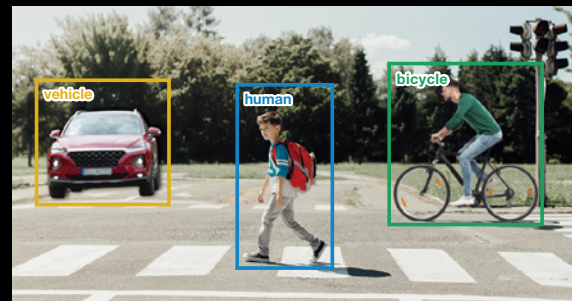
WV-X2271L / **WV-X2251L**
(Indoor Dome models)

WV-X1571LN / **WV-X1551LN**
(Outdoor Box models)


Three AI Functions

High-precision detection & identification

- Upgrade to advanced video surveillance solutions by using AI technology for high-precision detection and identification of humans, vehicles and two-wheel motorcycles / bicycles.



Optimal image quality settings

- Detects humans, vehicles, etc., to optimize imaging and improve analysis accuracy.



Detect & identify humans

- Shutter speed
- Auto exposure
- Gamma correction
- Noise reduction



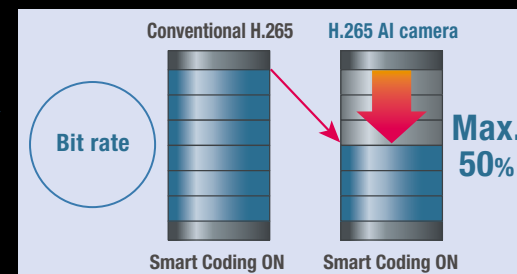
AI image optimization

Optimized video compression

- Optimize video compression to conserve network bandwidth and server storage capacity.

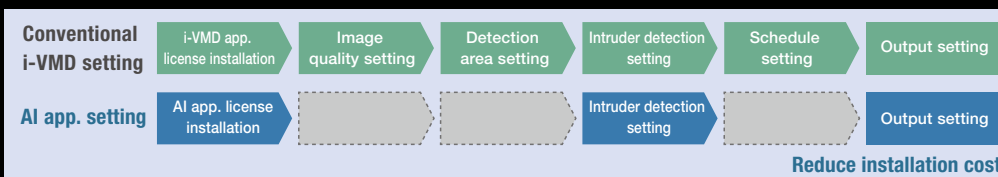


Detect & identify objects and optimize video compression



Simple Setting Procedures

- Enables high-accuracy video analysis through AI technology-enabled simple setting procedures.



Analytics Applications

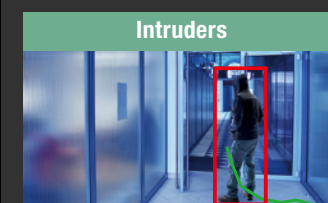
Providing the Software Development Kit (SDK)

We provide third parties access to the SDK, allowing them to develop solutions compatible to their own video analysis software.

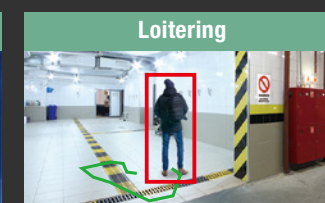
Extension Software **WV-XAE200W** (*Optional extra)

AI differentiates between vehicles, motorcycles, bicycles, and people. It further detects and sends warning notifications when they enter a specified area.

AI Video Motion Detection



- It is possible to issue an alarm when a moving object enters a specified area.



- It is possible to issue an alarm when a moving object enters a specified area and stays there for a specified amount of time.



- It is possible to issue an alarm when a moving object enters a specified area and moves in the specified direction.



- It is possible to issue an alarm when an object moving in the specified direction crosses a specified threshold.

Extension Software **WV-XAE201W** (*Optional extra)

To protect privacy and portrait rights, it is possible to automatically apply a mosaic the entire face and figure of a person photographed by the camera.

AI Privacy Guard



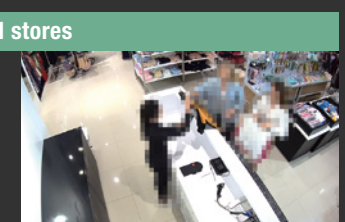
Original image



Processed image



Original image



Processed image

Are U looking for security without compromise?

Varifocal Lens Network Camera

**WV-U2542L / WV-U2532L /
WV-U2142L / WV-U2132L
WV-U1542L / WV-U1532L /
WV-U1142 / WV-U1132**

Fixed Lens Network Camera

**WV-U2540L / WV-U2530L /
WV-U2140L / WV-U2130L
WV-U1130**



Meeting a Multitude of Application Needs

- Both Full HD and higher-resolution 4MP network cameras are available. 4MP network cameras enable monitoring in a more expansive area.
- Fixed lens and Varifocal lens network cameras are available. Varifocal lens network cameras enable focus, zoom and angle of view adjustment. The lens can be adjusted to capture a wider area or to focus on a smaller area in greater detail.
- Box and Dome cameras are available. Select the model best suited to your installation location.
- Outdoor network cameras have IP66 and NEMA 4X ratings for protection against dust, rain and snow, and IK10 ratings for ensure shock resistance.



Clear Color Images in Low-Light Conditions

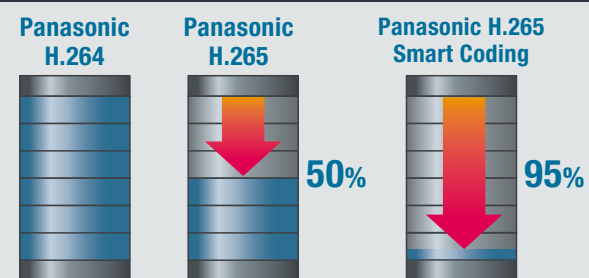
- Adopting Color Night Vision technology enables production of extremely high-quality images, even in the most challenging lighting conditions.



Under 0.2-0.3 lux lighting environment

High Image Quality Without Heavy Network Loads

- Adopting H.265 Smart Coding technology for the GOP control, frame control and Auto-VIQS sharply increases bandwidth efficiency to enable longer recording that takes up less storage.



"Smart Coding" provides over 95% reduction in total file size when compared to "H.264"

Clear visibility of distant objects even in the dark

Long distance IR illumination
iA PTZ Camera

WV-X6533LN
(40x optical zoom)

WV-S6532LN
(22x optical zoom)



Built-in IR LED and visible light cut filter enable detection of irregularities in the dark

- A standard camera may not be able to record a clear image because it is difficult to focus if the subject is in a place where there is no light, or if there is light such as a streetlight between the camera and the subject. Even in such cases, the IR LED light and the visible light cut filter can capture clear images. It is possible to discern the movement of an object 350 m* away in an unlit place at night. *WV-X6533LN only.



Light near subject: 0 lux

Optical 40x* zoom clearly captures details of distant subjects

- When monitoring large parking lots or large-scale facilities such as power plants and dams, the installation location of cameras is often limited, and both the monitoring of distant areas and wide-area monitoring are important. The optical 40x* zoom can capture the characteristics of an object 350 m* away. *WV-X6533LN only.



Advanced image stabilization suppresses blur even when using the high-power zoom

- When using the high-power zoom, slight vibrations greatly disturb the image, but the advanced image stabilization function compensates for blurs even for vibrations that cannot be detected by a gyroscope. This minimizes image blur caused by vibration and provides stable images.

Ultra-high 4K picture quality for detailed wide-area monitoring with a single camera

4K (3,840 x 2,160)
iA H.265 Network Camera

WV-S2570L
(Outdoor Vandal Resistant Dome model)

WV-S2270L
(Indoor Vandal Resistant Dome model)

WV-S1570L
(Outdoor Vandal Resistant Box model)



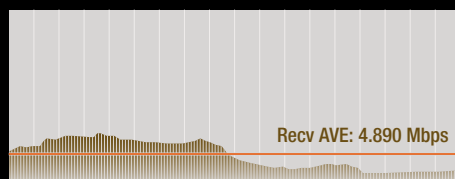
4K Ultra high-definition captures clear images

- Ultra HD 4K cameras offer, nine times the definition 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 the images remain clear even when you need to magnify only a part of an image.



Low bit rate even with 4K Ultra high-definition

- The new 4K camera uses Smart Coding with Auto VIQS technology, GOP control technology, and H.265 Compression to transmit high-quality video with much less data than conventional 4K cameras. High-resolution cameras (4K, etc.) can have a problem with large-volume data transmission, but the new 4K camera solves this problem.



The bit rate depends on the scene.

Color information acquisition in low-light situations

- Color is one of the most important kinds of information in surveillance camera videos, for example: clothing color and car color. Color Night Vision technology enables Panasonic cameras to provide real color information in low-light situations, and these cameras also provide sharp images without motion blur.



Light near subject: 3 lux

These new dome cameras feature EXTREME specs and a compact size perfect for installations with limited space.

IR LED Outdoor Compact Dome Camera

WV-S3531L
WV-S3532LM
WV-S3511L
WV-S3512LM

IR LED Indoor Compact Dome Camera

WV-S3131L / WV-S3111L



Compact & simple design

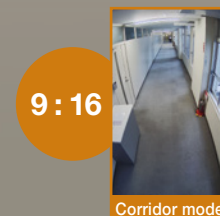
- Volume ratio 60%. Can be installed even in limited space. (As compared to indoor dome cameras)
- The small, inconspicuous design harmonizes with interiors.

Full-spec performance rivals standard dome cameras

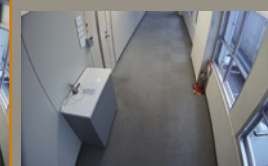
- Performance level of standard dome cameras achieved with Intelligent Auto, Super Dynamic, Color Night Vision, etc.
- Data compression using H.265 + Smart Coding Technology makes it possible to reduce network load and expand recording time.
- The mounting of a 108° wide-angle lens (Full HD model) enables the monitoring of a wide range despite the unit's compact size.
- Even in a 0 lux environment, the movement of people and animals can be captured using an internal IR-LED light providing even illumination up to a 15-meter field.
- For the horizontal direction of narrow corridors and passageways, Corridor Mode can record video optimized for the long perpendicular space.



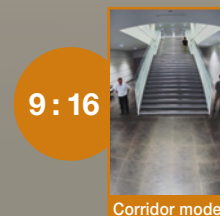
Monitoring can be made suitable for corridors, aisles, etc. by setting the image to be monitored at an aspect ratio of 9:16.



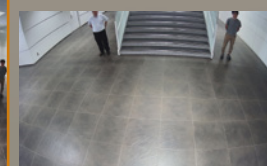
Corridor mode



in Corridor



Corridor mode



Stairs in the lobby

Vandal resistance, waterproof protection, and vehicle-mounting standards (outdoor model)

- Durable housing meets IK10 and IP66
- Meets EN50155 and other vehicle-mounting standards so an excellent choice for monitoring inside trains and buses.

Four repositionable lenses minimize blind spots and allows the camera to adjust to the various shaped intersections and monitoring areas found in cities.

Multi-Sensor Camera 4 x 4K(33MP)

WV-X8570N

Multi-Sensor Camera 4 x FHD(8MP)

WV-S8530N



with Base Bracket

4 x True 4K high resolution

- Can identify vehicles 100 feet diagonal from intersection corners at three lane streets (WV-X8570N)



Combining H.265 compression with Smart Coding technology

- In spite of the high resolution of 4 x 4 K, it achieved the bit rate lower than the bit rate of one 4K camera of H.264.



* "H.265 with Smart Coding" provides max.95% reduction in total file size when compared to "H.264 without Smart Coding" but it depends on a scene.

Wide range tilt angle adjustment mechanism



Four repositionable lenses enables to monitoring at minimize blind spots

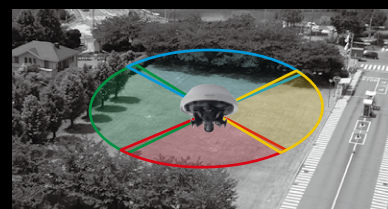
270-degree view (Full intersection view)

- One multi sensor camera at intersection corner, It enables monitoring with minimized blind spots
- Enables to monitoring even if bottom view angle



360-degree view

- One multi-sensor camera enables monitor the park by minimize blind spots



Delivering sharper images with higher sensitivity. Featuring a more intelligent solution. Introducing the 360-degree Network Camera!

360-degree Vandal Resistant Outdoor Dome
9 Megapixel Network Camera

WV-X4571L
WV-X4571LM



with Base Bracket

360-degree Indoor Dome
9 Megapixel Network Camera

WV-X4171
WV-X4170



9 m

5 m



*Sample screen from 9M Fisheye mode

High-quality images allow evidence to be captured even under challenging conditions

- Stereographic projection lens provides low distortion images.
- Dynamic and sharp images capture objects even in varied lighting conditions.
- Auto back focus captures clear images by adjusting focal length automatically.
- IR-LED provides clear black and white images even in dark environments of 0 lux.
- These cameras meet railway standard EN50155, water resistance standard IP66, and impact resistance standard IK10.

Extreme H.265 video compression with new Smart Coding

- H.265 video compression reduces the amount of data while still maintaining video quality.
- Smart Coding reduces the amount of data according to the motion of the video.

Complete with powerful intelligent functions

- i-VMD supports People Counting, Heat-map, Moving Object Remover (MOR), etc., with advanced video analysis technology.

Aerodynamic PTZ with EXTREME PERFORMANCE - under - EXTREME CONDITIONS

AeroPTZ

Suitable for mission critical tough operations under arctic-to-desert weather, salty gust winds, and heavy vibrations

- Hybrid image stabilizer
- Wind Resistant
Operation: 216 km/h (135 mph)*
* Upright position
- Non-destructive: 288 km/h (180 mph)
- Salt Air Resistance (ISO 14993 compliant)
- Waterproof IP66 & IP67 Standard
- Vandal Resistant (Meets IK10 Standards)

With optional IR LED Unit

Anti-severe weather
PTZ network camera

WV-SUD638
(Natural silver)

-H (Gray)

-T (Brown)

IR LED Unit
WV-SUD6FRL1 (Natural silver)
WV-SUD6FRL-H (Gray), **-T** (Brown)

Wiper & Washer

The Wiper & Washer removes water and dirt that may blur images.

Always monitor crisp and clear images.



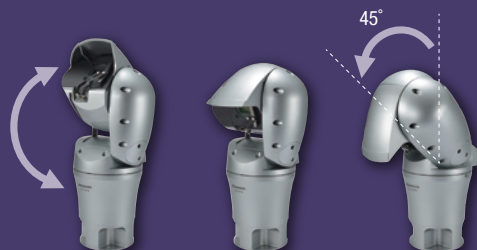
Capture High-Resolution, Smooth & Natural Images

Full HD (1920 × 1080), 60fps



Easily Adjust the Direction of the Camera

Use the 360°endless pan and tilt functions to easily adjust the direction of the lens, automatically survey a preset area, or combine the camera with an external sensor to automatically adjust the direction of the lens towards a detected abnormality. Even monitor directly under the camera. (Front Tilt 45° to Monitor Directly Under the Camera)



Notice: Do not install this product in locations subject to continuous or large vibration. Failure to observe this may cause a drop resulting in injury or accident.

Recognizes those who don't want to be recognized

Our world leading* deep learning facial recognition technology triggers even when the subject is wearing sunglasses.

FacePRO

Facial Recognition Server Software

WV-ASF950

Additional Camera Kit

1ch: WV-ASFE901

4ch: WV-ASFE904

Additional Face Registration Kit

10,000 face: WV-ASFE951

Extension software

WV-ASE231(W) for WV-ASM300



Facial recognition server software using deep learning technology

High performance facial recognition

- High performance Deep Learning facial recognition function distinguishes face orientation, sunglasses, surgical mask, facial aging change



Angled face

Sunglasses

Surgical mask

Facial aging change

Alarm notification using face detection

The WV-ASF950 supports alarm notification, functions such as registered face detection and unregistered face detection.

Registered face detection

An alarm notification is issued when the person imaged by the camera matches a person registered in the list.

Unregistered face detection

An alarm notification is issued when the person imaged by the camera does not match any persons registered in the list.

Unregistered face detection can detect the intrusion of outsiders for each area when the insiders are registered for those areas.

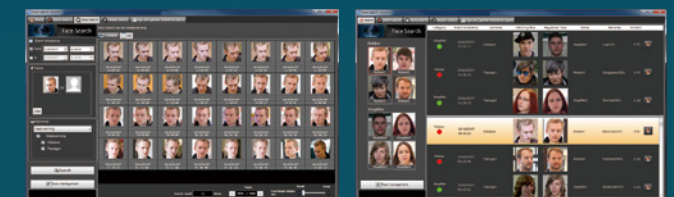
Face search and face matching functions

- Face matching speed is very fast. Its speed is only 1 second(*1) with 30,000 faces.
- This system can register max.30,000(*2) faces for face matching.
- The face search function of this system can search 5 million faces of database in 3 seconds(*3).

*1 From receiving the face thumbnail to matching in face matching server.

*2 Two Additional Face Registration Kits WV-ASFE951 are necessary.

*3 The best case when the time range is narrowed down and the number of search result is 100 faces. Depending on the search conditions, the search time may take several minutes.



Face search

Face Matching

* In April 2017, the product achieved the highest level of face recognition performance in the world in a comparison test (IJB-A Face Verification Challenge Performance Report/IJB -A Face Identification Challenge Performance Report) of NIST (National Institute of Standards and Technology) of the United States, one of the most authoritative institutes in the world.

EXTREME Visibility

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

Intelligent Auto Mode (iA)



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

Auto Scene Detection



Parameter Settings

Industry examples: City safety, traffic, transportation

	Conventional	iA Mode
Velocity Detection		
Day & Night Detection		

iA provides sharp images of moving vehicles with blur control

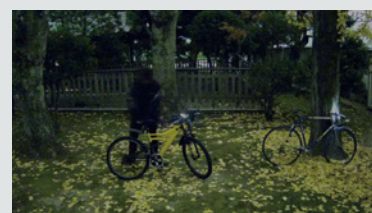
Automatic reflection control provides more detail during difficult nighttime scenarios

Color Night Vision



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

Industry examples: City safety, ports, perimeter security



Ordinary Camera 0.6 lx



Color Night Vision 0.6 lx

0 lux Pitch Dark Locations



Cameras with a 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.

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 outdoor model can capture subjects up to 40 meters away.

Light levels are automatically adjusted for blown out highlights and screen whitening when the IR LED shines on a subject close-by. The IR LED is covered to make it difficult to detect from the outside or to know which way the lens is pointing.



IR LED: OFF



IR LED: ON

EXTREME Visibility

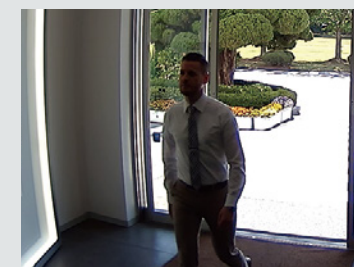
144dB EXTREME Super Dynamic



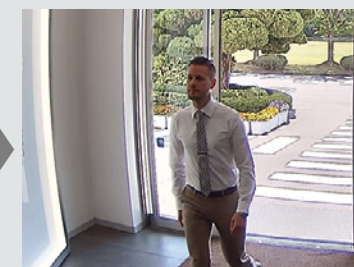
Combined with the new 144dB enhanced SD capabilities, this high-performance face detection technology can clearly and automatically identify an individual's face.

It offers optimal facial recognition and can capture evidence even in dynamic scenes or heavily backlit conditions.

Industry examples: Entrances of shopping malls and buildings



Super Dynamic: OFF



Super Dynamic: 144dB

Intelligent Zoom Stabilization



High-power, 40x optical zoom lens allows for higher resolution images

of objects at a distance.

The advanced image stabilization function can stabilize high-power zoom images by absorbing vibrations.



Intelligent Zoom Stabilization: OFF



Intelligent Zoom Stabilization: ON

Visibility Enhancement Technology (OP Software)



i-PRO Management Software is not only used for removing fog but also snow, rain, and other natural conditions that can harm video quality. Besides real-time image processing during monitoring, post-processing is also possible after the images are saved to the recorder.



Before Correction



After Correction

ClearSight coating



Water drops stick to the dome cover on conventional cameras and hinder the shooting of clear images. Our ClearSight coating models are coated to repel water drops in order that the camera captures clear images when it is raining.

This coating is also effective at repelling dirt, which reduces the frequency of needing to clean the dome cover.

The hydrophilic coating can also be touched without special equipment and improves the ease of maintaining the equipment.

