

# Panasonic

BUSINESS



**i-PRO**  
EXTREME

**NETWORK**  
SWITCH

Business  
Communications  
Server

**EXTREME  
Visibility**

**EXTREME  
Compression**

**EXTREME  
Data Security**

**EXTREME  
Reliability**

**i-PRO  
EXTREME**

**EXTREME  
Analytics**

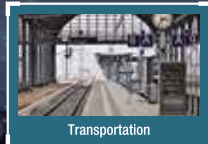
**Extreme performance under Extreme conditions**

**ACTIVE SENSING**

Capture data with  
strong sensing devices

**ACTIVE ANALYTICS**

Transform DATA  
into INFORMATION



# EXTREME Visibility

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

## Intelligent Auto Mode (iA)



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

Auto Scene Detection
+
Parameter Settings
Applications: City safety, traffic, transportation

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

## Color Night Vision



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

**Applications:** City safety, ports, perimeter security

Ordinary Camera 0.6 lx	Color Night Vision 0.6 lx

## 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.

<b>Coated areas are resistant to water droplets</b>	<b>Coated areas are resistant to dirt</b>	<b>IR Surveillance in the Rain</b>	
Non-coated	ClearSight coated	Non-coated	ClearSight coated
		Non-coated	ClearSight coated

# EXTREME Compression

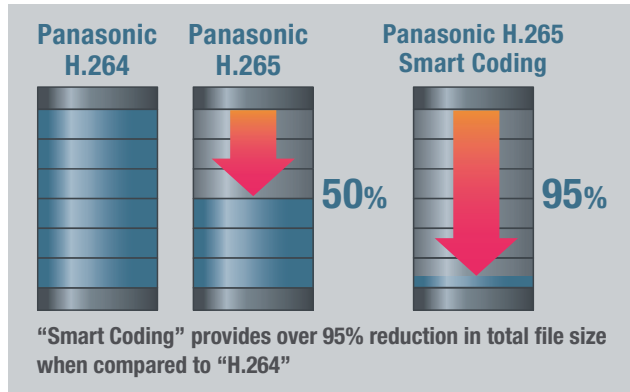
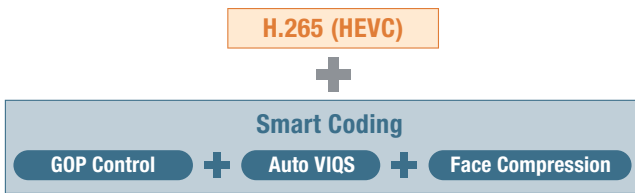
**Compression of high-resolution image data is used to reduce network bandwidth, data storage, and server load costs, while maintaining high quality.**

## 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.

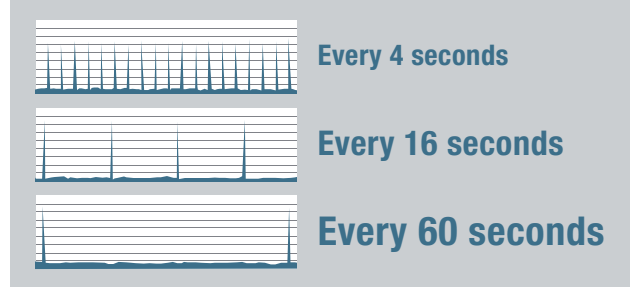
\*Value in Advanced mode with Smart Facial Coding. It depends on the scene.



### GOP Control

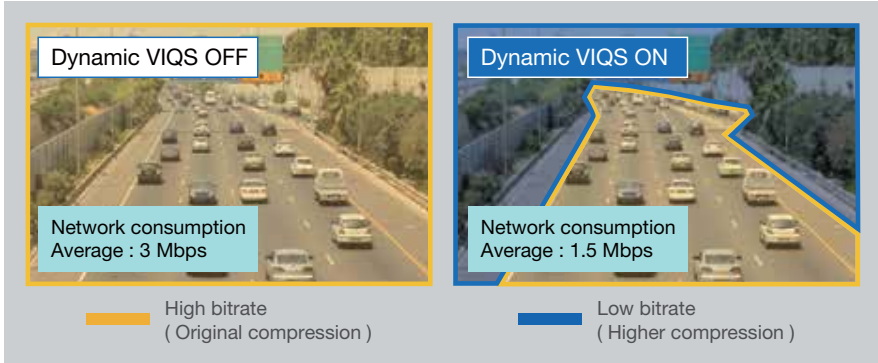
The GOP (group of pictures) control can reduce the total transmitted data of images with little motion by controlling the transmission interval of I-Frame, which is heavy in data.