Coated areas are resistant to water droplets



Non-coated

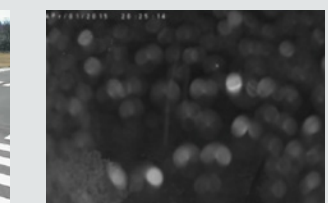


ClearSight coated

Coated areas are resistant to dirt



Non-coated



ClearSight coated

IR Surveillance in the Rain



Non-coated



ClearSight coated

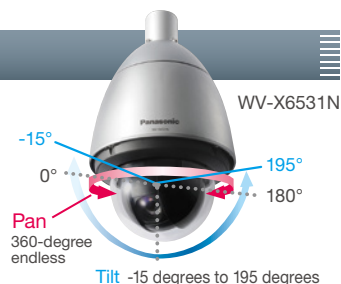
EXTREME Visibility

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 40x.

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.

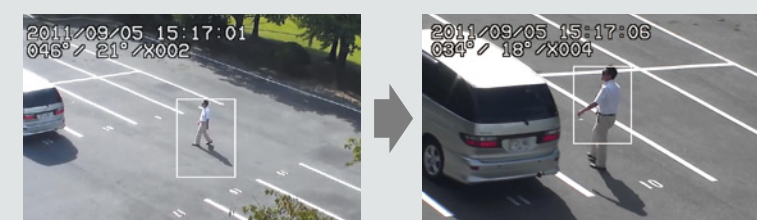


Advanced Auto Tracking



The pan, tilt, and zoom functions can be combined for automatically tracking the movement of a subject.

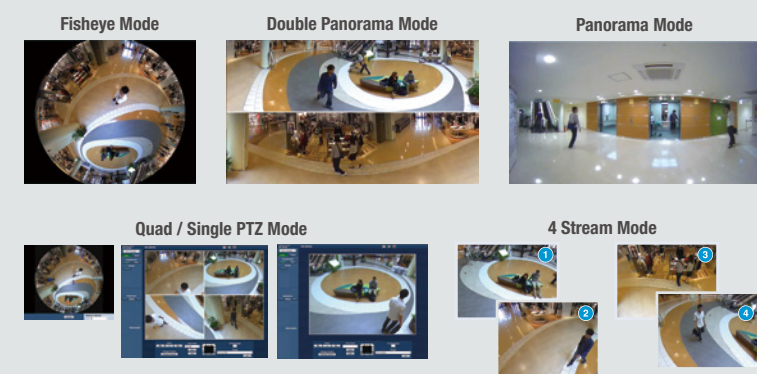
If the tracked subject moves out of the camera's shootable range, notification is sent to other cameras so that the tracking process can be carried on without interruption.



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.

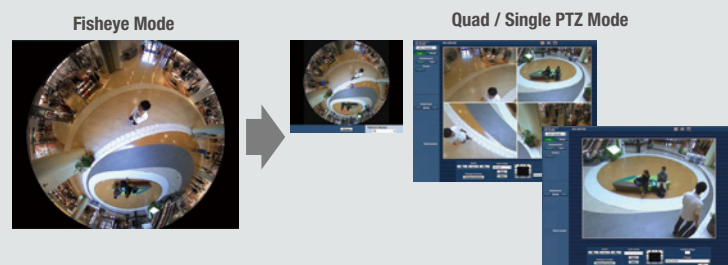


De-warping

The 360-degree Network Camera can generate and output video images for each mode within the camera unit. Also, the Network Disk Recorder (WJ-NX400/WJ-NX300/WJ-NX200) or i-PRO Management Software (WV-ASM300) 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.



EXTREME Compression

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

H.265 Compression + Smart Coding Technology



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

*Value in Advanced mode with Smart Facial Coding. It depends on the scene.

H.265 (HEVC)



Smart Coding

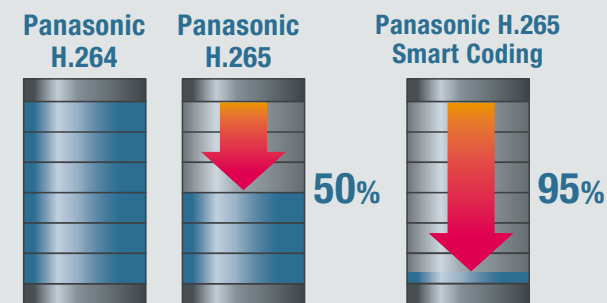
GOP Control



Auto VIQS



Face Compression



"Smart Coding" provides over 95% reduction in total file size when compared to "H.264"

GOP Control

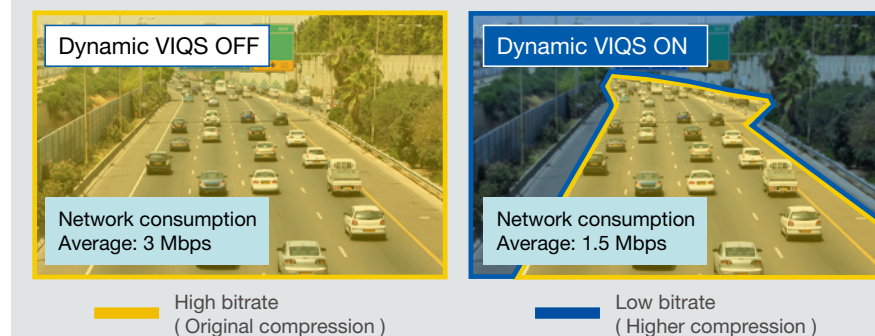
The GOP (group of pictures) control can reduce the total transmitted data of images with little motion by controlling the transmission interval of I-Frame, which is heavy in data.

If the motion is significantly low, the transmission interval can be set to 60 seconds to drastically reduce the total data transmitted.



Auto VIQS

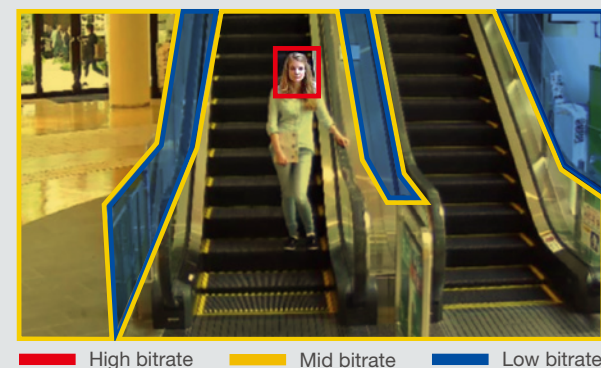
Auto VIQS detects movement within the image and compresses areas with little motion to reduce transmitted data while maintaining the quality of the image.



Face Compression

The camera automatically distinguishes the sections of the images that are important such as moving objects and people's faces. The quality of unimportant areas is reduced without compromising the quality of important sections, therefore optimizing the data size of the footage.

On top of integrating Smart Coding into the conventional GOP Controls, the improved compression efficiency through Auto VIQS and Long-Term Compression combined with Smart Facial Coding, which detects faces and maintains the quality of only faces, can compress the file drastically to reduce the data size.



EXTREME Data Security

In addition to Data encryption and communication encryption, provide secure network access between trusted devices through device certification then prepare for the threat of advanced cyber attacks.

End-to-End Data Protection Solution

End-to-End Secured System



End-to-End Data Encryption

- Support encryption communication
- Camera-encrypted recording at the edge



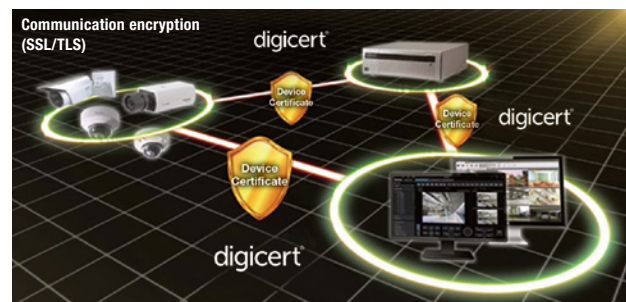
Pre-installed DigiCert (formerly Symantec) Device Certification

- Communication encryption
- Video tampering detection



FIPS140-2 CAVP compliant

- *Using encryption module standardized by FIPS publication 140-2
- For federal/public safety usage



Data encryption

The data encryption function encrypts data to prevent information leakage due to unauthorized access to the camera and theft of the SD card.

If you confirm streams with data encryption set to "On" on the "Live" page, password entry for decryption is displayed. If you correctly enter the "Encryption password" that was set, you will be able to view images.



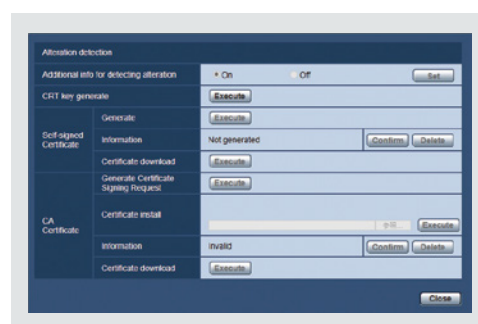
SD Memory Card Recording

Without using a network, footage can be saved directly to the camera by inserting an SD memory card (SD, SDHC, or SDXC) in the camera. Settings can be adjusted to only record images to the SD memory card when the alarm is triggered. Inserting SD memory cards also works as a backup system when there is an issue with the network. Images will be saved onto the memory cards while the network is down and will be transmitted to the recorder when the network reconnects.



Detect Alterations to the SD Memory Card

Turn on the Alteration Detection and record images to the SD memory card to be able to verify whether or not the recorded images have been altered. Playback the images recorded onto the SD memory card with a computer and utilize the Integrity Verifier Tool to analyze the raw data and confirm that the recorded images have not been altered. Download the Integrity Verifier Tool for free from our "Useful Tool" download page. <https://security.panasonic.com/support/technical/#tool>



EXTREME Reliability

Achieves high endurance and long life in storing information even under harsh environments.

HDD Dynamic Power Control

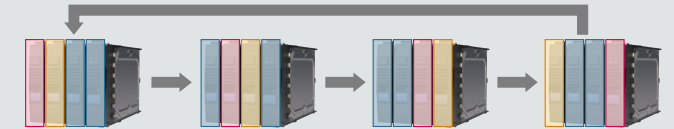
Long life and high reliability is achieved through technology that individually controls access to the HDD. If a recorder needs to recover crashed data, it can do so in a short amount of time.

Individually-managed HDD

WJ-NX400 manages the status of each HDD, using the following three states:

- 1 Active state:** Currently being accessed by the WJ-NX400. **2 Idle state:** Ready to be accessed **3 Stand-by state:** Halted motor

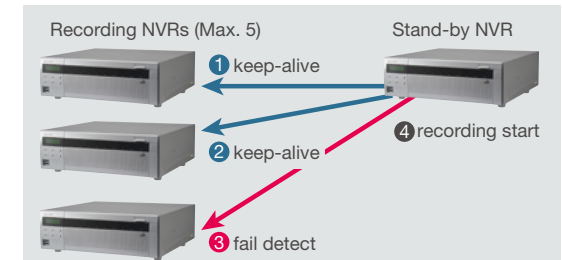
- Active** : Motor – On; Head – Read/Write
- Idle** : Motor – On; Head – Home Position (ready for next access to a HDD)
- Stand-by** : Motor – Off; Head – Home Position



Auto Failover Recording

NVR has an Auto Failover Recording function to reduce the loss of recorded data due to NVR failure. In the case of an NVR failure, the stand-by NVR will begin recording automatically.

The standby NVR will record instead of the failed NVR, without the need for management software.



High Performance and Flexibility with TURBO-RAID

WJ-NX400 RAID is a specialized hardware RAID (TURBO-RAID).

WJ-NX400 RAID, equipped with TURBO-RAID, maintains the throughput performance of a non RAID configuration. TURBO-RAID can provide guaranteed reliability of data and high-performance throughput.

The recorder can recover data quickly in the event of a crash.

*To use TURBO-RAID with WJ-NX300, Additional RAID Kit is required.

Heavy Salt Damage Resistance, Compliant with ISO14993

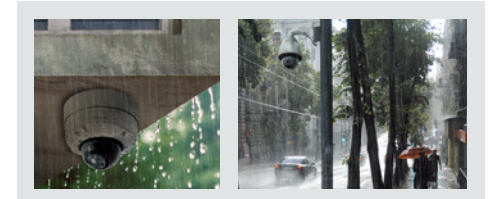
Heavy salt damage resistance, with film thickness of 100 micrometers or more, provides protection from salty wind corrosion.

The use of screws with an anti-salt surface treatment prevents trouble occurring from corroded screws in the product.



Rainwater Protection

IP66 standard The outdoor models have waterproof and dustproof structures that are rated IP66 for exterior installations, eliminating the need for special housing and/or waterproof protection.



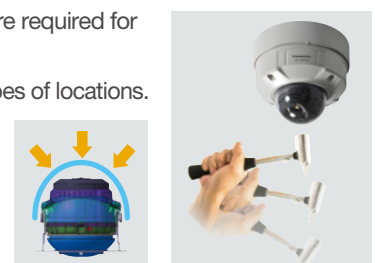
Vandal Resistant



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.



EXTREME Analytics

Identifies and acquires important information, improves accuracy and efficiency of the entire system, reduces system load, and lowers costs and hurdles. Anyone can take advantage of Analytics.

Facial Recognition System

When the camera detects a face, it sends only the facial image data to the server.

This greatly reduces the load on the system's main server and enables one system to accommodate up to 20 cameras.

The accommodation of so many cameras makes it possible to have multiple-camera coverage extending across a wide area, thereby enabling people-flow paths to be determined and easily tracked in real time.

Facial recognition function

The facial recognition system can detect registered faces and unregistered faces.

Registered face detection notifies you when a person captured by the camera matches a registered person.

Unregistered face detection notifies you when a person captured by the camera is not registered.

This function is useful for detecting the entrance of outsiders.

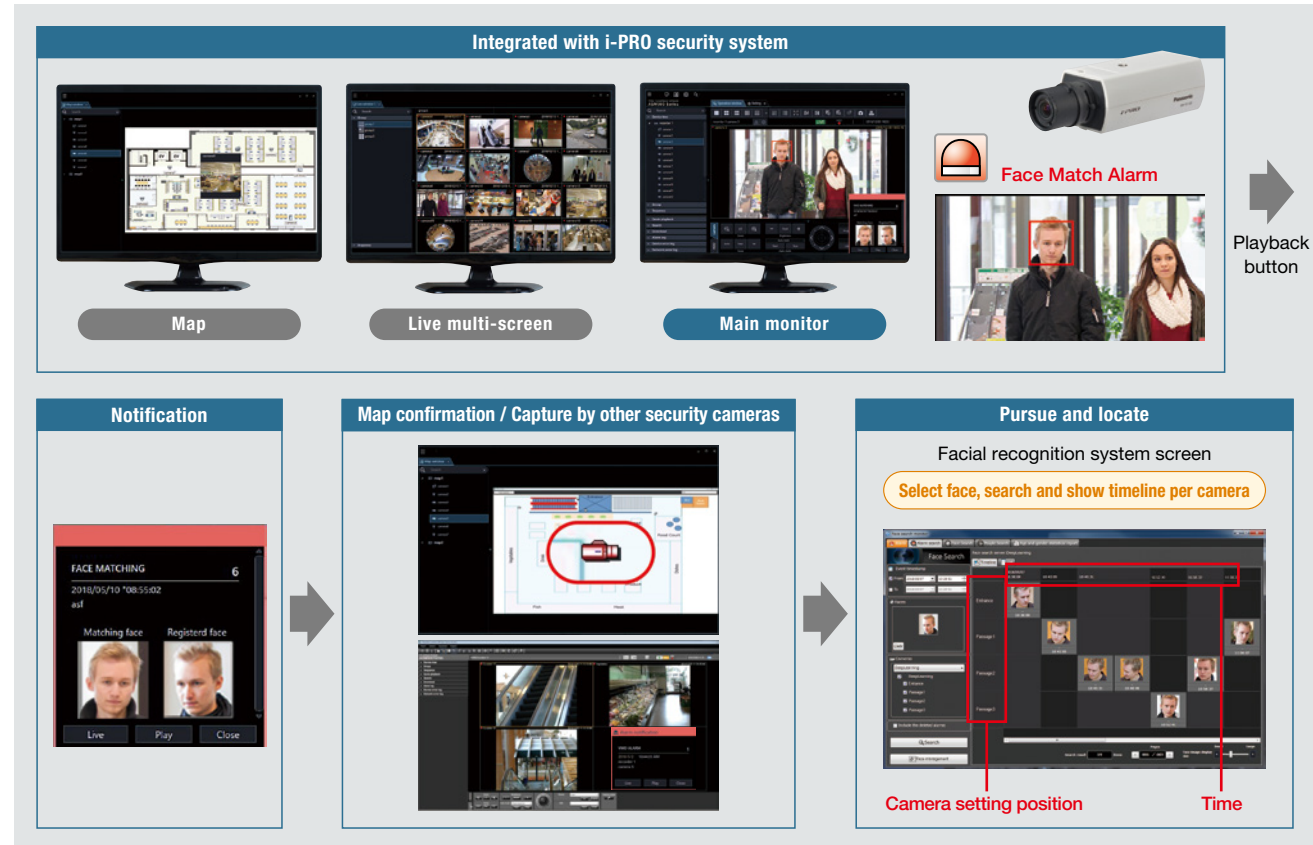
Because people can be registered for each area, areas with different security levels can be kept safe.

Face search and face matching functions

The Facial Recognition System takes the camera-captured facial images and compares them with registered faces, sounding a real-time alarm and displaying comparison results on a screen when a match is found.

By using the comparison results to do a facial-image search, it is possible to display the results from each camera as a time series to identify and track a person's movement. In addition, it is possible to filter recorded images using camera name and date/time, and then determine a subject person's movement by using the alarm history list to replay recorded images linked to an alarm.

System expandability - Integrated into video surveillance system



EXTREME Analytics

Almost all Panasonic cameras have an intelligent function (i-VMD) that detects video motion and notifies the administrator of abnormal or dangerous situations. This eliminates the need to constantly watch all screens in the control room, contributing to lower TCO and improving business productivity. i-VMD does not require a license fee.

Intruders

Type2 / Type3 / Type4 / Type5 / Type6

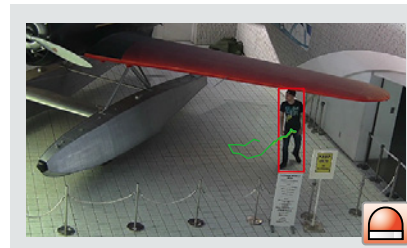
It is possible to issue an alarm when a moving object enters a specified area. Up to 8 objects, or 32 objects (Type3 / Type5 only) can be detected simultaneously per channel.



Loitering

Type2 / Type3 / Type4 / Type5 / Type6

It is possible to issue an alarm when a moving object enters a specified area and stays there for a specified amount of time. Up to 8 objects, or 32 objects (Type3 / Type5 only) can be detected simultaneously per channel.



Direction

Type2 / Type4 / Type6

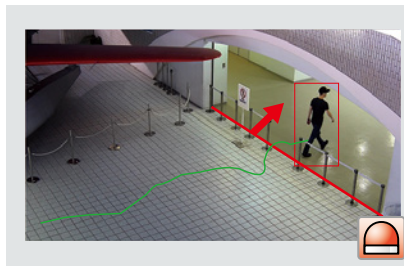
It is possible to issue an alarm when a moving object enters a specified area and moves in the specified direction. Up to 8 objects, or 32 objects can be detected simultaneously per channel.



Cross line

Type2 / Type3 / Type4 / Type5 / Type6

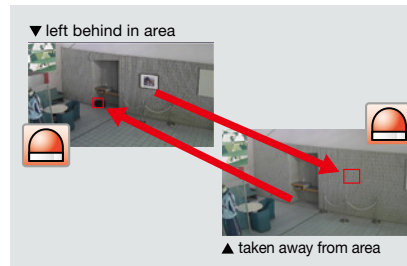
It is possible to issue an alarm when an object moving in the specified direction crosses a specified threshold. Up to 8 objects, or 32 objects (Type3 / Type5 only) can be detected simultaneously per channel.



Object

Type2 / Type3 / Type4 / Type5 / Type6

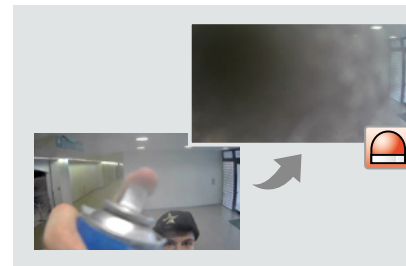
It is possible to issue an alarm if an object (suspicious object, etc.) is left behind in the area or taken away from the area. Up to 8 objects, or 24 objects (Type3 / Type5 only) can be detected simultaneously per channel.



Scene change

Type2 / Type3 / Type4 / Type5 / Type6

It is possible to issue an alarm when a camera is covered with something or the camera direction is changed to shoot a different subject.

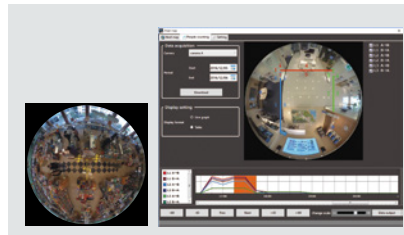


People Counting

Type3 / Type5



It provides function of counting the number of people who crossed the line in a certain direction which is set with "Line".

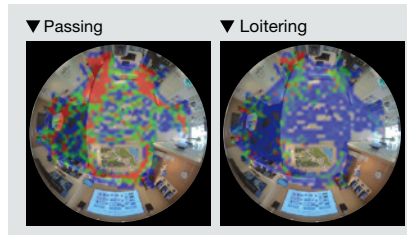


Heat-map

Type3 / Type5



Heat-map provides statistical information of traffic lines. Counts up both passing and loitering in the shooting area.

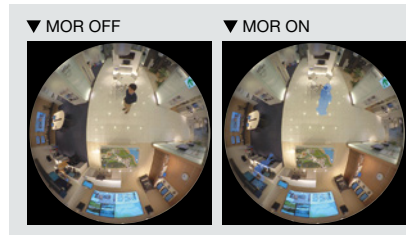


MOR (Moving Object Remover)

Type3 / Type5



MOR is a privacy-conscious function which removes people from the image and only send the background image.



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

Easy Installation

The Easy Kitting Package makes setting up the camera easy.

Users do not even need to remove the camera from the box to setup the camera. This packaging helps reduce the time and effort it requires to install multiple cameras.

On outdoor models, the RJ45 Joint Connector removes the need of using waterproof tape and reduces the time it takes to install the camera.



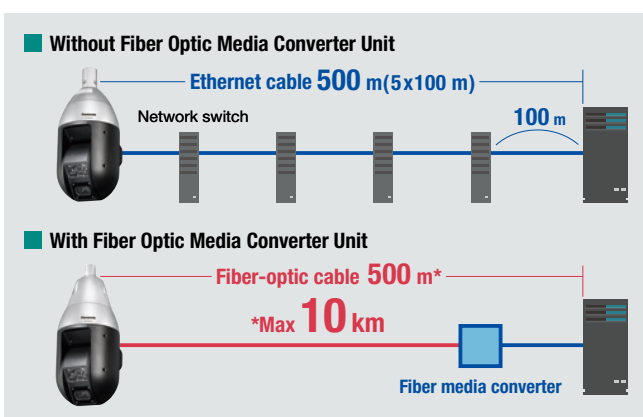
Fiber Optic Media Converter Unit

The network copper cable can only communicate up to 100 m. In order to communicate over 100 m with copper cables, network switches must be cascaded and extended, requiring a large number of network switches and power supplies, which is cumbersome. An optical network using glass cable can communicate over a distance of 10 km, thereby simplifying long-distance communication.

The Fiber Optic Media Converter Unit supports long distance optical networks by converting copper RJ45 to fiber.

*Refer to the following URL

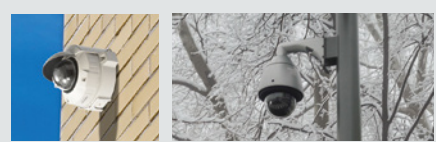
https://security.panasonic.com/products_technology/products/wv-x65f1/
https://security.panasonic.com/products_technology/products/wv-s25f1/



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 +60°C to -50°C.

*The supported temperature range varies depending on the specific model.

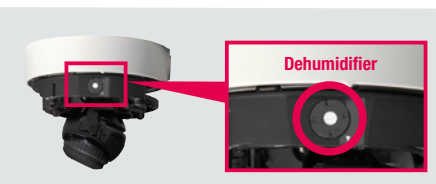


Dehumidification Device



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.

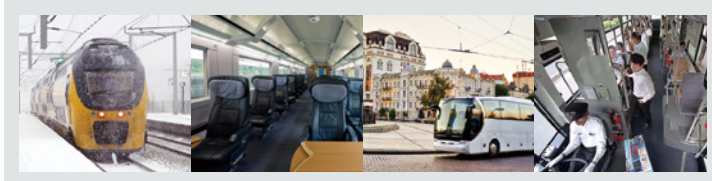


Onboard Model

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-SFV130M, WV-SFV110M, WV-X4571L(M), WV-S4550L(M), WV-S3532LM, WV-S3512LM and WV-SW458MA

are compliant with the EN50155 European railway standards.



Support for Various Installation Environments

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 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.

The dome cover can also be easily removed to change the direction of the lens.

For Outdoor Box type cameras, the stay can be bent to one of two levels to allow installation with a high degree of freedom.



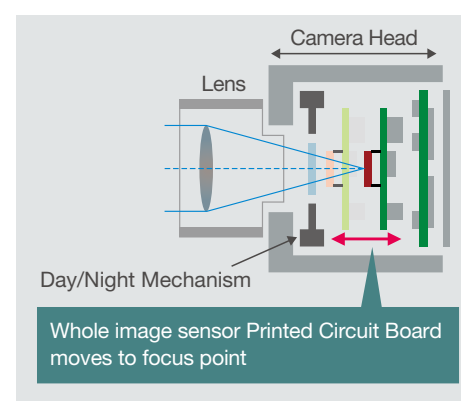
ABF (Auto back Focus)



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.

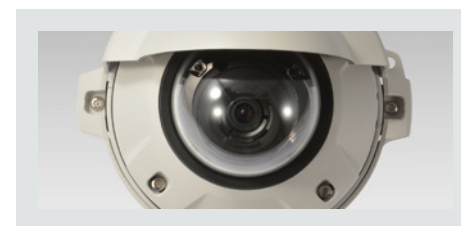
In addition, the one-push Auto Back Focus feature sharply reduces the time required to focus cameras during installation, allowing focus to be set using the optional system controller.

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.



Special Screws for Added Security

Specially-shaped screws are used to secure the cover to prevent tampering with the camera or theft of the SD memory card.



Panasonic Products Lineup

Network Cameras										Outdoor	Indoor
H.265 cameras	Multi-Sensor									P.25	
		WV-X8570N	WV-S8530N								
	PTZ									P.26 - 28	
		WV-X6533LN	WV-S6532LN								
		WV-X6531N	WV-X6531NS	WV-X6511N	WV-S6530N						
		WV-S6131	WV-S6111	WV-S6130							
	Fixed Dome									P.29 - 36	
		WV-X2571LN	WV-X2551LN	WV-S2570L	WV-S2550L	WV-S2531LTN	WV-S2531LN	WV-S2511LN			
		WV-U2542L	WV-U2532L	WV-U2540L	WV-U2530L	WV-X2271L	WV-X2251L	WV-S2270L	WV-S2250L		
		WV-S2231L	WV-S2211L	WV-S2131L	WV-S2131	WV-S2130	WV-S2111L	WV-S2110			
	WV-U2142L	WV-U2132L	WV-U2140L	WV-U2130L							
	WV-S3531L	WV-S3532LM	WV-S3511L	WV-S3512LM	WV-S3111L	WV-S3131L					
360-degree Dome									P.37 - 38		
	WV-X4571L	WV-X4571LM	WV-S4550L	WV-S4550LM	WV-X4171	WV-X4170	WV-S4150				
Box									P.39 - 43		
	WV-X1571LN	WV-X1551LN	WV-S1570L	WV-S1550L	WV-S1531LTN	WV-S1531LN	WV-S1531LNS				
	WV-S1511LN	WV-U1542L	WV-U1532L	WV-S1132	WV-S1131	WV-S1112	WV-S1111				
Cylinder									P.44		
	WV-U1142	WV-U1132	WV-U1130								
H.264 cameras	PTZ / Fixed Dome									P.45- 46	
		WV-SUD638(Natural silver), -H(Gray), -T(Brown)		WV-SFV781L	WV-SFV130M	WV-SFV110M	WV-SBV131M	WV-SBV111M			
	360-degree Dome									P.47	
		WV-SW458MA	WV-SF438								
	Box									P.48	
		WV-SPV781L	WV-SPW532L	WV-SPW312L							
	Cylinder / Pan Tilt									P.49	
	WV-SP105	WV-SP102	WV-SW175								
Optional Accessories Compatibility with Network Cameras										P.50 - 53	

Network Video Recorders

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Network Disk Recorder	WJ-NX400	WJ-NX300	WJ-NX200	
• Additional Camera Kits	WJ-NXE40 / WJ-NXE40W	WJ-NXE30W	WJ-NXE20W	• Additional RAID Kit WJ-NXR30W
• Secure Communication Kits	WJ-NXS01W	WJ-NXS04W	WJ-NXS16W	WJ-NXS32W

Additional Business Intelligence Kit

WJ-NXF02W

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Management Software

P.55

i-PRO Central Management Software	WV-ASM300	• Extension Software	WV-ASE202W / ASE203W / ASE205W / ASE306W	• Ethernet 3D Joystick System Controller	WV-CU980
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Video Management Software

Video Insight 7

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Face Server

P.56

Facial Recognition Server Software		WV-ASF950	
• Additional Camera Kits	1ch: WV-ASF901 / 4ch: WV-ASF904	• Additional Face Registration Kit	10,000 face: WV-ASF951
		• Extension software	WV-ASE231(W) for WV-ASM300

Application for Smartphone / Tablet PC

Panasonic Security Viewer

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IP Migration / Panasonic Product Selector

P.58

Encoder	WJ-GXE500	WJ-GXE100	Coaxial-LAN Converter	WJ-PR204	WJ-PR201	WJ-PC200
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Design Tools

P.59

System Design Tool	i-PRO Configuration Tool
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Network Camera Comparison chart

Multi-Sensor

Indoor / Outdoor		Outdoor	
Model Name		WV-X8570N	WV-S8530N
Appearance		 Onvif GST	 Onvif GST
Sensor		1/1.8 CMOS	1/3 CMOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	2 (*1)	2 (*1)
	JPEG multi stream	2 (Variable) (*1)	2 (Variable) (*1)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR
	Smart Coding	Yes (*2)	Yes (*2)
Max. Resolution (*1)	16 : 9	3840 x 2160	1920 x 1080
	4 : 3	—	1600 x 1200
Max. FPS @Max. Resolution (*1)	H.265 / H.264	15fps (4K)	30fps (2 MP)
	JPEG	1fps (4K)	3fps (2 MP)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic
Color/BW		Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		—	Manual focus
Min. Illumination	Color	0.12 lx @F1.6	0.09 lx @F2.2
	Color (Sens up)	0.008 lx (16x)	0.006 lx (16x)
	B/W	0.05 lx@F1.6	0.04 lx@F2.2
	B/W (Sens up)	0.003 lx (16x)	0.003 lx (16x)
Lens		f=4.6 mm, F1.6	f=3.2 to 5.7 mm, F2.2
Angular field of view (*1)	16 : 9	H: 97 deg. V: 53 deg.	H: 53 (TELE) – 99 (WIDE) deg. V: 30 (TELE) – 54 (WIDE) deg.
	4 : 3	—	H: 44 (TELE) – 81 (WIDE) deg. V: 33 (TELE) – 60 (WIDE) deg.
Adjusting Angle	Horizontal	Sensor1,2,3,4: 360 deg.	Sensor1,2,3,4: 360 deg.
	Vertical	Sensor1,2,3: +30 to +80 deg. Sensor4: -15 to +80 deg.	Sensor1,2,3: +30 to +80 deg. Sensor4: -15 to +80 deg.
	Yaw	Sensor1,2,3,4: ±50 deg.	Sensor1,2,3,4: ±50 deg.
Optical Zoom		1x	1.8x
Digital Zoom		4x	4x
Image Stabilizer		—	—
Corridor Mode		—	—
iA (Intelligent Auto)		Yes	Yes
Video Analytics		—	—
i-VMD (Intelligent VMD) *Bundled License		—	—
VIQS		Yes (8-areas)	Yes (8-areas)
Max. Connection		24	24
Audio	In (Line) / Out	Yes / —	—
	In (Built-in MIC)	—	—
	Codec	G.711 / G.726 / AAC (*3)	—
	Audio Detection Alarm	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes
	Audio REC	Yes	—
External I/O		Yes (3) (*4)	—
Monitor Out		Yes (mini-jack)	—
Vandal Resistant		IK10	IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		–40 to +60 deg.	–40 to +60 deg.
Power Source		PoE	PoE
Dehumidification device		Yes	Yes
Other Functions		Easy Kitting Package, Built-in heater, ClearSight coating	Easy Kitting Package, Built-in heater, ClearSight coating

(*1): Specification of one sensor (*2): Smart Facial Coding is excluded (*3): Only AAC-LC for SD REC (*4): ALARM IN 1(Alarm input 1/ Black & white input/ Auto time adjustment input),ALARM IN 2 (Alarm input 2/ ALARM OUT),ALARM IN 3 (Alarm input 3/ ALARM OUT/ AUX OUT) (x1 for each) ★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart			PTZ	
Indoor / Outdoor			Outdoor	
Model Name			WV-X6533LN	WV-S6532LN
Appearance				
Sensor			1/2.8 CMOS	1/2.8 CMOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG		H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	4		4
	JPEG multi stream	3 (Variable)		3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR		VBR
	Smart Coding	Yes		Yes
Max. Resolution	16 : 9	1920 x 1080		1920 x 1080
	4 : 3	2048 x 1536 (*1)		2048 x 1536 (*1)
Max. FPS @Max. Resolution	H.265 / H.264	60fps (1080p)		60fps (1080p)
	JPEG	30fps (3 MP)		30fps (3 MP)
Super Dynamic / WDR / BLC			Enhanced SD	Enhanced SD
Color/BW			Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist			Auto Focus	Auto Focus
Min. Illumination	Color	0.015 lx @F1.6		0.015 lx @F1.6
	Color (Sens up)	0.001 lx (16x)		0.001 lx (16x)
	B/W	0 lx @F1.6		0 lx @F1.6
	B/W (Sens up)	—		—
Lens			f = 4.25 to 170 mm, F1.6 Motorized	f = 4.25 to 95 mm, F1.6 Motorized
Angular field of view	16 : 9	H: 1.9 to 66 deg. V: 1.1 to 39 deg.		H: 3.4 to 66 deg. V: 2.0 to 39 deg.
	4 : 3	H: 1.4 to 51 deg. V: 1.1 to 39 deg.		H: 2.6 to 51 deg. V: 2.0 to 39 deg.
Pan	Range	Endless		Endless
	Speed	300 deg/sec.		300 deg/sec.
Tilt	Range	-30 to +210 deg.		-30 to +210 deg.
	Speed	300 deg/sec.		300 deg/sec.
360 Pan-Flip			—	—
Number of Preset Positions			256	256
Patrol			Yes	Yes
Auto Tracking			Yes (advanced)	Yes (advanced)
Optical Zoom			40x	22x
Digital Zoom			16x	16x
Image Stabilizer			Yes	Yes
Corridor Mode			—	—
iA (Intelligent Auto)			Yes	Yes
Video Analytics			—	—
i-VMD (Intelligent VMD) *Bundled License			Yes (Type4)	Yes (Type4)
VIQS			Yes (8-areas)	Yes (8-areas)
Max. Connection			14	14
Audio	In (Line) / Out	Yes / Yes		Yes / Yes
	In (Built-in MIC)	—		—
	Codec	G.711 / G.726 / AAC (*2)		G.711 / G.726 / AAC (*2)
	Audio Detection Alarm	Yes		Yes
SD memory Card	Slot	Yes (SDXC)		Yes (SDXC)
	Password & Alter Detection	Yes		Yes
	Audio REC	Yes		Yes
External I/O			Yes (3) (*3)	Yes (3) (*3)
Monitor Out			—	—
Vandal Resistant			IK10	IK10
Water and Dust Resistance			IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature			-50 to +60 deg. (24 V / 60 W PoE) (*4)(*5) -30 to +60 deg.(PoE+)	-40 to +60 deg. (24 V / 60 W PoE) (*4)(*5) -30 to +60 deg.(PoE+)
Power Source			24 V AC / PoE+ / PoE injector	24 V AC / PoE+ / PoE injector
Dehumidification device			—	—
Other Functions			Easy Kitting Package, Built-in defroster, ClearSight coating, Built-in IR LED	Easy Kitting Package, Built-in defroster, ClearSight coating, Built-in IR LED

Network Camera Comparison chart			PTZ			
Indoor / Outdoor			Outdoor			
Model Name			WV-X6531N / WV-X6531NS		WV-X6511N	WV-S6530N
Appearance			  Heavy Salt damage resistance		 	 
Sensor			1/2.8 MOS		1/2.8 MOS	1/2.9 MOS
Codec and Transmission	Video Codec		H.265 / H.264 / JPEG		H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream		4		4	4
	JPEG multi stream		3 (Variable)		3 (Variable)	3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)		VBR		VBR	VBR
	Smart Coding		Yes		Yes	Yes
Max. Resolution		16 : 9		1920 x 1080	1280 x 720	1920 x 1080
		4 : 3		2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)
Max. FPS		H.265 / H.264		60fps (1080p)	60fps (720p)	60fps (1080p)
@Max. Resolution		JPEG		30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)
Super Dynamic / WDR / BLC			Enhanced SD		Enhanced SD	Enhanced SD
Color/BW			Yes (ICR)		Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist			Auto Focus		Auto Focus	Auto Focus
Min. Illumination	Color		0.015 lx @F1.6		0.011 lx @F1.6	0.015 lx @F1.6
	Color (Sens up)		0.001 lx (16x)		0.0007 lx (16x)	0.001 lx (16x)
	B/W		0.006 lx @F1.6		0.005 lx @F1.6	0.006 lx @F1.6
	B/W (Sens up)		0.0004 lx (16x)		0.0003 lx (16x)	0.0004 lx (16x)
Lens			f = 4.25 to 170 mm, F1.6 Motorized		f = 4.25 to 170 mm, F1.6 Motorized	f = 4.0 to 84.6 mm, F1.6 Motorized
Angular field of view	16 : 9		H: 2.1 to 65 deg. V: 1.2 to 39 deg.		H: 2.1 to 65 deg. V: 1.2 to 39 deg.	H: 3.4 to 73 deg. V: 2.0 to 42 deg.
	4 : 3		H: 1.6 to 51 deg. V: 1.2 to 39 deg.		H: 1.6 to 51 deg. V: 1.2 to 39 deg.	H: 2.9 to 61 deg. V: 2.2 to 46 deg.
Pan	Range		Endless		Endless	0 to +350 deg.
	Speed		300 deg/sec.		300 deg/sec.	300 deg/sec.
Tilt	Range		-15 to +195 deg.		-15 to +195 deg.	-30 to +90 deg.
	Speed		300 deg/sec.		300 deg/sec.	100 deg/sec.
360 Pan-Flip			—		—	Yes
Number of Preset Positions			256		256	256
Patrol			Yes		Yes	Yes
Auto Tracking			Yes (advanced)		Yes (advanced)	Yes (advanced)
Optical Zoom			40x		40x	21x
Digital Zoom			16x		16x	16x
Image Stabilizer			Yes		Yes	Yes
Corridor Mode			—		—	—
iA (Intelligent Auto)			Yes		Yes	Yes
Video Analytics			—		—	—
i-VMD (Intelligent VMD) *Bundled License			Yes (Type4)		Yes (Type4)	Yes (Type4)
VIQS			Yes (8-areas)		Yes (8-areas)	Yes (8-areas)
Max. Connection			14		14	14
Audio	In (Line) / Out		Yes / Yes		Yes / Yes	Yes / Yes
	In (Built-in MIC)		—		—	—
	Codec		G.711 / G.726 / AAC (*2)		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)	Yes (SDXC)
	Password & Alter Detection		Yes		Yes	Yes
	Audio REC		Yes		Yes	Yes
External I/O			Yes (3) (*3)		Yes (3) (*3)	Yes (3) (*3)
Monitor Out			—		—	Yes (mini-jack) (*4)
Vandal Resistant			IK10		IK10	IK10
Water and Dust Resistance			IP66 / NEMA 4X		IP66 / NEMA 4X	IP66 / NEMA 4
Temperature			-50 to +60 deg. (24 V / 60 W PoE) (*5) -30 to +60 deg. (PoE+)		-50 to +60 deg. (24 V / 60 W PoE) (*5) -30 to +60 deg. (PoE+)	-40 to +60 deg.(24 V) -30 to +60 deg. (PoE+)
Power Source			24 V AC / PoE+ / PoE injector		24 V AC / PoE+ / PoE injector	24 V AC / PoE+
Dehumidification device			Yes		Yes	Yes
Other Functions			Built-in heater, ClearSight coating, WV-X6531NS: ISO14993(Heavy Salt damage resistance)		Built-in heater, ClearSight coating	Built-in heater, ClearSight coating