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



### Auto VIQS

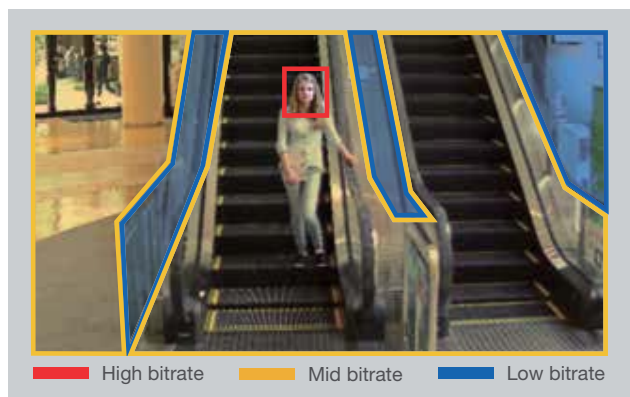
Auto VIQS detects movement within the image and compresses areas with little motion to reduce transmitted data while maintaining the quality of the image.



### 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



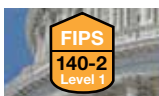
##### End-to-End Data Encryption

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



##### Pre-installed Symantec Device Certification

- Communication encryption
- Video tampering detection



##### FIPS140-2 Level 1 CAVP\* compliant

(Federal Information Processing Standardization)

- For federal/public safety usage

\*Evaluated by WV-TW370P



## 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

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

### Rainwater Protection



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

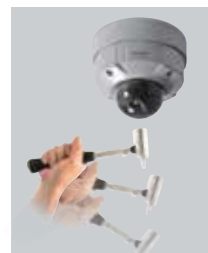


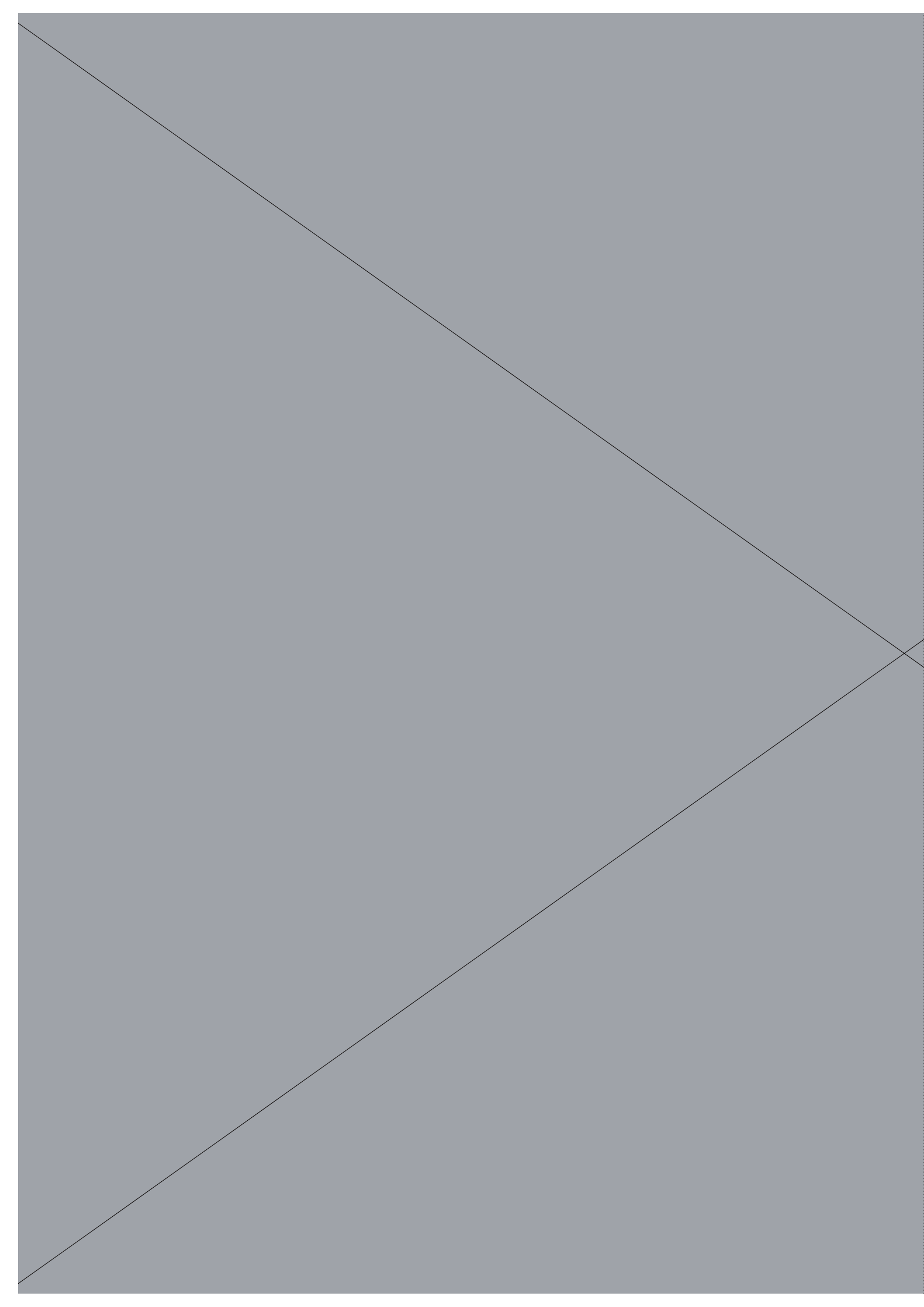
When installed in locations that are prone to vandalism and tampering, measures are required for preventing damage to the camera.