Network Camera Comparison chart			PTZ		
Indoor / Outdoor			Indoor		
Model Name			WV-S6131	WV-S6111	WV-S6130
Appearance					
Sensor			1/2.8 MOS	1/2.8 MOS	1/2.9 MOS
Codec and Transmission	Video Codec		H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream		4	4	4
	JPEG multi stream		3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)		VBR	VBR	VBR
	Smart Coding		Yes	Yes	Yes
Max. Resolution	16 : 9		1920 x 1080	1280 x 720	1920 x 1080
	4 : 3		2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)
Max. FPS @Max. Resolution	H.265 / H.264		60fps (1080p)	60fps (720p)	60fps (1080p)
	JPEG		30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)
Super Dynamic / WDR / BLC			Enhanced SD	Enhanced SD	Enhanced SD
Color/BW			Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist			Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color		0.015 lx @F1.6	0.011 lx @F1.6	0.015 lx @F1.6
	Color (Sens up)		0.001 lx (16x)	0.0007 lx (16x)	0.001 lx (16x)
	B/W		0.006 lx @F1.6	0.005 lx @F1.6	0.006 lx @F1.6
	B/W (Sens up)		0.0004 lx (16x)	0.0003 lx (16x)	0.0004 lx (16x)
Lens			f = 4.25 to 170 mm, F1.6 Motorized	f = 4.25 to 170 mm, F1.6 Motorized	f = 4.0 to 84.6 mm, F1.6 Motorized
Angular field of view	16 : 9		H: 1.9 to 66 deg. V: 1.1 to 39 deg.	H: 1.9 to 66 deg. V: 1.1 to 39 deg.	H: 3.5 to 74 deg. V: 2.0 to 42 deg.
	4 : 3		H: 1.4 to 51 deg. V: 1.1 to 39 deg.	H: 1.4 to 51 deg. V: 1.1 to 39 deg.	H: 3.0 to 61 deg. V: 2.3 to 46 deg.
Pan	Range		Endless	Endless	0 to +350 deg.
	Speed		300 deg/sec.	300 deg/sec.	300 deg/sec.
Tilt	Range		-25 to +205 deg.	-25 to +205 deg.	-30 to +90 deg.
	Speed		300 deg/sec.	300 deg/sec.	100 deg/sec.
360 Pan-Flip			—	—	Yes
Number of Preset Positions			256	256	256
Patrol			Yes	Yes	Yes
Auto Tracking			Yes (advanced)	Yes (advanced)	Yes (advanced)
Optical Zoom			40x	40x	21x
Digital Zoom			16x	16x	16x
Image Stabilizer			Yes	Yes	Yes
Corridor Mode			—	—	—
iA (Intelligent Auto)			Yes	Yes	Yes
Video Analytics			—	—	—
i-VMD (Intelligent VMD) *Bundled License			Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS			Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection			14	14	14
Audio	In (Line) / Out		Yes / Yes	Yes / Yes	Yes / Yes
	In (Built-in MIC)		—	—	—
	Codec		G.711 / G.726 / AAC (*2)	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)	Yes (SDXC)
	Password & Alter Detection		Yes	Yes	Yes
	Audio REC		Yes	Yes	Yes
External I/O			Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*3)
Monitor Out			Yes (mini-jack) (*4)	Yes (mini-jack) (*4)	Yes (mini-jack)
Vandal Resistant			—	—	—
Water and Dust Resistance			—	—	—
Temperature			-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg. (Ceiling / Camera mount bracket) -10 to +40 deg. (Desktop / Tripod)
Power Source			12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device			—	—	—
Other Functions			—	—	—

Network Camera Comparison chart			Fixed Dome			
Indoor / Outdoor			Outdoor			
Model Name		WV-X2571LN	WV-X2551LN	WV-S2570L	WV-S2550L	
Appearance		 Launches in October 2020	NEW  Onvif® G.S.T	 Onvif® G.S.T	 Onvif® G.S.T	
Sensor		1/1.8 CMOS	1/2.8 CMOS	1/1.8 CMOS	1/2.8 CMOS	
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	
	H.265 / H.264 multi stream	4	4	4	4	
	JPEG multi stream	2 (Variable)	2 (Variable)	2 (Variable)	2 (Variable)	
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR	VBR	
	Smart Coding	Yes	Yes	Yes (*1)	Yes (*1)	
Max. Resolution	16 : 9	3840 x 2160	3072 x 1728 (*2)	3840 x 2160	3072 x 1728 (*2)	
	4 : 3	—	—	—	3072 x 2304 (*2)	
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4K)	30fps (5 MP)	30fps (4K)	30fps (5 MP)	
	JPEG	30fps (4K)	30fps (5 MP)	30fps (4K)	30fps (5 MP)	
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic	Super Dynamic	Super Dynamic	
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)	
ABF (Auto Back Focus) / Auto Focus / Focus Assist		Auto Focus	Auto Focus	Auto Focus	Auto Focus	
Min. Illumination	Color	0.09 lx @F1.5	0.07 lx @F1.3	0.09 lx @F1.5	0.07 lx @F1.3	
	Color (Sens up)	0.006 lx (16x)	0.0044 lx (16x)	0.006 lx (16x)	0.0044 lx (16x)	
	B/W	0 lx @F1.5 (w/IR)	0 lx @F1.3 (w/IR)	0 lx @F1.5 (w/IR)	0 lx @F1.3 (w/IR)	
	B/W (Sens up)	—	—	—	—	
Lens		f = 4.3 to 8.6 mm, F1.5 Motorized	f = 2.9 to 9 mm, F1.3 Motorized	f = 4.3 to 8.6 mm, F1.5 Motorized	f = 2.9 to 9 mm, F1.3 Motorized	
Angular field of view	16 : 9	H: 52 to 101 deg. V: 29 to 55 deg.	H: 33 to 103 deg. V: 19 to 55 deg.	H: 52 to 101 deg. V: 29 to 55 deg.	H: 33 to 103 deg. V: 19 to 55 deg.	
	4 : 3	—	—	—	H: 33 to 103 deg. V: 25 to 75 deg.	
Adjusting Angle	Pan	-180 to +180 deg.	-180 to +180 deg.	-180 to +180 deg.	-180 to +180 deg.	
	Tilt	-30 to +85 deg.	-30 to +85 deg.	-30 to +85 deg.	-30 to +85 deg.	
Optical Zoom		2x	3.1x	2x	3.1x	
Digital Zoom		4x	4x	4x	4x	
Image Stabilizer		—	—	—	—	
Corridor Mode		Yes	Yes	Yes	Yes	
IA (Intelligent Auto)		Yes(AI IA)	Yes(AI IA)	Yes	Yes	
Video Analytics		AI-VMD, AI-Privacy Guard	AI-VMD, AI-Privacy Guard	—	—	
i-VMD (Intelligent VMD) *Bundled License		—	—	Yes (Type6)	Yes (Type6)	
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	
Max. Connection		14	14	14	14	
Audio	In (Line) / Out	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	
	In (Built-in MIC)	—	—	—	—	
	Codec	G.711 / G.726 / AAC (*3)	G.711 / G.726 / AAC (*3)	G.711 / G.726 / AAC (*3)	G.711 / G.726 / AAC (*3)	
	Audio Detection Alarm	—	—	—	—	
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	
	Password & Alter Detection	Yes	Yes	Yes	Yes	
	Audio REC	Yes	Yes	Yes	Yes	
External I/O		Yes (3) (*4)	Yes (3) (*4)	Yes (3) (*4)	Yes (3) (*4)	
Monitor Out		Yes (mini-jack)	Yes (mini-jack)	Yes (mini-jack)	Yes (mini-jack)	
Vandal Resistant		50J, IK10	50J, IK10	50J, IK10	50J, IK10	
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	
Temperature		-40 to +60 deg. (*5)	-40 to +60 deg. (*5)	-40 to +60 deg. (*5)	-40 to +60 deg. (*5)	
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	
Dehumidification device		Yes	Yes	—	—	
Other Functions		Easy Kitting Package, Built-in heater, ClearSight coating, Built-in IR LED	Easy Kitting Package, Built-in heater, ClearSight coating, Built-in IR LED	Easy Kitting Package, Built-in heater, Built-in IR LED	Easy Kitting Package, Built-in heater, Built-in IR LED	

i-PRO		H.265 cameras						
Network Camera Comparison chart			Fixed Dome					
Indoor / Outdoor			Indoor					
Model Name			WV-X2271L	WV-X2251L	WV-S2270L	WV-S2250L		
Appearance			 Launches in October 2020	 NEW ONVIF® G.S.T	 ONVIF® G.S.T	 ONVIF® G.S.T		
Sensor			1/1.8 CMOS	1/2.8 CMOS	1/1.8 CMOS	1/2.8 CMOS		
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG		H.265 / H.264 / JPEG		H.265 / H.264 / JPEG		
	H.265 / H.264 multi stream	4		4		4		
	JPEG multi stream	2 (Variable)		2 (Variable)		2 (Variable)		
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR		VBR		VBR		
	Smart Coding	Yes		Yes		Yes (*1)		
Max. Resolution	16 : 9	3840 x 2160		3072 x 1728 (*2)		3840 x 2160		
	4 : 3	—		—		3072 x 2304 (*2)		
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4K)		30fps (5 MP)		30fps (4K)		
	JPEG	30fps (4K)		30fps (5 MP)		30fps (4K)		
Super Dynamic / WDR / BLC			Super Dynamic		Super Dynamic		Super Dynamic	
Color/BW			Yes (ICR)		Yes (ICR)		Yes (ICR)	
ABF (Auto Back Focus) / Auto Focus / Focus Assist			Auto Focus		Auto Focus		Auto Focus	
Min. Illumination	Color	0.09 lx @F1.5		0.07 lx @F1.3		0.09 lx @F1.5		
	Color (Sens up)	0.006 lx (16x)		0.0044 lx (16x)		0.006 lx (16x)		
	B/W	0 lx @F1.5 (w/IR)		0 lx @F1.3 (w/IR)		0 lx @F1.5 (w/IR)		
	B/W (Sens up)	—		—		—		
Lens			f=4.3 to 8.6 mm, F1.5 Motorized		f=2.9 to 9 mm, F1.3 Motorized		f=4.3 to 8.6 mm, F1.5 Motorized	
Angular field of view	16 : 9	H: 52 to 101 deg. V: 29 to 55 deg.		H: 33 to 105 deg. V: 19 to 56 deg.		H: 52 to 101 deg. V: 29 to 55 deg.		
	4 : 3	—		—		—		
Adjusting Angle	Pan	-240 to +120 deg.		-180 to +180 deg.		-240 to +120 deg.		
	Tilt	-30 to +85 deg.		-30 to +85 deg.		-30 to +85 deg.		
Optical Zoom			2x		2x		3.1x	
Digital Zoom			4x		4x		4x	
Image Stabilizer			—		—		—	
Corridor Mode			Yes		Yes		Yes	
IA (Intelligent Auto)			Yes(AI IA)		Yes		Yes	
Video Analytics			AI-VMD, AI-Privacy Guard		AI-VMD, AI-Privacy Guard		—	
i-VMD (Intelligent VMD) *Bundled License			—		—		Yes (Type6)	
VIQS			Yes (8-areas)		Yes (8-areas)		Yes (8-areas)	
Max. Connection			14		14		14	
Audio	In (Line) / Out	Yes / Yes		Yes / Yes		Yes / Yes		
	In (Built-in MIC)	—		—		—		
	Codec	G.711 / G.726 / AAC (*3)		G.711 / G.726 / AAC (*3)		G.711 / G.726 / AAC (*3)		
	Audio Detection Alarm	—		—		—		
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) (*4)		Yes (3) (*4)		Yes (3) (*4)	
Monitor Out			Yes (mini-jack)		Yes (mini-jack)		Yes (mini-jack)	
Vandal Resistant			IK10		IK10		IK10	
Water and Dust Resistance			—		—		—	
Temperature			-10 to +50 deg.		-10 to +50 deg.		-10 to +50 deg.	
Power Source			12V DC / PoE		12V DC / PoE		12 V DC / PoE	
Dehumidification device			—		—		—	
Other Functions			Easy Kitting Package, Built-in IR LED		Easy Kitting Package, Built-in IR LED		Easy Kitting Package, Built-in IR LED	

(*)1: Smart Facial Coding is excluded

(*)2: Used by super resolution techniques

(*)3: Only AAC-LC for SD REC

(*)4: ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each)

★ Products that can be purchased is vary according to the locality.

(*1): Smart Facial Coding is excluded (*2): Used by super resolution techniques (*3): Only AAC-LC for SD REC (*4): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each) ★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		Fixed Dome		
Indoor / Outdoor		Indoor		
Model Name		WV-S2231L	WV-S2211L	WV-S2131L
Appearance				
Sensor		1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	4	4	4
	JPEG multi stream	3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR
	Smart Coding	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1280 x 720	1920 x 1080
	4 : 3	2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)
Max. FPS @Max. Resolution	H.265 / H.264	60fps (1080p)	60fps (720p)	60fps (1080p)
	JPEG	30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	ABF	ABF
Min. Illumination	Color	0.012 lx @F1.6	0.008 lx @F1.6	0.012 lx @F1.6
	Color (Sens up)	0.0008 lx (16x)	0.0005 lx (16x)	0.0008 lx (16x)
	B/W	0 lx @F1.6 (w/IR)	0 lx @F1.6 (w/IR)	0 lx @F1.6 (w/IR)
	B/W (Sens up)	—	—	—
Lens		f = 2.8 to 10 mm, F1.6 Motorized	f = 2.8 to 10 mm, F1.6	f = 2.8 to 10 mm, F1.6 Motorized
Angular field of view	16 : 9	H: 30 to 109 deg. V: 17 to 58 deg.	H: 30 to 109 deg. V: 17 to 58 deg.	H: 30 to 110 deg. V: 17 to 59 deg.
	4 : 3	H: 25 to 90 deg. V: 19 to 65 deg.	H: 25 to 90 deg. V: 19 to 65 deg.	H: 25 to 90 deg. V: 19 to 66 deg.
Adjusting Angle	Pan	-240 to +120 deg.	-240 to +120 deg.	-240 to +120 deg.
	Tilt	-30 to +85 deg.	-30 to +85 deg.	-30 to +85 deg.
Optical Zoom		3.6x	3.6x	3.6x
Digital Zoom		4x	4x	4x
Image Stabilizer		Yes	Yes	Yes
Corridor Mode		Yes	Yes	Yes
iA (Intelligent Auto)		Yes	Yes	Yes
Video Analytics		—	—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS		—	—	—
Max. Connection		14	14	14
Audio	In (Line) / Out	Yes / Yes	Yes / Yes	Yes / Yes
	In (Built-in MIC)	—	—	—
	Codec	G.711 / G.726 / AAC (*2)	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)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes	Yes
	Audio REC	Yes	Yes	Yes
External I/O		Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*3)
Monitor Out		Yes (mini-jack)	Yes (mini-jack)	Yes (mini-jack)
Vandal Resistant		IK10	IK10	—
Water and Dust Resistance		—	—	—
Temperature		-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—
Other Functions		Easy Kitting Package, Built-in IR LED	Easy Kitting Package, Built-in IR LED	Easy Kitting Package, Built-in IR LED

(*1): w/Super resolution (*2): Only AAC-LC for SD REC

(*3): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each) ★ Products that can be purchased is vary according to the locality.

(*1): w/Super resolution (*2): Only AAC-LC for SD REC (*3): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each) ★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		Fixed Dome			
Indoor / Outdoor		Indoor			
Model Name		WV-S2131	WV-S2130	WV-S2111L	WV-S2110
Appearance		 Onvif® GST	 Onvif® ST	 Onvif® GST	 Onvif® ST
Sensor		1/3 MOS	1/3 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	4	4	4	4
	JPEG multi stream	3 (Variable)	3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR	VBR
	Smart Coding	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080	1280 x 720	1280 x 720
	4 : 3	2048 x 1536 (*1)	2048 x 1536 (*1)	1280 x 960	1280 x 960
Max. FPS @Max. Resolution	H.265 / H.264	60fps (1080p)	60fps (1080p)	60fps (720p)	60fps (720p)
	JPEG	30fps (3 MP)	30fps (3 MP)	30fps (1.3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Color/BW		Yes (ICR)	Day/Night (Electrical)	Yes (ICR)	Day/Night (Electrical)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	ABF	ABF	ABF
Min. Illumination	Color	0.012 lx @F1.6	0.012 lx @F1.6	0.008 lx @F1.6	0.008 lx @F1.6
	Color (Sens up)	0.0008 lx (16x)	0.0008 lx (16x)	0.0005 lx (16x)	0.0005 lx (16x)
	B/W	0.006 lx @F1.6	0.01 lx @F1.6	0 lx @F1.6 (w/IR)	0.007 lx @F1.6
	B/W (Sens up)	0.0004 lx (16x)	0.0007 lx (16x)	—	0.00044 lx (16x)
Lens		f = 2.8 to 10 mm, F1.6 Motorized	f = 2.8 to 10 mm, F1.6	f = 2.8 to 10 mm, F1.6	f = 2.8 to 10 mm, F1.6
Angular field of view	16 : 9	H: 30 to 110 deg. V: 17 to 59 deg.	H: 30 to 110 deg. V: 17 to 59 deg.	H: 30 to 110 deg. V: 17 to 59 deg.	H: 30 to 110 deg. V: 17 to 59 deg.
	4 : 3	H: 25 to 90 deg. V: 19 to 66 deg.	H: 25 to 90 deg. V: 19 to 66 deg.	H: 25 to 90 deg. V: 19 to 66 deg.	H: 25 to 90 deg. V: 19 to 66 deg.
Adjusting Angle	Pan	-240 to +120 deg.	-240 to +120 deg.	-240 to +120 deg.	-240 to +120 deg.
	Tilt	-85 to +85 deg.	-85 to +85 deg.	-30 to +85 deg.	-85 to +85 deg.
Optical Zoom		3.6x	3.6x	3.6x	3.6x
Digital Zoom		4x	4x	4x	4x
Image Stabilizer		Yes	Yes	Yes	Yes
Corridor Mode		Yes	Yes	Yes	Yes
IA (Intelligent Auto)		Yes	Yes	Yes	Yes
Video Analytics		—	—	—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type4)	Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS		—	—	—	—
Max. Connection		14	14	14	14
Audio	In (Line) / Out	Yes / Yes	— / —	Yes / Yes	— / —
	In (Built-in MIC)	—	Yes	—	Yes
	Codec	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)
	Audio Detection Alarm	Yes	Yes	Yes	Yes
SD memory Card	Slot	Yes (SDXC)	—	Yes (SDXC)	—
	Password & Alter Detection	Yes	—	Yes	—
	Audio REC	Yes	—	Yes	—
External I/O		Yes (3) (*3)	—	Yes (3) (*3)	—
Monitor Out		Yes (mini-jack)	Yes (mini-jack)	Yes (mini-jack)	Yes (mini-jack)
Vandal Resistant		—	—	—	—
Water and Dust Resistance		—	—	—	—
Temperature		-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.
Power Source		12 V DC / PoE	PoE	12 V DC / PoE	PoE
Dehumidification device		—	—	—	—
Other Functions		Easy Kitting Package	Easy Kitting Package	Easy Kitting Package, Built-in IR LED	Easy Kitting Package

(*1): w/Super resolution (*2): Only AAC-LC for SD REC (*3): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each)
★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		Fixed Dome			
Indoor / Outdoor		Indoor			
Model Name		WV-U2142L	WV-U2132L	WV-U2140L	WV-U2130L
Appearance		 Onvif® GT	 Onvif® GT	 Onvif® GT	 Onvif® GT
Sensor		1/2.7 CMOS	1/3 CMOS	1/2.7 CMOS	1/3 CMOS
Codec and Transmission	Video Codec	H.265 / JPEG	H.265 / JPEG	H.265 / JPEG	H.265 / JPEG
	H.265 / H.264 multi stream	3	3	3	3
	JPEG multi stream	2 (Variable)	2 (Variable)	2 (Variable)	2 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR	VBR
	Smart Coding	Yes (*1)	Yes (*1)	Yes (*1)	Yes (*1)
Max. Resolution	16 : 9	2560 x 1440	1920 x 1080	2560 x 1440	1920 x 1080
	4 : 3	—	1600 x 1200	—	1600 x 1200
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4 MP)	30fps (1080p)	30fps (4 MP)	30fps (1080p)
	JPEG	30fps (4 MP)	30fps (1080p)	30fps (4 MP)	30fps (1080p)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic	Super Dynamic	Super Dynamic
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		Auto Focus	Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color	0.3 lx @F2.0	0.1 lx @F2.0	0.3 lx @F2.0	0.1 lx @F2.0
	Color (Sens up)	0.019 lx (16x)	0.006 lx (16x)	0.019 lx (16x)	0.006 lx (16x)
	B/W	0 lx @F2.0 (w/IR)	0 lx @F2.0 (w/IR)	0 lx @F2.0 (w/IR)	0 lx @F2.0 (w/IR)
	B/W (Sens up)	—	—	—	—
Lens		f = 2.9 to 7.3 mm, F2.0 Motorized	f = 2.9 to 7.3 mm, F2.0 Motorized	f = 3.2 mm, F2.0	f = 3.2 mm, F2.0
Angular field of view	16 : 9	H: 44 to 102 deg. V: 25 to 57 deg.	H: 43 to 100 deg. V: 24 to 56 deg.	H: 100 deg. V: 54 deg.	H: 100 deg. V: 54 deg.
	4 : 3	—	H: 36 to 83 deg. V: 27 to 62 deg.	—	H: 81 deg. V: 60 deg.
Adjusting Angle	Pan	-180 to +180 deg.	-180 to +180 deg.	-175 to +175 deg.	-175 to +175 deg.
	Tilt	-30 to +85 deg.	-30 to +85 deg.	-30 to +80 deg.	-30 to +80 deg.
Optical Zoom		2.5x	2.5x	1x	1x
Digital Zoom		4x	4x	4x	4x
Image Stabilizer		—	—	—	—
Corridor Mode		Yes	Yes	Yes	Yes
IA (Intelligent Auto)		Yes	Yes	Yes	Yes
Video Analytics		—	—	—	—
i-VMD (Intelligent VMD) *Bundled License		—	—	—	—
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14	14
Audio	In (Line) / Out	—	—	—	—
	In (Built-in MIC)	—	—	—	—
	Codec	—	—	—	—
	Audio Detection Alarm	—	—	—	—
SD memory Card	Slot	Yes (micro SDXC)	Yes (micro SDXC)	Yes (micro SDXC)	Yes (micro SDXC)
	Password & Alter Detection	Yes	Yes	Yes	Yes
	Audio REC	—	—	—	—
External I/O		—	—	—	—
Monitor Out		—	—	—	—
Vandal Resistant		—	—	—	—
Water and Dust Resistance		—	—	—	—
Temperature		-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.
Power Source		PoE	PoE	PoE	PoE
Dehumidification device		—	—	—	—
Other Functions		Easy Kitting Package, Built-in IR LED	Easy Kitting Package, Built-in IR LED	Easy Kitting Package, Built-in IR LED	Easy Kitting Package, Built-in IR LED

(*1): w/Super resolution
★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		Fixed Dome			
Indoor / Outdoor		Outdoor		Indoor	
Model Name		WV-S3531L/WV-S3532LM	WV-S3511L/WV-S3512LM	WV-S3131L	WV-S3111L
Appearance		 Onvif® G S T	 Onvif® G S T	 Onvif® G S T	 Onvif® G S T
Sensor		1/3 CMOS	1/3 CMOS	1/3 CMOS	1/3 CMOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	4	4	4	4
	JPEG multi stream	3 (Variable)	3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR	VBR
	Smart Coding	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1280 x 720	1920 x 1080	1280 x 720
	4 : 3	2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.265 / H.264	60fps (1080 P)	60fps (720 P)	60fps (1080 P)	60fps (720 P)
	JPEG	30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		—	—	—	—
Min. Illumination	Color	0.03 lx @F2.3	0.02 lx @F2.3	0.03 lx @F2.3	0.02 lx @F2.3
	Color (Sens up)	0.0019 lx (16x)	0.0013 lx (16x)	0.0019 lx (16x)	0.0013 lx (16x)
	B/W	0 lx @F2.3 (w/IR)	0 lx @F2.3 (w/IR)	0 lx @F2.3 (w/IR)	0 lx @F2.3 (w/IR)
	B/W (Sens up)	—	—	—	—
Lens		f = 2.8 mm, F2.3	f = 2.8 mm, F2.3	f = 2.8 mm, F2.3	f = 2.8 mm, F2.3
Angular field of view	16 : 9	H: 108 deg. , V: 60 deg.	H: 97 deg. , V: 54 deg.	H: 108 deg. , V: 60 deg.	H: 97 deg. , V: 54 deg.
	4 : 3	H: 89 deg. , V: 66 deg.	H: 97 deg. , V: 72 deg.	H: 89 deg. , V: 66 deg.	H: 97 deg. , V: 72 deg.
Adjusting Angle	Pan	±45°	±45°	±45°	±45°
	Tilt	0° to +90° (*2)	0° to +90° (*2)	0° to +90° (*2)	0° to +90° (*2)
Optical Zoom		1x	1x	1x	1x
Digital Zoom		4x	4x	4x	1x
Image Stabilizer		—	—	—	—
Corridor Mode		Yes	Yes	Yes	Yes
iA (Intelligent Auto)		Yes	Yes	Yes	Yes
Video Analytics		—	—	—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type4)	Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS		Yes	Yes	Yes	Yes
Max. Connection		14	14	14	14
Audio	In (Line) / Out	— / —	— / —	— / —	— / —
	In (Built-in MIC)	Yes	Yes	Yes	Yes
	Codec	G.711 / G.726 / AAC-LC (*3)	G.711 / G.726 / AAC-LC (*3)	G.711 / G.726 / AAC-LC (*3)	G.711 / G.726 / AAC-LC (*3)
	Audio Detection Alarm	Yes	Yes	Yes	Yes
SD memory Card	Slot	Yes (microSDXC)	Yes (microSDXC)	Yes (microSDXC)	Yes (microSDXC)
	Password & Alter Detection	Yes	Yes	Yes	Yes
	Audio REC	Yes	Yes	Yes	Yes
External I/O		—	—	—	—
Monitor Out		—	—	—	—
Vandal Resistant		IK10	IK10	—	—
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	—	—
Temperature		WV-S3531L : -30 to +50 deg. WV-S3532LM: -40 to +60 deg.	WV-S3511L : -30 to +50 deg. WV-S3512LM: -40 to +60 deg.	0 to +40 deg.	0 to +40 deg.
Power Source		PoE	PoE	PoE	PoE
Dehumidification device		—	—	—	—
Other Functions		Easy Kitting Package, Built-in IR LED, EN50155, IEC62236-3-2, ECE-R10, EN50498	Easy Kitting Package, Built-in IR LED, EN50155, IEC62236-3-2, ECE-R10, EN50498	Built-in IR LED	Built-in IR LED

(*1): Used by super resolution techniques (*2): When viewing images at night using IR LED, set the vertical (TILT) angle between 0° to +75°. (*3): Only AAC-LC for SD REC
★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		360-degree Dome	
Indoor / Outdoor		Outdoor	
Model Name		WV-X4571L / WV-X4571LM(*1)	WV-S4550L / WV-S4550LM(*1)
Appearance		 Onvif® G S T	 Onvif® G S T
Sensor		1/2 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	2	2
	JPEG multi stream	2	2
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR
	Smart Coding	Yes (*2)	Yes (*2)
Max. Resolution	16 : 9	2560 x 1440	1920 x 1080
	4 : 3	2560 x 1920 2992 x 2992 (1 : 1)	1600 x 1200 2192 x 2192 (1 : 1)
Max. FPS @Max. Resolution	H.265 / H.264	30fps (9 MP)	30fps (5 MP)
	JPEG	30fps (9 MP)	30fps (5 MP)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic
Color/BW		Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	—
Min. Illumination	Color	0.3 lx @F1.9	0.3 lx @F2.4
	Color (Sens up)	0.02 lx (16x)	0.02 lx (16x)
	B/W	0 lx @F1.9 (w/IR)	0 lx @F2.4 (w/IR)
	B/W (Sens up)	—	—
Lens		f = 1.4 mm, F1.9	f = 0.84 mm, F2.4
Angular field of view	1 : 1	H: 183 deg. V: 183 deg.	H: 186 deg. V: 186 deg.
Adjusting Angle	Pan	-5°, 0°, +5°	-5°, 0°, +5°
	Tilt	—	—
Optical Zoom		—	—
Digital Zoom		Choose from x1, x2, x4	Choose from x1, x2, x4
Image Stabilizer		—	—
Corridor Mode		—	—
iA (Intelligent Auto)		Yes	Yes
Video Analytics		—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type5)	Yes (Type5)
VIQS		—	—
Max. Connection		14	14
Audio	In (Line) / Out	Yes / Yes	Yes / Yes
	In (Built-in MIC)	—	—
	Codec	G.711 / G.726 / AAC (*3)	G.711 / G.726 / AAC (*3)
	Audio Detection Alarm	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes
	Audio REC	Yes	Yes
External I/O		Yes (3) (*4)	Yes (3) (*4)
Monitor Out		Yes (mini-jack) (*5)	Yes (mini-jack) (*5)
Vandal Resistant		50J, IK10	50J, IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-40 to +60 deg. (*6)	-40 to +60 deg. (*6)
Power Source		12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes
Other Functions		Easy Kitting Package, 360° monitoring, EN45545 compliant (WV-X4571LM only), EN50155-TX Built-in IR LED	Easy Kitting Package, 360° monitoring, EN45545 compliant (WV-S4550LM only), EN50155-TX Built-in IR LED

(*1): WV-X4571L/WV-S4550L: 10BASE-T/100BASE-TX, RJ45 connector, WV-X4571LM/WV-S4550LM: 10BASE-T/100BASE-TX, M12 connector (*2): Smart Facial Coding is excluded (*3): Only AAC-LC for SD REC (*4): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each) (*5): For adjustment, the audio output can be switched to the monitor output. (*6): When the IR LED is ON, the maximum temperature is 50 deg. ★ Products that can be purchased is vary according to the locality.

i-PRO		H.265 cameras	
Network Camera Comparison chart		360-degree Dome	
Indoor / Outdoor		Indoor	
Model Name		WV-X4171	WV-X4170
Appearance		 Onvif® G S T	 Onvif® G S T
Sensor		1/2 MOS	1/2 MOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	2	2
	JPEG multi stream	2	2
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR
	Smart Coding	Yes (*1)	Yes (*1)
Max. Resolution	16 : 9	2560 x 1440	2560 x 1440
	4 : 3	2560 x 1920 2992 x 2992 (1 : 1)	2560 x 1920 2992 x 2992 (1 : 1)
Max. FPS @Max. Resolution	H.265 / H.264	30fps (9 MP)	30fps (9 MP)
	JPEG	30fps (9 MP)	30fps (9 MP)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic
Color/BW		Day/Night (Electrical)	Day/Night (Electrical)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	ABF
Min. Illumination	Color	0.3 lx @F1.9	0.3 lx @F1.9
	Color (Sens up)	0.02 lx (16x)	0.02 lx (16x)
	B/W	0.2 lx @F1.9	0.2 lx @F1.9
	B/W (Sens up)	0.01 lx (16x)	0.01 lx (16x)
Lens		f = 1.4 mm, F1.9	f = 1.4 mm, F1.9
Angular field of view	1 : 1	H: 183 deg. V: 183 deg.	H: 183 deg. V: 183 deg.
	16 : 9	H: 186 deg. V: 186 deg.	H: 186 deg. V: 186 deg.
Adjusting Angle	Pan	-5°, 0°, +5°	-5°, 0°, +5°
	Tilt	—	—
Optical Zoom		—	—
Digital Zoom		Choose from x1, x2, x4	Choose from x1, x2, x4
Image Stabilizer		—	—
Corridor Mode		—	—
iA (Intelligent Auto)		Yes	Yes
Video Analytics		—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type5)	Yes (Type5)
VIQS		—	—
Max. Connection		14	14
Audio	In (Line) / Out	Yes / Yes	— / —
	In (Built-in MIC)	Yes	—
	Codec	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)
	Audio Detection Alarm	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes
	Audio REC	Yes	Yes
External I/O		Yes (3) (*3)	—
Monitor Out		Yes(mini-jack) (*4)	—
Vandal Resistant		—	—
Water and Dust Resistance		—	—
Temperature		−10 to +50 deg.	0 to +40 deg.
Power Source		12 V DC / PoE	PoE
Dehumidification device		—	—
Other Functions		360° monitoring	360° monitoring

(*1): Smart Facial Coding is excluded (*2): Only AAC-LC for SD REC (*3): ALARM IN1 (Alarm input 1/ Auto time adjustment input), ALARM IN2 (Alarm input 2/ ALARM OUT), ALARM IN3 (Alarm input 3/ AUX OUT) (x1 for each) (*4): For adjustment, the audio output can be switched to the monitor output. ★ Products that can be purchased is vary according to the locality.

H.265 cameras		i-PRO	
Network Camera Comparison chart		Box	
Indoor / Outdoor		Outdoor	
Model Name		WV-X1571LN	WV-X1551LN
Appearance		 Launches in October 2020	 Onvif® G S T
Sensor		1/1.8 CMOS	1/2.8 CMOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	4	4
	JPEG multi stream	2 (Variable)	2 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR
	Smart Coding	Yes	Yes
Max. Resolution	16 : 9	3840×2160	3072 x 1728 (*1)
	4 : 3	—	—
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4K)	30fps (5 MP)
	JPEG	30fps (4K)	30fps (5 MP)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic
Color/BW		Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		Auto Focus	Auto Focus
Min. Illumination	Color	0.09 lx @F1.5	0.07 lx @F1.3
	Color (Sens up)	0.006 lx (16x)	0.0044 lx (16x)
	B/W	0 lx @F1.5 (w/IR)	0 lx @F1.3 (w/IR)
	B/W (Sens up)	—	—
Lens		f=4.3 to 8.6 mm, F1.5 Motorized	f=2.9 to 9 mm, F1.3 Motorized
Angular field of view	16 : 9	H: 53 to 104 deg. V: 30 to 56 deg.	H: 34 to 106 deg. V: 19 to 57 deg.
	4 : 3	—	—
Adjusting Angle	Pan	-180 to +180 deg.	-180 to +180 deg.
	Tilt	0 to +100 deg.	0 to +100 deg.
Optical Zoom		2x	3.1x
Digital Zoom		4x	4x
Image Stabilizer		—	—
Corridor Mode		Yes	Yes
iA (Intelligent Auto)		Yes(AI iA)	Yes(AI iA)
Video Analytics		AI-VMD, AI-Privacy Guard	AI-VMD, AI-Privacy Guard
i-VMD (Intelligent VMD) *Bundled License		—	—
VIQS		Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14
Audio	In (Line) / Out	Yes / Yes	Yes / Yes
	In (Built-in MIC)	—	—
	Codec	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)
	Audio Detection Alarm	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	Yes
	Audio REC	Yes	Yes
External I/O		Yes (3) (*3)	Yes (3) (*3)
Monitor Out		Yes (RCA)	Yes (RCA)
Vandal Resistant		IK10	IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-40 to +60 deg. (*4)	-40 to +60 deg. (*4)
Power Source		12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes
Other Functions		Easy Kitting Package, Built-in heater, ClearSight coating, Built-in IR LED	Easy Kitting Package, Built-in heater, ClearSight coating, Built-in IR LED

(*1): Used by super resolution techniques (*2): Only AAC-LC for SD REC (*3): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each) (*4): When the IR LED is ON, the maximum temperature is 50 deg. ★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		Box		
Indoor / Outdoor		Outdoor		
Model Name		WV-S1511LN	WV-U1542L	WV-U1532L
Appearance		 ONVIF® G S T	 ONVIF® G S T	 ONVIF® G S T
Sensor		1/3 MOS	1/2.7 CMOS	1/3 CMOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / JPEG	H.265 / JPEG
	H.265 / H.264 multi stream	4	3	3
	JPEG multi stream	3 (Variable)	2 (Variable)	2 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR
	Smart Coding	Yes	Yes (*1)	Yes (*1)
Max. Resolution	16 : 9	1280 x 720	2560 x 1440	1920 x 1080
	4 : 3	1280 x 960	—	1600 x 1200
Max. FPS @Max. Resolution	H.265 / H.264	60fps (720p)	30fps (4 MP)	30fps (1080p)
	JPEG	30fps (1.3 MP)	30fps (4 MP)	30fps (1080p)
Super Dynamic / WDR / BLC		Enhanced SD	Super Dynamic	Super Dynamic
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	Auto Focus	Auto Focus
Min. Illumination	Color	0.008 lx @F1.6	0.3 lx @F2.0	0.1 lx @F2.0
	Color (Sens up)	0.0005 lx (16x)	0.019 lx (16x)	0.006 lx (16x)
	B/W	0 lx @F1.6 (w/IR)	0 lx @F2.0 (w/IR)	0 lx @F2.0 (w/IR)
	B/W (Sens up)	—	—	—
Lens		f = 2.8 to 10 mm, F1.6	f = 2.9 to 7.3 mm, F2.0 Motorized	f = 2.9 to 7.3 mm, F2.0 Motorized
Angular field of view	16 : 9	H: 31 to 112 deg. V: 17 to 60 deg.	H: 44 to 103 deg. V: 25 to 57 deg.	H: 44 to 102 deg. V: 24 to 56 deg.
	4 : 3	H: 26 to 91 deg. V: 19 to 67 deg.	—	H: 36 to 84 deg. V: 27 to 63 deg.
Adjusting Angle	Pan	-180 to +180 deg.	-180 to +180 deg.	-180 to +180 deg.
	Tilt	0 to +100 deg.	0 to +100 deg.	0 to +100 deg.
Optical Zoom		3.6x	2.5x	2.5x
Digital Zoom		4x	4x	4x
Image Stabilizer		Yes	—	—
Corridor Mode		Yes	Yes	Yes
IA (Intelligent Auto)		Yes	Yes	Yes
Video Analytics		—	—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type4)	—	—
VIQS		—	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14
Audio	In (Line) / Out	Yes / Yes	—	—
	In (Built-in MIC)	—	—	—
	Codec	G.711 / G.726 / AAC (*2)	—	—
	Audio Detection Alarm	Yes	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (micro SDXC)	Yes (micro SDXC)
	Password & Alter Detection	Yes	Yes	Yes
	Audio REC	Yes	—	—
External I/O		Yes (3) (*3)	—	—
Monitor Out		Yes (RCA)	—	—
Vandal Resistant		IK10	IK10	IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-40 to +60 deg. (*4)	-30 to +50 deg.	-30 to +50 deg.
Power Source		12 V DC / PoE	PoE	PoE
Dehumidification device		Yes	—	—
Other Functions		Easy Kitting Package, Built-in heater, ClearSight coating, Built-in IR LED	Easy Kitting Package, Built-in IR LED	Easy Kitting Package, Built-in IR LED

(*1): Smart Facial Coding is excluded (*2): Only AAC-LC for SD REC (*3): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each)
(*4): When the IR LED is ON, the maximum temperature is 50 deg. ★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		Box			
Indoor / Outdoor		Indoor			
Model Name		WV-S1132	WV-S1131	WV-S1112	WV-S1111
Appearance		 Lens not included ONVIF® G S T	 Lens not included ONVIF® G S T	 Lens not included ONVIF® G S T	 Lens not included ONVIF® G S T
Sensor		1/2.8 MOS	1/2.8 MOS	1/2.8 MOS	1/2.8 MOS
Codec and Transmission	Video Codec	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG	H.265 / H.264 / JPEG
	H.265 / H.264 multi stream	4	4	4	4
	JPEG multi stream	3 (Variable)	3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR	VBR
	Smart Coding	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080	1280 x 720	1280 x 720
	4 : 3	2048 x 1536 (*1)	2048 x 1536 (*1)	1280 x 960	1280 x 960
Max. FPS @Max. Resolution	H.265 / H.264	60fps (1080p)	60fps (1080p)	60fps (720p)	60fps (720p)
	JPEG	30fps (3 MP)	30fps (3 MP)	30fps (1.3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	ABF	ABF	ABF
Min. Illumination	Color	0.01 lx @F1.4	0.01 lx @F1.4	0.007 lx @F1.4	0.007 lx @F1.4
	Color (Sens up)	0.0007 lx (16x)	0.0007 lx (16x)	0.0005 lx (16x)	0.0005 lx (16x)
	B/W	0.004 lx @F1.4	0.004 lx @F1.4	0.003 lx @F1.4	0.003 lx @F1.4
	B/W (Sens up)	0.0003 lx (16x)	0.0003 lx (16x)	0.0002 lx (16x)	0.0002 lx (16x)
Lens		CS Mount	CS Mount	CS Mount	CS Mount
Angular field of view	16 : 9	—	—	—	—
	4 : 3	—	—	—	—
Adjusting Angle	Pan	—	—	—	—
	Tilt	—	—	—	—
Optical Zoom		—	—	—	—
Digital Zoom		4x	4x	4x	4x
Image Stabilizer		Yes	Yes	Yes	Yes
Corridor Mode		Yes	Yes	Yes	Yes
IA (Intelligent Auto)		Yes	Yes	Yes	Yes
Video Analytics		—	—	—	—
i-VMD (Intelligent VMD) *Bundled License		Yes (Type4)	Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS		—	—	—	—
Max. Connection		14	14	14	14
Audio	In (Line) / Out	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes
	In (Built-in MIC)	—	—	—	—
	Codec	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)	G.711 / G.726 / AAC (*2)
	Audio Detection Alarm	Yes	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	Yes
External I/O		Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*3)
Monitor Out		Yes (RCA)	Yes (RCA)	Yes (RCA)	Yes (RCA)
Vandal Resistant		—	—	—	—
Water and Dust Resistance		—	—	—	—
Temperature		-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.
Power Source		12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—	—	—
Other Functions		Easy Kitting Package, RS485 serial port	Easy Kitting Package	Easy Kitting Package, RS485 serial port	Easy Kitting Package

(*1): w/Super resolution (*2): Only AAC-LC for SD REC (*3): ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input), ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each)
★ Products that can be purchased is vary according to the locality.

i-PRO		H.265 cameras		
Network Camera Comparison chart		Cylinder		
Indoor / Outdoor		Indoor		
Model Name		WV-U1142	WV-U1132	WV-U1130
Appearance		NEW  ONVIF® G T	NEW  ONVIF® G T	NEW  ONVIF® G T
Sensor		1/2.7 CMOS	1/3 CMOS	1/3 CMOS
Codec and Transmission	Video Codec	H.265 / JPEG	H.265 / JPEG	H.265 / JPEG
	H.265 / H.264 multi stream	3	3	3
	JPEG multi stream	2 (Variable)	2 (Variable)	2 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR	VBR	VBR
	Smart Coding	Yes (*1)	Yes (*1)	Yes (*1)
Max. Resolution	16 : 9	2560 x 1440	1920 x 1080	1920 x 1080
	4 : 3	—	1600 x 1200	1600 x 1200
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4 MP)	30fps (1080p)	30fps (1080p)
	JPEG	30fps (4 MP)	30fps (1080p)	30fps (1080p)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic	Super Dynamic
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		Auto Focus	Auto Focus	Auto Focus
Min. Illumination	Color	0.3 lx @F2.0	0.1 lx @F2.0	0.1 lx @F2.0
	Color (Sens up)	0.019 lx (16x)	0.006 lx (16x)	0.006 lx (16x)
	B/W	0.12 lx @F2.0	0.04 lx @F2.0	0.04 lx @F2.0
	B/W (Sens up)	0.0075 lx (16x)	0.0025 lx (16x)	0.0025 lx (16x)
Lens		f = 2.9 to 7.3 mm, F2.0 Motorized	f = 2.9 to 7.3 mm, F2.0 Motorized	f = 3.2 mm, F2.0
Angular field of view	16 : 9	H: 44 to 103 deg. V: 25 to 57 deg.	H: 44 to 102 deg. V: 24 to 56 deg.	H: 102 deg. V: 55 deg.
	4 : 3	—	H: 36 to 84 deg. V: 27 to 63 deg.	H: 83 deg. V: 61 deg.
Adjusting Angle	Pan	—	—	—
	Tilt	—	—	—
Optical Zoom		2.5x	2.5x	1x
Digital Zoom		4x	4x	4x
Image Stabilizer		—	—	—
Corridor Mode		Yes	Yes	Yes
IA (Intelligent Auto)		Yes	Yes	Yes
Video Analytics		—	—	—
i-VMD (Intelligent VMD) *Bundled License		—	—	—
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14	14
Audio	In (Line) / Out	—	—	—
	In (Built-in MIC)	—	—	—
	Codec	—	—	—
	Audio Detection Alarm	—	—	—
SD memory Card	Slot	Yes (micro SDXC)	Yes (micro SDXC)	Yes (micro SDXC)
	Password & Alter Detection	Yes	Yes	Yes
	Audio REC	—	—	—
External I/O		—	—	—
Monitor Out		—	—	—
Vandal Resistant		—	—	—
Water and Dust Resistance		—	—	—
Temperature		-10 to +50 deg.	-10 to +50 deg.	-10 to +50 deg.
Power Source		PoE	PoE	PoE
Dehumidification device		—	—	—
Other Functions		Easy Kitting Package	Easy Kitting Package	Easy Kitting Package

(*1): Smart Facial Coding is excluded
★ Products that can be purchased is vary according to the locality.

H.264 cameras		PTZ		
Network Camera Comparison chart				
Indoor / Outdoor		Outdoor		
Model Name		WV-SUD638(Natural silver)	WV-SUD638-H(Gray)	WV-SUD638-T(Brown)
Appearance				
Sensor		1/3 MOS		
Codec and Transmission	Video Codec	H.264 / JPEG		
	H.265 / H.264 multi stream	4		
	JPEG multi stream	3		
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR / AVBR		
	Smart Coding	Yes		
Max. Resolution	16 : 9	1920 x 1080		
	4 : 3	1280 x 960		
Max. FPS	H.265 / H.264	60fps (1080p)		
@Max. Resolution	JPEG	60fps (1080p)		
Super Dynamic / WDR / BLC		Super Dynamic		
Color/BW		Yes (ICR)		
ABF (Auto Back Focus) / Auto Focus / Focus Assist		Auto Focus		
Min. Illumination	Color	0.06 lx @F1.6		
	Color (Sens up)	0.004 lx (16x)		
	B/W	0.02 lx @F1.6		
	B/W (Sens up)	0.001 lx (16x)		
Lens		f = 4.3 to 129 mm, F1.6 Motorized		
Angular field of view	16 : 9	H: 2.3 to 64 deg. V: 1.3 to 38 deg.		
	4 : 3	H: 1.8 to 50 deg. V: 1.3 to 38 deg.		
Pan	Range	Endless		
	Speed	200 deg/sec		
Tilt	Range	Upright: -45° to +90°, Forward tilt: -90° to +90° Hanging: +30° to -90°		
	Speed	200 deg/sec		
360 Pan-Flip		—		
Number of Preset Positions		256		
Patrol		Yes		
Auto Tracking		Yes (advanced)		
Optical Zoom		30x (45x with Extra Zoom at HD)		
Digital Zoom		24x		
Image Stabilizer		Yes (Hybrid)		
Corridor Mode		—		
IA (Intelligent Auto)		—		
Video Analytics		—		
i-VMD (Intelligent VMD) *Bundled License		—		
VIQS		Yes (8-areas)		
Max. Connection		14		
Audio	In (Line) / Out	Yes / Yes		
	In (Built-in MIC)	—		
	Codec	G.711 / G.726 / AAC		
	Audio Detection Alarm	—		
SD memory Card	Slot	—		
	Password & Alter Detection	—		
	Audio REC	—		
External I/O		Yes (3) (*1)		
Monitor Out		—		
Vandal Resistant		IK10		
Water and Dust Resistance		IP66 / IP67 / NEMA 4X		
Temperature		-50 to +60 deg. (*2) (AC100 to 240 V) -30 to +60 deg. (*2) (PoE) (*3)	-50 to +55 deg. (*2) (AC100 to 240 V) -30 to +55 deg. (*2) (PoE) (*3)	
Power Source		100 to 240 V AC / PoE Injector		
Dehumidification device		Yes		
Other Functions		Optional IR LED, Built-in wiper and defroster, ISO14993(Salt damage resistance)		

(*1): Alarm In1(Black & White In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)
(*2): When using the tested PoE injector and IR LED unit at the same time : -20 °C to +55 °C (-4 °F to 131 °F)) (*3): Tested PoE injector ★ Products that can be purchased is vary according to the locality.

Core Technologies

New Products

Function Introduction

Network Camera Comparison Chart

Multi-Sensor

PTZ

Fixed Dome

360-degree Dome

Box

Cylinder

Pan/Tilt

Network products

Core Technologies

New Products

Function Introduction

Network Camera Comparison Chart

Multi-Sensor

PTZ

Fixed Dome

360-degree Dome

Box

Cylinder

Pan/Tilt

Network products

Network Camera Comparison chart		Fixed Dome				
Indoor / Outdoor		Outdoor				
Model Name		WV-SFV781L	WV-SFV130M	WV-SFV110M	WV-SBV131M	WV-SBV111M
Appearance		 ONVIF® GS	 ONVIF® GS	 ONVIF® GS	 ONVIF® GS	 ONVIF® GS
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.265 / H.264 multi stream	4	4	4	4	4
	JPEG multi stream	2	6 (Variable)	6 (Variable)	6 (Variable)	6 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR / AVBR	VBR / AVBR	VBR / AVBR	VBR / AVBR	VBR / AVBR
	Smart Coding	Yes	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	3840 x 2160	1920 x 1080	1280 x 720	1920 x 1080	1280 x 720
	4 : 3	4000 x 3000	2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*2)	1280 x 960
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4K)	30fps (1080p)	30fps (720p)	30fps (1080p)	30fps (720p)
	JPEG	15fps (12 MP)	30fps (1080p)	30fps (720p)	30fps (3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		—	Super Dynamic	Super Dynamic	WDR	WDR
Color/BW		Yes (ICR)	Day/Night (Electrical)	Day/Night (Electrical)	Day/Night (Electrical)	Day/Night (Electrical)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	—	—	—	—
Min. Illumination	Color	0.3 lx @F1.6	0.1 lx @F2.3	0.04 lx @F2.3	0.1 lx @F2.2	0.04 lx @F2.2
	Color (Sens up)	0.02 lx (16x)	0.007 lx (16x)	0.003 lx (16x)	0.007 lx (16x)	0.003 lx (16x)
	B/W	0 lx @F1.6 (w/IR)	0.08 lx @F2.3	0.03 lx @F2.3	0.06 lx @F2.2	0.03 lx @F2.2
	B/W (Sens up)	—	0.005 lx (16x)	0.002 lx (16x)	0.004 lx (16x)	0.002 lx (16x)
Lens		f = 4.2 to 25.2 mm, F1.6 Motorized	f = 2.8 mm, F2.3	f = 2.8 mm, F2.3	f = 1.95 mm, F2.2	f = 1.95 mm, F2.2
Angular field of view	16 : 9	H: 17 to 96 deg. V: 9.3 to 54 deg.	H: 108 deg. V: 60 deg.	H: 100 deg. V: 55 deg.	H: 109 deg. V: 73 deg.	H: 104 deg. V: 69 deg.
	4 : 3	H: 17 to 100 deg. V: 13 to 75 deg.	H: 89 deg. V: 66 deg.	H: 100 deg. V: 73 deg.	H: 97 deg. V: 79 deg.	H: 104 deg. V: 85 deg.
Adjusting Angle	Pan	-180 to +180 deg.	-20 to +20 deg.	-20 to +20 deg.	-170 to +170 deg.	-170 to +170 deg.
	Tilt	0 to +85 deg.	-20 to +90 deg.	-20 to +90 deg.	-90 to +90 deg.	-90 to +90 deg.
Optical Zoom		6x	—	—	—	—
Digital Zoom		4x	4x	4x	4x	4x
Image Stabilizer		—	—	—	—	—
Corridor Mode		—	—	—	—	—
iA (Intelligent Auto)		—	—	—	—	—
Video Analytics		—	—	—	—	—
i-VMD (Intelligent VMD) *Bundled License		—	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) / Out	Yes / Yes	— / —	— / —	— / —	— / —
	In (Built-in MIC)	—	Yes	Yes	—	—
	Codec	G.711 / G.726 / AAC (*4)	G.711 / G.726 / AAC (*3)	G.711 / G.726 / AAC (*3)	—	—
	Audio Detection Alarm	—	—	—	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	Yes	Yes	—	—
	Audio REC	Yes	Yes	Yes	—	—
External I/O		Yes (3) (*3)	—	—	—	—
Monitor Out		Yes (RCA)	—	—	—	—
Vandal Resistant		IK10	50J, IK10	50J, IK10	IK10	IK10
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP6K9K / IP66 / NEMA 4X	IP6K9K / IP66 / NEMA 4X
Temperature		-45 to +50 deg.	-40 to +60 deg.	-40 to +60 deg.	-40 to +60 deg.	-40 to +60 deg.
Power Source		12 V DC / PoE	PoE	PoE	PoE	PoE
Dehumidification device		Yes	—	—	—	—
Other Functions		Built-in heater, RainWash coating, Built-in IR LED	EN50155-T3, EN50121, EN45545, EN50498, ECE-R10	EN50155-T3, EN50121, EN45545, EN50498, ECE-R10	MIL-STD-810G EN50155-T3, EN50121, EN45545, EN50498, ECE-R10	MIL-STD-810G EN50155-T3, EN50121, EN45545, EN50498, ECE-R10

(*1): w/Super resolution (*2): with Simple Full-HD mode(tentative name) (*3): Only AAC-LC for SD REC (*4): Alarm In1(Black & White In), Alarm In2(Alarm Out), Alarm In3(AUX Out, Black & White Out) (x1 for each)

★ Products that can be purchased is vary according to the locality.

Network Camera Comparison chart		360-degree Dome	
Indoor / Outdoor		Outdoor	Indoor
Model Name		WV-SW458MA(*1)	WV-SF438
Appearance		 ONVIF® S	 ONVIF® S
Sensor		1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG
	H.265 / H.264 multi stream	2	2
	JPEG multi stream	6	6
	H.265 / H.264: VBR / AVBR (Advanced VBR)	AVBR (V1.40)	AVBR (V1.40)
	Smart Coding	—	—
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080
	4 : 3	H.264: 1280 x 960 2048 x 1536	H.264: 1280 x 960 2048 x 1536
Max. FPS @Max. Resolution	H.265 / H.264	30fps (1080p)	30fps (1080p)
	JPEG	15fps (3 MP) / 30fps (1080p)	15fps (3 MP) / 30fps (1080p)
Super Dynamic / WDR / BLC		Super Dynamic	Super Dynamic
Color/BW		Day/Night (Electrical)	Day/Night (Electrical)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		—	—
Min. Illumination	Color	1.5 lx @F2.4	1.5 lx @F2.4
	Color (Sens up)	0.1 lx (16x)	0.1 lx (16x)
	B/W	1.2 lx @F2.4	1.2 lx @F2.4
	B/W (Sens up)	0.08 lx (16x)	0.08 lx (16x)
Lens		f = 0.837 mm, F2.4	f = 0.837 mm, F2.4
Angular field of view	1 : 1	H: 182 deg. V: 176 deg.	H: 188 deg. V: 181 deg.
Adjusting Angle	Pan	—	—
	Tilt	—	—
Optical Zoom		—	—
Digital Zoom		4x	4x
Image Stabilizer		—	—
Corridor Mode		—	—
iA (Intelligent Auto)		—	—
Video Analytics		—	—
i-VMD (Intelligent VMD) *Bundled License		—	—
VIQS		Yes (2-areas)	Yes (2-areas)
Max. Connection		14	14
Audio	In (Line) / Out	Yes / Yes	Yes / Yes
	In (Built-in MIC)	—	Yes
	Codec	G.711 / G.726	G.711 / G.726
SD memory Card	Audio Detection Alarm	—	—
	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	—
SD memory Card	Audio REC	—	—
	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	—
External I/O		Yes (3) (*2)	Yes (3) (*2)
Monitor Out		—	—
Vandal Resistant		50J, IK10	—
Water and Dust Resistance		IP66 / NEMA 4X	—
Temperature		-40 to +50 deg.	-10 to +50 deg.
Power Source		12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	—
Other Functions		360° monitoring, EN50155-T3, EN50121, DIN5510, ECE-R10	360° monitoring

(*1): 10BASE-T/100BASE-TX, M12 connector (*2): Alarm In1, Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) ★ Products that can be purchased is vary according to the locality.

i-PRO		H.264 cameras	
Network Camera Comparison chart		Box	
Indoor / Outdoor		Outdoor	
Model Name		WV-SPV781L	WV-SPW532L
Appearance		 Onvif® G S	 *Only sold in certain areas Onvif® G S
Sensor		1/1.7 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG
	H.265 / H.264 multi stream	4	4
	JPEG multi stream	2	6 (Variable)
	H.265 / H.264: VBR / AVBR (Advanced VBR)	VBR / AVBR	VBR / AVBR
	Smart Coding	Yes	Yes
Max. Resolution	16 : 9	3840 x 2160	1920 x 1080
	4 : 3	4000 x 3000	2048 x 1536
Max. FPS @Max. Resolution	H.265 / H.264	30fps (4K)	30fps (1080p)
	JPEG	15fps (12 MP)	30fps (3 MP)
Super Dynamic / WDR / BLC		WDR	WDR
Color/BW		Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	ABF
Min. Illumination	Color	0.3 lx @F1.6	0.07 lx @F1.6
	Color (Sens up)	0.02 lx (16x)	0.005 lx (16x)
	B/W	0 lx @F1.6 (w/IR)	0 lx @F1.6 (w/IR)
	B/W (Sens up)	—	—
Lens		f = 4.2 to 25.2 mm, F1.6 Motorized	f = 2.8 to 10 mm, F1.6
Angular field of view	16 : 9	H: 17 to 97 deg. V: 9.4 to 55 deg.	H: 31 to 112 deg. V: 17 to 60 deg.
	4 : 3	H: 18 to 101 deg. V: 13 to 76 deg.	H: 26 to 91 deg. V: 19 to 67 deg.
Adjusting Angle	Pan	—	-180 to +180 deg.
	Tilt	—	0 to +90 deg.
Optical Zoom		6x	3.6x
Digital Zoom		4x	4x
Image Stabilizer		—	—
Corridor Mode		—	—
iA (Intelligent Auto)		—	—
Video Analytics		—	—
i-VMD (Intelligent VMD) *Bundled License		—	Yes (Type2)
VIQS		Yes (8-areas)	Yes (8-areas)
Max. Connection		14	14
Audio	In (Line) / Out	Yes / Yes	— / —
	In (Built-in MIC)	—	—
	Codec	G.711 / G.726 / AAC (*2)	—
	Audio Detection Alarm	—	—
SD memory Card	Slot	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	—	Yes
	Audio REC	Yes	—
External I/O		Yes (3) (*3)	—
Monitor Out		Yes (RCA)	Yes (RCA)
Vandal Resistant		IK10	—
Water and Dust Resistance		IP66 / NEMA 4X	IP66 / NEMA 4X
Temperature		-45 to +50 deg.	-30 to +50 deg.
Power Source		12 V DC / PoE	PoE
Dehumidification device		Yes	—
Other Functions		Built-in heater, RainWash coating, Built-in IR LED	Built-in heater, Built-in IR LED

(*1): w/Super resolution (*2): Only AAC-LC for SD REC (*3): Alarm In1(Black & White In), Alarm In2(Alarm Out), Alarm In3(AUX Out, Black & White Out) (x1 for each)
★ Products that can be purchased is vary according to the locality.

i-PRO		H.264 cameras	
Network Camera Comparison chart		Cylinder	
Indoor / Outdoor		Indoor	
Model Name		WV-SP105	WV-SP102
Appearance		 Onvif® G S	 Onvif® S
Sensor		1/3 MOS	1/5 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	H.264 / JPEG
	H.265 / H.264 multi stream	2	2
	JPEG multi stream	6	6
	H.265 / H.264: VBR / AVBR (Advanced VBR)	AVBR (V1.80)	AVBR (V1.80)
	Smart Coding	—	—
Max. Resolution	16 : 9	1280 x 720	640 x 360
	4 : 3	1280 x 960	640 x 480
Max. FPS @Max. Resolution	H.265 / H.264	30fps (1.3 MP)	30fps (VGA)
	JPEG	30fps (1.3 MP)	30fps (VGA)
Super Dynamic / WDR / BLC		BLC	BLC
Color/BW		Day/Night (Electrical)	Day/Night (Electrical)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		—	—
Min. Illumination	Color	0.8 lx @F2.2	2.0 lx @F2.0
	Color (Sens up)	0.05 lx (16x)	0.3 lx (8x)
	B/W	0.4 lx @F2.2	1.3 lx @F2.0
	B/W (Sens up)	0.03 lx (16x)	0.16 lx (8x)
Lens		f = 3.54 mm, F2.2	f = 2 mm, F2.0
Angular field of view	16 : 9	H: 70.3 deg. V: 42.6 deg.	H: 66.9 deg. V: 39.2 deg.
	4 : 3	H: 70.3 deg. V: 55.4 deg.	H: 66.9 deg. V: 52.3 deg.
Adjusting Angle	Pan	—	—
	Tilt	—	—
Optical Zoom		—	—
Digital Zoom		4x	4x
Image Stabilizer		—	—
Corridor Mode		—	—
iA (Intelligent Auto)		—	—
Video Analytics		—	—
i-VMD (Intelligent VMD) *Bundled License		—	—
VIQS		Yes (1-area)	Yes (1-area)
Max. Connection		14	14
Audio	In (Line) / Out	— / —	— / —
	In (Built-in MIC)	—	—
	Codec	—	—
	Audio Detection Alarm	—	—
SD memory Card	Slot	—	—
	Password & Alter Detection	—	—
	Audio REC	—	—
External I/O		—	—
Monitor Out		—	—
Vandal Resistant		—	—
Water and Dust Resistance		—	—
Temperature		0 to +40 deg.	0 to +40 deg.
Power Source		12 V DC / PoE	12 V DC / PoE
Dehumidification device		—	—
Other Functions		—	—

Pan / Tilt	
Indoor / Outdoor	
Model Name	
Appearance	
Sensor	
Codec and Transmission	Video Codec
	H.265 / H.264 multi stream
	JPEG multi stream
	H.265 / H.264: VBR / AVBR (Advanced VBR)
	Smart Coding
Max. Resolution	16 : 9
	4 : 3
Max. FPS @Max. Resolution	H.265 / H.264
	JPEG
Super Dynamic / WDR / BLC	
Color/BW	
ABF (Auto Back Focus) / Auto Focus / Focus Assist	
Min. Illumination	Color
	Color (Sens up)
	B/W
	B/W (Sens up)
Lens	
Angular field of view	16 : 9
	4 : 3
Pan	Range
	Speed
Tilt	Range
	Speed
360 Pan-Flip	
Number of Preset Positions	
Patrol	
Auto Tracking	
Optical Zoom	
Digital Zoom	
Video Analytics	
i-VMD (Intelligent VMD) *Bundled License	
VIQS	
Max. Connection	
Audio	In (Line) / Out
	In (Built-in MIC)
	Codec
	Audio Detection Alarm
SD memory Card	Slot
	Password & Alter Detection
	Audio REC
External I/O	
Monitor Out	
Vandal Resistant	
Water and Dust Resistance	
Temperature	
Power Source	
Dehumidification device	
Other Functions	

(*1): Alarm In1, Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each)
★ Products that can be purchased is vary according to the locality.

Core Technologies	New Products	Function Introduction	Network Camera Comparison Chart	Multi-Sensor	PTZ	Fixed Dome	360-degree Dome	Box	Cylinder	Pan/Tilt	Network products
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Optional Accessories Compatibility with Network Cameras

Outdoor Indoor	Ceiling			Wall		Pole / Corner	Other	Dome Cover	
	Surface	Embedded	Pendant	Hanging	Surface	*A set of brackets for Wall Hanging required.			
WV-X8570N WV-S8530N (Light gray)  WV-SFV781L (Light gray) 	Direct		WV-Q178 (Gray) (*1) Different Color Model(*1): WV-Q121B (Fine silver) WV-QCL501-W (i-PRO white)  WV-Q187 (Light gray) (*2) 	WV-Q185 (Light gray) (*1) Different Color Model (*1): WV-Q122A (Fine silver) WV-QWL501-W (i-PRO white)  WV-Q187 (Light gray) (*3) 		Pole Mount Bracket WV-Q182 (Light gray) Different Color Model: WV-Q188 (Fine silver) WV-QPL500-W (i-PRO white)  Corner Mount Bracket WV-Q183 (Light gray) Different Color Model: WV-Q189 (Fine silver) WV-QCN500-W (i-PRO white)  Attachment pipe (For 3rd party bracket) (*1) WV-Q179 (Light gray) Different Color Model: WV-Q123A (Fine silver) WV-QAT500-W (i-PRO white)  Extension Unit* WV-S25F1 (Light gray) *WV-SFV781L only 			
WV-X6531NS (Metallic silver) *Heavy salt damage resistance 			WV-Q121BS (Metallic silver) *Heavy salt damage resistance 	WV-Q122AS (Metallic silver) *Heavy salt damage resistance 					
WV-X6533LN WV-S6532LN (Fine silver)  WV-X6531N WV-X6511N WV-S6530N (Natural silver) 	WV-QCL500-S (Silver) 		WV-Q121B (Fine silver) Different Color Model: WV-Q178 (gray) WV-QCL501-W (i-PRO white) 	WV-Q122A (Fine silver) Different Color Model: WV-Q185 (Light gray) WV-QWL501-W (i-PRO white) 		Pole Mount Bracket WV-Q188 (Fine silver) Different Color Model: WV-Q182 (Light gray) WV-QPL500-W (i-PRO white)  Corner Mount Bracket WV-Q189 (Fine silver) Different Color Model: WV-Q183 (Light gray) WV-QCN500-W (i-PRO white)  Extension Unit WV-X65F1 (Fine silver) 			
WV-S6131 WV-S6111 (Sail white) 	Direct (WV-Q105A) 	WV-Q126A 	WV-QCL100-W (i-PRO white) 	WV-Q119 	Direct	Pole Mount Bracket WV-QPL500-W (i-PRO white) Different Color Model: WV-Q188 (Fine silver) WV-Q182 (Light gray) Corner Mount Bracket WV-QCN500-W (i-PRO white) Different Color Model: WV-Q189 (Fine silver) WV-Q183 (Light gray) transmissivity: approx. 40% 	WV-CS5S (Smoke) WV-CS5C (Clear) 		
WV-S6130 (Fine silver) 	Direct (WV-Q105A)  WV-Q105A  WV-Q160S (Smoke) WV-Q160C (Clear)  Smoke type transmissivity: approx. 50%	WV-Q159S (Smoke) WV-Q159C (Clear)  Smoke type transmissivity: approx. 50%	WV-QCL100-W (i-PRO white) 	WV-Q158S (Smoke) WV-Q158C (Clear)  Smoke type transmissivity: approx. 50% WV-QWL500-G (Gray) Different Color Model: WV-QWL500-W (i-PRO white)  WV-QJB500-G* (Gray) Different Color Model: WV-QJB500-W* (i-PRO white)  *Use adapter box if necessary.	Direct	Pole Mount Bracket (*5) WV-Q188 (Fine silver) Different Color Model: WV-Q182 (Light gray) WV-QPL500-W (i-PRO white)  Corner Mount Bracket (*5) WV-Q189 (Fine silver) Different Color Model: WV-Q183 (Light gray) WV-QCN500-W (i-PRO white)  Inner Cover WV-Q161 			

(*1): This bracket requires WV-Q187. (*2): This bracket requires WV-Q178, WV-Q121B or WV-QCL501-W. (*3): This bracket requires WV-Q185, WV-Q122A or WV-QWL501-W. (*4): This bracket requires WV-Q179, WV-Q123A or WV-QAT500-W.

Optional Accessories Compatibility with Network Cameras

Outdoor Indoor	Ceiling			Wall		Pole / Corner	Other	Dome Cover
	Surface	Embedded	Pendant	Hanging	Surface	*A set of brackets for Wall Hanging required.		
WV-X2571LN WV-X2551LN (i-PRO white)  WV-U2542L WV-U2532L (i-PRO white) 	Direct (WV-Q105A)  *For indoor installation only	WV-QEM500-W (i-PRO white) Different Color Model: WV-Q169A (light silver)  *For indoor installation only	WV-QCL501-W (i-PRO white)*(*6) Different Color Model(*6): WV-Q121B (Fine silver) WV-Q178 (Gray)  WV-QSR501-W (i-PRO white)*(*2) Different Color Model (*2): WV-Q124 (Fine silver) WV-Q186 (Light gray) 	WV-QWL501-W (i-PRO white)*(*6) Different Color Model (*6): WV-Q122A (Fine silver) WV-Q185 (Light gray)  WV-QSR501-W (i-PRO white)*(*3) Different Color Model (*3): WV-Q124 (Fine silver) WV-Q186 (Light gray) 	Sun Shade WV-QSR500-W (i-PRO white) Different Color Model: WV-Q7118 (Light gray)  Base Bracket WV-QJB501-W (i-PRO white) *U series only (Included with AI camera)  *U series only (Included with AI camera) WV-QJB500-W* (i-PRO white) Different Color Model: WV-QJB500-G* (Gray)  *Use adapter box if necessary.	Pole Mount Bracket (*5) WV-QPL500-W (i-PRO white) Different Color Model: WV-Q188 (Fine silver) WV-Q182 (Light gray)  Corner Mount Bracket (*5) WV-QCN500-W (i-PRO white) Different Color Model: WV-Q189 (Fine silver) WV-Q183 (Light gray) 	Attachment pipe (For 3rd party bracket) (*6) WV-QAT500-W (i-PRO white) Different Color Model: WV-Q123A (Fine silver) WV-Q179 (Light gray)  WV-QSR501-W (i-PRO white)*(*4) Different Color Model (*4): WV-Q124 (Fine silver) WV-Q186 (Light gray)  WV-CW7S (Smoke) WV-CW7SN* (ClearSight coating)  transmissivity: approx. 45% *WV-X2571LN WV-X2551LN only	
WV-U2540L WV-U2530L (i-PRO white) 	Direct		WV-QCL100-W (i-PRO white)  *For indoor installation only	WV-QWL500-W (i-PRO white) Different Color Model: WV-QWL500-G (Gray) WV-QJB500-W* (i-PRO white) Different Color Model: WV-QJB500-G* (Gray) *Use adapter box if necessary.	Direct			WV-QDC500S  Smoke type transmissivity: approx. 45%
WV-S2570L WV-S2550L WV-S2531LTN WV-S2531LN WV-S2511LN (Light gray) 	Direct (WV-Q105A)  *For indoor installation only	WV-Q169A (light silver) Different Color Model: WV-QEM500-W (i-PRO white)  *For indoor installation only	WV-Q178 (Gray)*(*6) Different Color Model(*6): WV-Q121B (Fine silver) WV-QCL501-W (i-PRO white)  WV-Q186 (Light gray) (*2) Different Color Model (*2): WV-Q124 (Fine silver) WV-QSR501-W (i-PRO white) 	WV-Q185 (Light gray)*(*6) Different Color Model (*6): WV-Q122A (Fine silver) WV-QWL501-W (i-PRO white)  WV-Q186 (Light gray) (*3) Different Color Model (*3): WV-Q124 (Fine silver) WV-QSR501-W (i-PRO white) 	Sun Shade WV-Q7118 (Light gray) Different Color Model: WV-QSR500-W (i-PRO white)  Corner Mount Bracket (*5) WV-Q183 (Light gray) Different Color Model: WV-Q189 (Fine silver) WV-QCN500-W (i-PRO white) 	Attachment pipe (For 3rd party bracket) (*6) WV-Q179 (Light gray) Different Color Model: WV-Q123A (Fine silver) WV-QAT500-W (i-PRO white)  WV-Q186 (Light gray) (*4) Different Color Model (*4): WV-Q124 (Fine silver) WV-QSR501-W (i-PRO white)  WV-CW7S (Smoke) WV-CW7SN (ClearSight coating)  transmissivity: approx. 45% WV-CW7CN* (Clear) (ClearSight coating)  *WV-S2570L WV-S2550L only		

(*5): Use WV-QJB500-W/ WV-QJB500-G if necessary. (*6): This bracket requires WV-QSR501-W, WV-Q124 or WV-Q186. ★ Brackets are available in four colors, Fine silver, Light gray, Gray and i-PRO white. It is possible to use them in different color combinations.

Optional Accessories Compatibility with Network Cameras

Outdoor Indoor	Ceiling			Wall		Pole / Corner *A set of brackets for Wall Hanging required.	Other	Dome Cover
	Surface	Embedded	Pendant	Hanging	Surface			
WV-X2271L WV-X2251L (i-PRO white) 	Direct (WV-Q105A) 	WV-QEM100-W (i-PRO white) Different Color Model: WV-Q174B (Sail white) 	WV-QCL501-W (i-PRO white)(*)1 Different Color Model(*)1 : WV-Q121B (Fine silver) WV-Q178 (Gray) 	WV-QWL501-W (i-PRO white)(*)1 Different Color Model(*)1 : WV-Q122A (Fine silver) WV-Q185 (Light gray) 	Direct	Pole Mount Bracket (*)4 WV-QPL500-W (i-PRO white) Different Color Model: WV-Q188 (Fine silver) WV-Q182 (Light gray) 	Attachment pipe (For 3rd party bracket) (*)1 WV-QAT500-W (i-PRO white) Different Color Model : WV-Q123A (Fine silver) WV-Q179 (Light gray) 	WV-CR1S Smoke type transmissivity: approx. 45% 
WV-U2142L WV-U2132L (i-PRO white) 						WV-QPL500-W (i-PRO white) Different Color Model: WV-Q188 (Fine silver) WV-Q182 (Light gray) 	WV-QAT500-W (i-PRO white) Different Color Model : WV-Q123A (Fine silver) WV-Q179 (Light gray) 	WV-CF5SA Smoke type transmissivity: approx. 30% 
WV-S2270L WV-S2250L WV-S2231L WV-S2211L (Sail white) 		WV-Q174B (Sail white) Different Color Model: WV-QEM100-W (i-PRO white) 	WV-QSR501-W (i-PRO white)(*)2 Different Color Model (*)2: WV-Q124 (Fine silver) WV-Q186 (Light gray) 	WV-QSR501-W (i-PRO white)(*)3 Different Color Model (*)3: WV-Q124 (Fine silver) WV-Q186 (Light gray) 		WV-QSR501-W (i-PRO white)(*)5 Different Color Model (*)5: WV-Q124 (Fine silver) WV-Q186 (Light gray) 	WV-CR1S Smoke type transmissivity: approx. 30% 	WV-CR1S Smoke type transmissivity: approx. 45% 
WV-S2131L WV-S2131 WV-S2130 WV-S2111L WV-S2110 (Sail white) 			WV-QCL100-W (i-PRO white) 	WV-QWL500-W (i-PRO white) Different Color Model: WV-QWL500-G (Gray) 	Direct	WV-QCN500-W (i-PRO white) Different Color Model: WV-Q189 (Fine silver) WV-Q183 (Light gray) 	WV-QWL500-W (i-PRO white) Different Color Model : WV-Q186 (Light gray) 	WV-CF5SA Smoke type transmissivity: approx. 30% 
WV-U2140L WV-U2130L (i-PRO white) 			WV-QCL100-W (i-PRO white) *For indoor installation only 	WV-QJB500-W* (i-PRO white) Different Color Model: WV-QJB500-G* (Gray) 				WV-QDC500S Smoke type transmissivity: approx. 45% 
WV-SFV130M WV-SFV110M (Light gray) 								
WV-S3531L WV-S3532LM WV-S3511L WV-S3512LM (Light gray) 		Direct		WV-QWL500-G (Gray) Different Color Model: WV-QWL500-W (i-PRO white) 		Pole Mount Bracket (*)4 WV-Q182 (Light gray) Different Color Model: WV-Q188 (Fine silver) WV-QPL500-W (i-PRO white) 		WV-CW6SA Smoke type transmissivity: approx. 36% 
WV-S3131L WV-S3111L (Sail white) 			WV-QCL100-W (i-PRO white) 	WV-QJB500-G* (Gray) Different Color Model: WV-QJB500-W* (i-PRO white) 		Corner Mount Bracket (*)4 WV-Q183 (Light gray) Different Color Model: WV-Q189 (Fine silver) WV-QCN500-W (i-PRO white) 		
WV-X4171 WV-X4170 (Sail white) 	Direct (WV-Q105A) 		WV-QCL100-W (i-PRO white) *For indoor installation only 	WV-QWL500-W (i-PRO white) Different Color Model: WV-QWL500-G (Gray) 		Pole Mount Bracket (*)4 WV-QPL500-W (i-PRO white) Different Color Model: WV-Q188 (Fine silver) WV-Q182 (Light gray) 		
WV-S4150 (Sail white) 				WV-QJB500-W* (i-PRO white) Different Color Model: WV-QJB500-G* (Gray) 		Corner Mount Bracket (*)4 WV-QCN500-W (i-PRO white) Different Color Model: WV-Q189 (Fine silver) WV-Q183 (Light gray) 		
WV-SF438 (Sail white) 				WV-QJB500-W* (i-PRO white) Different Color Model: WV-QJB500-G* (Gray) 				

(*)1: This bracket requires WV-QSR501-W, WV-Q124 or WV-Q186. (*)2: This bracket requires WV-Q178, WV-Q121B or WV-QCL501-W. (*)3: This bracket requires WV-Q185, WV-Q122A or WV-QWL501-W. (*)4: Use WV-QJB500-W/ WV-QJB500-G if necessary.

Optional Accessories Compatibility with Network Cameras

Outdoor Indoor	Ceiling			Wall		Pole / Corner *A set of brackets for Wall Hanging required.	Other	Dome Cover
	Surface	Embedded	Pendant	Hanging	Surface			
WV-X4571L (Light gray) 	Direct		WV-Q178 (Gray) (*)1 Different Color Model (*)1 : WV-Q121B (Fine silver) WV-QCL501-W (i-PRO white) 	WV-Q185 (Light gray) (*)1 Different Color Model (*)1 : WV-Q122A (Fine silver) WV-QWL501-W (i-PRO white) 	Direct	Pole Mount Bracket (*)4 WV-Q182 (Light gray) Different Color Model: WV-Q188 (Fine silver) WV-QPL500-W (i-PRO white) 	Attachment pipe (For 3rd party bracket) (*)1 WV-Q179 (Light gray) Different Color Model: WV-Q123A (Fine silver) WV-QAT500-W (i-PRO white) 	
WV-S4550L (Light gray) 			WV-Q186 (Light gray) (*)2 Different Color Model (*)2: WV-Q124 (Fine silver) WV-QSR501-W (i-PRO white) 	WV-Q186 (Light gray) (*)3 Different Color Model (*)3: WV-Q124 (Fine silver) WV-QSR501-W (i-PRO white) 		WV-Q182 (Light gray) Different Color Model: WV-Q188 (Fine silver) WV-QPL500-W (i-PRO white) 	WV-Q186 (Light gray) (*)5 Different Color Model (*)5: WV-Q124 (Fine silver) WV-QSR501-W (i-PRO white) 	
			WV-QCL100-W (i-PRO white) *For indoor installation only 	WV-QWL500-G (Gray) Different Color Model: WV-QWL500-W (i-PRO white) 		Corner Mount Bracket (*)4 WV-Q183 (Light gray) Different Color Model: WV-Q189 (Fine silver) WV-QCN500-W (i-PRO white) 	Extension Unit WV-S25F1 (Light gray) 	
				WV-QJB500-G* (Gray) Different Color Model : WV-QJB500-W* (i-PRO white) 				
				*Use adapter box if necessary.				
WV-X1571LN WV-X1551LN (i-PRO white) 	Direct (Included adapter box. *Use adapter box if necessary.)				Direct (Adapter box included. *Use adapter box if necessary.)	Pole Mount Bracket (*)4 WV-QPL500-W (i-PRO white) Different Color Model: WV-Q188 (Fine silver) WV-Q182 (Light gray) 		
WV-U1542L WV-U1532L (i-PRO white) 			WV-QJB500-W* (i-PRO white) Different Color Model : WV-QJB500-G* (Gray) 		WV-QJB500-W* (i-PRO white) Different Color Model : WV-QJB500-G* (Gray) 	Corner Mount Bracket (*)4 WV-QCN500-W (i-PRO white) Different Color Model: WV-Q189 (Fine silver) WV-Q183 (Light gray) 		
WV-S1570L WV-S1550L (Metallic silver) 				WV-QCL100-W (i-PRO white) *For indoor installation only 				Front Panel WV-CW8CN (Clear) (ClearSight coating) 
WV-S1531LTN WV-S1531LN WV-S1511LN (Metallic silver) 	Direct (Included adapter box. *Use adapter box if necessary.)				Direct (Adapter box included. *Use adapter box if necessary.)	Pole Mount Bracket WV-Q188 (Fine silver) Different Color Model: WV-Q182 (Light gray) WV-QPL500-W (i-PRO white) 		
WV-SPV781L (Metallic silver) 						Corner Mount Bracket WV-Q189 (Fine silver) Different Color Model: WV-Q183 (Light gray) WV-QCN500-W (i-PRO white) 		
WV-SPW532L WV-SPW312L (Light gray) 								

(*)5: This bracket requires WV-Q179, WV-Q123A or WV-QAT500-W.
★ Brackets are available in four colors, Fine silver, Light gray, Gray and i-PRO white. It is possible to use them in different color combinations.

Network Products

Network Video Recorders

TURBO-RAID Network Disk Recorder

WJ-NX400

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



Additional Camera kits: **WJ-NXE40, WJ-NXE40W**

- **64 ch. expandable to 128 ch.** camera input. Support **H.265 / H.264** mixed recordings.
- **640 Mbps** total throughput put (including **384 Mbps** recording bandwidth)
- (9) integrated drive-bays **RAID 1 / 5 / 6**
- External storage expansion up to **324 TB**
- Redundant fail-over using 2nd recorder to enable mission-critical recording* *KMS registration is necessary for activation.
- NVR backup important data to NAS devices.* *KMS registration is necessary for activation.
- digicert® device certificates pre-installed *Secure Communication Kits are necessary.
- Built-in GUI and Dual HDMI (4K/FHD) outputs

Example of a Basic Connection System



Optional Accessory

Hard Disk Extension Unit
WJ-HXE400



Power Source	120 V AC, 60 Hz (NTSC) 220 ~ 240 V AC, 50 Hz (PAL)
Power Consumption	approx. 85 W
Dimensions	430 mm (W) x 132 mm (H) x 413 mm (D) (From Rack Mount Bracket 400 mm) (16-15/16" (W) x 5-3/16" (H) x 16-1/4" (D)) (From Rack Mount Bracket 15-3/4") (excluding rubber feet and projections)
Weight	11 kg (24.3 lbs.) (When no HDD exist) 19.5 kg (43 lbs.) (When 9 HDDs are installed)

TURBO-RAID Network Disk Recorder

WJ-NX300

[WJ-NX300K (120 V AC): NTSC] [WJ-NX300K/G (220 - 240 V AC): PAL]



Additional Camera Kit: **WJ-NXE30W**

Additional RAID Kit: **WJ-NXR30W**

- 16 ch. expandable to 32 ch. camera input.
Support **H.265 / H.264** mixed recordings.
- 512 Mbps total throughput put (including 256 Mbps recording bandwidth)
- (4) integrated drive-bays **RAID 1 / 5 / 6**
*Additional RAID Kit license is necessary to use the RAID feature.
- **TURBO-RAID** for quick RAID recovery without sacrificing recording bandwidth and performance
- Built-in GUI and Dual HDMI (4K / FHD) outputs

Optional Accessories

Hard Disk Extension Unit
WJ-HXE400

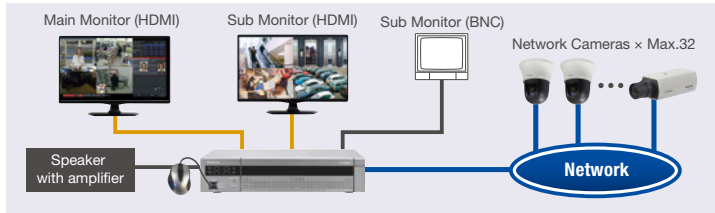


Power Source	120 V AC, 60 Hz (NTSC), 220 ~ 240 V AC, 50 Hz (PAL)
Power Consumption	approx. 85 W
Dimensions	430 mm (W) x 132 mm (H) x 413 mm (D) (From Rack Mount Bracket 400 mm) (16-15/16" (W) x 5-3/16" (H) x 16-1/4" (D)) (From Rack Mount Bracket 15-3/4") (excluding rubber feet and projections)
Weight	11 kg (24.3 lbs.) (When no HDD exist), 19.5 kg (43 lbs.) (When 9 HDDs are installed)

Rack Mount Bracket
WV-Q202



Easy Operation and Setup without PC



Network Disk Recorder

WJ-NX200

[WJ-NX200K (120 V AC): NTSC] [WJ-NX200K/G (220 - 240 V AC): PAL]



Additional Camera Kit: **WJ-NXE20W**

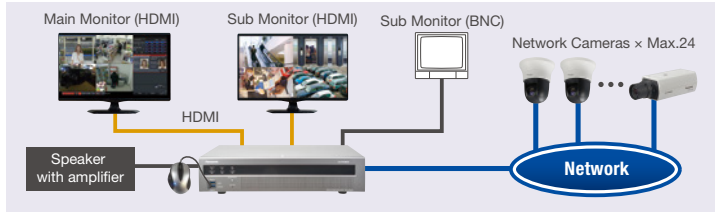
- Significant reduction of storage space usage through **H.265 and Smart Coding**.
- 9 ch. expandable to 16(WJ-NX200K) / 32(WJ-NX200K/G) ch. camera input.
Supports **H.265 / H.264** mixed recordings.
- Quick setup by automatic camera detection and simple setup wizard without the use of PC
- **High-speed copy to USB storage**
- Built-in GUI and Dual HDMI (4K/FHD) outputs

Optional Accessory

Rack Mount Bracket
WV-Q202



Easy Operation and Setup without PC



Secure Communication Kits **WJ-NXS01W, WJ-NXS04W, WJ-NXS16W, WJ-NXS32W**

The Secure Communication Kits are license kits to use the security function of the network disk recorder. Each Secure Communication Kit allows the following number of cameras to be registered.

WJ-NXS01W	WJ-NXS04W	WJ-NXS16W	WJ-NXS32W
1 camera	4 cameras	16 cameras	32 cameras

Network Products

Additional Business Intelligence Kit

Additional Business Intelligence Kit

WJ-NXF02W



Additional Business Intelligence Kit WJ-NXF02W are license kits intended to improve the usefulness of Network Disk Recorder WJ-NX300 / WJ-NX200.

- **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*1 on a USB or on a PC connected over a network.



*To use this product, it is necessary to register the license (Registration Key) for Additional Business Intelligence Kit into the WJ-NX300/WJ-NX200 in use.

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

Network Products

Management Software

i-PRO Central Management Software

WV-ASM300

Extension Software

WV-ASE202W / ASE203W / ASE205W / ASE306W



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

- Up to 100 recorders, 64 encoders and 256 directly connected cameras can be registered. Up to 6,400 cameras registered in the recorders and 256 cameras registered in the encoders are automatically registered in the WV-ASM300 (the number of the cameras depends on the recorder and encoder).
- Encryption of SSL and data encryption support latest "AES-256bit key" strong encryption
- MP4 data direct download from WJ-NX400, WJ-NX300, WJ-NX200
- When used with WJ-NX400 series, VMD, thumbnail search can be operated.

- Selecting the camera icon in map window, a still image of the camera is overlaid.
- Live window, Map window in addition to the Operation window (3 monitors)
- Control using the System Controller WV-CU980
- 3D Dewarp: virtual PTZ operations for better operability and monitoring experience.

*To use the multi-monitor function, it is necessary to install an additional video card on the PC in use.

WV-ASE202W

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

WV-ASE203W

- Expand the maximum numbers of registered recorders, encoders and cameras to 100, 64 and 256 respectively.
- Up to 4 licenses for the WV-ASE203W can be added.

Optional Accessory

Ethernet 3D Joystick System Controller **WV-CU980**

Compact system controller with easy-to-use joystick

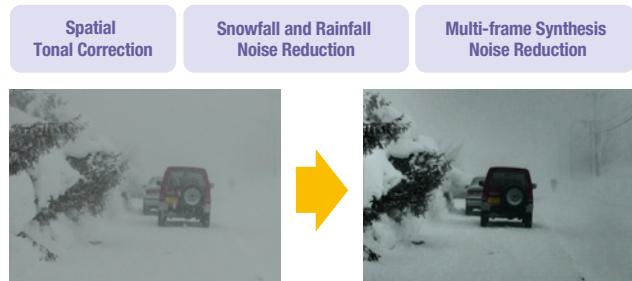


Key Features

- Intuitive operation with ergonomic design
- Installed in many locations with compact body and Ethernet interface
- Monitoring control of simple monitor switching and easy operation
- Camera and recorder control with quick response joystick

WV-ASE205W

- Visibility Enhancement Function



Spatial Tonal Correction ,
Snowfall and
Rainfall Noise Reduction

Extension Software **WV-ASE306W**

- Controlling Video Insight server

Network Products

Video Management Software

Video Insight 7



Wide range of supported cameras

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

License included with i-PRO Cameras

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

Lower Total Cost of Ownership (TCO)

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

The enterprise VMS features you love

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

PLUG-IN MODULES

The new plug-in architecture enhances the capability of Video Insight 7 and adds greater scalability and improved feature sets.

New plug-ins include: Analytics, LPR, Gun Detection, Geolocation and more.



Analytics



License Plate Recognition



Gun Detection

and more.

Scale your system without limitations

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

Making the most of existing legacy systems

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

Competitive Upgrade Program (CUP)

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

* Video Insight is a product of Panasonic i-PRO Sensing Solutions Corporation of America.

Network Products

Face Server

Facial Recognition Server Software

WV-ASF950

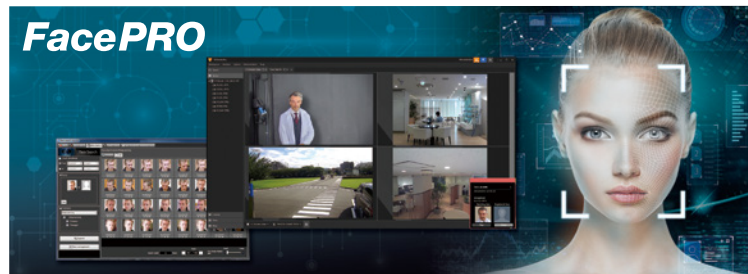
Additional Camera Kit

1ch: WV-ASFE901 / 4ch: WV-ASFE904

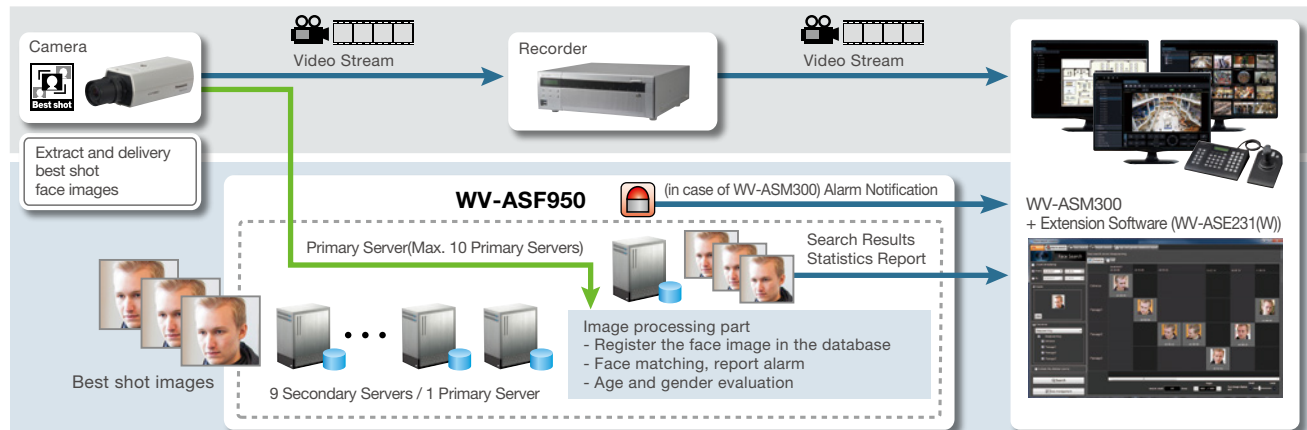
Additional Face Registration Kit

10,000 face: WV-ASFE951

Registered face detection function, Unregistered face detection function (detection of suspicious persons)



Example of a Basic Connection System



Important

- When you install WV-ASF950 (Ver.2.0 or later), please select "Registered face detection function" or "Unregistered face detection function." Only one of these functions can be used on a single server.
- When the "Unregistered face detection function" is used, the time that it takes to issue the alarm is several seconds longer than the conventional recognition function.

Extension software

WV-ASE231(W) for WV-ASM300

- To use the WV-ASF950, WV-ASM300 with extension software WV-ASE231(W) is required.
- Extension Software for Facial Recognition Analytics Platform (WV-ASF950)

- Face Search / Face Matching / People counting results display on WV-ASM300 screen
- i-VMD (Intelligent Video Motion Detection) tracking path display on WV-ASM300 screen

Network Products

Application for Smartphone / Tablet PC



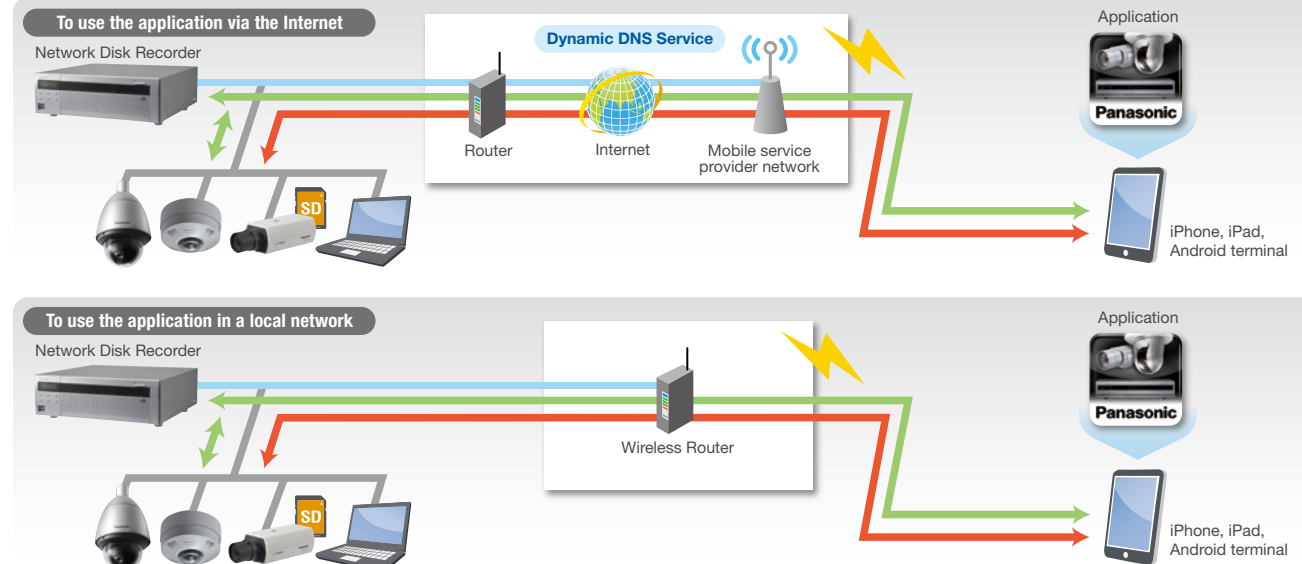
Panasonic Security Viewer

Introduction to the application

Panasonic Security Viewer is an application that can view the images from i-PRO Series Network Cameras, Network Disk Recorder. By connecting a terminal to a 3G/4G or wireless LAN (Wi-Fi), it is possible to view live images from cameras registered on the recorder 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.



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

Direct Camera connection
 • Live monitoring • Playing back in SD memory card.
 Via recorder
 • Live monitoring • Playback



WJ-NX400 / WJ-NX300 / WJ-NX200 can transcode image size/bit rate to fit the customers environment, and stream it. This mode can be used by WJ-NX400 / WJ-NX300 / WJ-NX200 only.

- 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
- Mobile Playback feature (WJ-NX400 / WJ-NX300 / WJ-NX200)
- Time & date search: To search the images to play back based on the time & date

Network camera

- Network camera control* (Resolution switchover, focus, panning / tilting, zoom, preset position switchover)
- Playing back recorded image in the SD memory card*

*Depends on the network camera functions.

Android™

Outline of the application

OS	Android™ OS 5.0 or later.
How to get the application	Download from the Google play™ store.
Operation check terminals	Galaxy S4, Galaxy S7 edge, Nexus 5, Nexus 5X, Nexus 7, Xperia Z5, P10 lite, Moto X4, Xperia XZ1, Pixel3

- Download the application from here.

<https://security.panasonic.com/android/>

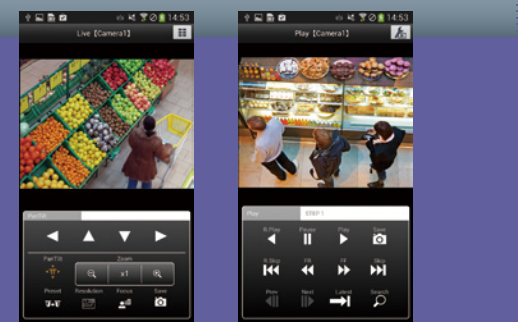
iPhone / iPad

Outline of the application

OS	iOS 8.0 or later
How to get the application	Download from the App Store.
Operation check terminals	iPhone5, iPod TOUCH(5th), iPhone5s, iPhone6, iPhone6 Plus, iPhone6s, iPad Air, iPhone X, iPad Retina(4th), iPad Pro 9.7, iPhone XS Max, iPad Pro 12.9

- Download the application from here.

<https://security.panasonic.com/ios/>



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.

4 CH H.264 Video Encoder

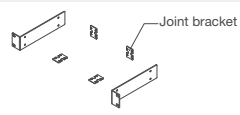
WJ-GXE500

(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.

Coaxial-LAN Converter with PoE function

4-channel receiver side unit

WJ-PR204

1-channel receiver side unit

WJ-PR201

(Indoor use only)



Receiver side unit

Camera side unit

WJ-PC200



Camera side unit

Optional Accessory

Rack Mount Connecting Fitting
BY-HCA10A
(for mounting three or four Receiver side unit)
- For U.S. and Canada: BY-HCA10A
- For Europe and other countries: BY-HCA10CE



*With PoE function: 500 m (1,640 feet 5 inches) / Without PoE function: 2.0 km (6,560 feet 8 inches)[WJ-PR204]

Coaxial LAN cables can be used up to distances of 2.0 km.[WJ-PR204]

Power can also be supplied to PoE cameras for distances of up to 500 m, PoE+ cameras for distances of up to 300 m.

*Distance will vary depending on the power supply environment. Please refer to the spec sheet for details.



Panasonic Product Selector

https://security.panasonic.com/training_support/design_tools/product_selector/

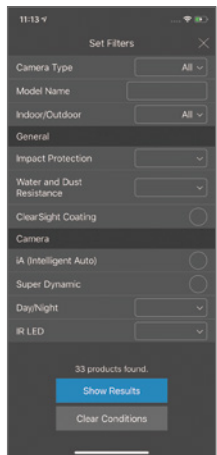
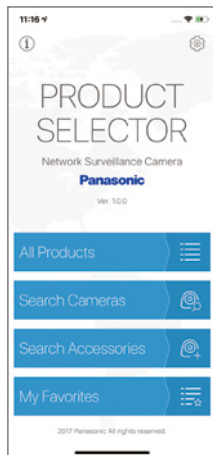
Introduction to the application

Panasonic Product Selector is an application for selecting models that meet customer requirements from among Panasonic network cameras and accessories.



Features of the application

- **Search Cameras:** The user can pick out a camera suitable for the requirements by designating the camera type or function. In addition, accessories suitable for the selected camera can be checked.
- **Search Accessories:** The user can pick out the necessary accessories by specifying the type of accessories such as brackets and dome covers. Furthermore, the camera corresponding to the selected accessory can be checked.
- **Compare Cameras:** The user can specify up to six cameras of interest and compare their specifications. This function can identify the camera most suitable to the user's requirements.
- **View Specification Sheets:** The spec sheet of the camera selected by the user is displayed, and the user can view the details of the camera.
- **View Drawings:** The CAD image of the camera selected by the user is displayed, and the user can view the detailed shape of the camera.



Supporting every operation phase-from proposal to installation and maintenance.

Considerable time is required to design and install a security system, from selecting camera and recorder models, to layout planning that meets site requirements.

Panasonic provides tools that promote work efficiency in each operation phase, from proposal to installation and maintenance.

System Design Tool

https://security.panasonic.com/training_support/design_tools/sdt/



Introduction

System Design Tool can be used on the web anytime and anywhere, greatly reducing the work required for system design.

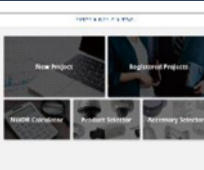
Features

- **Interactive:** When the camera setting conditions are changed, the perception and size of the subject can be immediately simulated.
- **Optimization:** The ideal camera placement and number can be calculated while confirming overlap in recording range.
- **Accessibility:** Data saved as a project can be accessed from the web at any time.
- **Utility:** Saved device lists and results of storage calculation can be exported in CSV format for utilization in proposals.



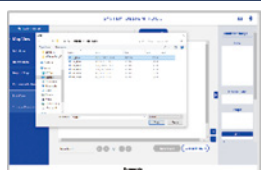
Operations Procedure

1. Access/Log-in



- Main Page
- User Registration*1
- Log-in*2
- Create New Project
- Edit Saved Project*2

2. Map Import



- Map Import/Floor Plan
- Scale Adjustment
- Set Unit of Length (meter or feet)
- Set Initial Height

3. Camera Placement



- Camera Placement
- Select Camera
- Parameter Adjustment
- Adjust Viewing Angle and Object Distance
- Export Plan as Image

Repeat the steps above until completion.

4. Listing/Calculation



- Camera List View
- Export List View
- Storage Calculation
- Recorder Calculation
- Export Calc. Result
- Save Project*2

*1 Required for saving projects. *2 Save/edit created project is available only while signed-in.

i-PRO Configuration Tool

https://security.panasonic.com/training_support/design_tools/iCT/



Introduction

i-PRO Configuration Tool is designed to efficiently configure network camera and disk recorder settings through a computer.

Features

- **Network settings**
Batch processing sets the IP address of many devices at one time.
- **Camera settings**
The tool enables to batch camera settings.
- **Inspection Report**
The camera installation and settings report can be output with a single click.
- **Maintenance**
The tool will automatically determine if the version of the device is up-to-date. All you have to do is specify download and installation.



Trademarks and registered trademarks

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- iPad and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries.
- Android is a trademark of Google LLC.
- All other trademarks identified herein are the property of their respective owners.

Important

- Safety Precaution : Carefully read the Basic Information, Installation Guide and Operating Instructions before using this product.
- Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.
- The same catalog is provided for all countries. Some accessories may not be available in some countries.

Security Cautions

- When using the products in this catalog, take appropriate measures to avoid the following security breaches:
 - Disclosure of private information via the products.
 - Unauthorized use of products by a third party.
 - Interference or suspension of use of products by third party.

- All pictures are simulated.
- Design and specifications are subject to change without notice.

Panasonic®

Panasonic Corporation

Panasonic i-PRO Sensing Solutions Co., Ltd.

<https://ipro.panasonic.com>

<https://security.panasonic.com>

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