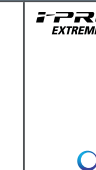


Models featuring the Vandal Resistant mechanism are ideal for installation in these types of locations.

#### 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.










Indoor / Outdoor		Outdoor				
Model Name		WV-SUD638	WV-X6531N	WV-X6511N	WV-S2131L	WV-S2111L
Appearance						
Sensor		1/3 MOS	1/2.8 MOS	1/2.8 MOS	1/3 MOS	1/3 MOS
Codec and Transmission	Video Codec	H.264 / JPEG	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	4
	JPEG multi stream	3	3 (Variable)	3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264 : VBR / AVBR (Advanced VBR)	VBR / AVBR	VBR	VBR	VBR	VBR
	Smart Coding	Yes	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	1920 x 1080	1920 x 1080	1280 x 720	1920 x 1080	1280 x 720
	4 : 3	1280 x 960	2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.265 / H.264	60fps (1080p)	60fps (1080p)	60fps (720p)	60fps (1080p)	60fps (720p)
	JPEG	60fps (1080p)	30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Super Dynamic	Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Color/BW		Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		Auto Focus	Auto Focus	Auto Focus	ABF	ABF
Min. Illumination	Color	0.06 lx @F1.6	0.015 lx @F1.6	0.011 lx @F1.6	0.012 lx @F1.6	0.008 lx @F1.6v
	Color (Sens up)	0.004 lx (16x)	0.001 lx (16x)	0.0007 lx (16x)	0.0008 lx (16x)	0.0005 lx (16x)
	B/W	0.02 lx @F1.6	0.006 lx @F1.6	0.005 lx @F1.6	0.0 lx @F1.6 (w/IR)	0.0 lx @F1.6 (w/IR)
	B/W (Sens up)	0.001 lx (16x)	0.0004 lx (16x)	0.0003 lx (16x)	—	—
Lens		f = 4.3 to 129 mm, F1.6 Motorized	f = 4.25 to 170 mm, F1.6 Motorized	f = 4.25 to 170 mm, F1.6 Motorized	f = 2.8 to 10 mm, F1.6 Motorized	f = 2.8 to 10 mm, F1.6
Angular field of view	16 : 9	H : 2.3 to 64 deg. V : 1.3 to 38 deg.	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 : 30 to 109 deg. V : 17 to 58 deg.	H : 30 to 110 deg. V : 17 to 59 deg.
	4 : 3	H : 1.8 to 50 deg. V : 1.3 to 38 deg.	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 : 25 to 90 deg. V : 19 to 65 deg.	H : 25 to 90 deg. V : 19 to 66 deg.
Pan	Range	Endless	Endless	Endless	-240 to +120 deg.	-240 to +120 deg.
Tilt	Range	Upright : -45° to +90°, Forward tilt : -90° to +90° Hanging : +30° to -90°	-15 to +195 deg.	-15 to +195 deg.	-30 to +85 deg.	-30 to +85 deg.
Optical Zoom		30x (45x with Extra Zoom at HD)	40x	40x	3.6x	3.6x
Digital Zoom		4x	16x	16x	4x	4x
Image Stabilizer		Yes (Hybrid)	Yes	Yes	Yes	Yes
Corridor Mode		—	—	—	Yes	Yes
iA (Intelligent Auto)		—	Yes	Yes	Yes	Yes
VMD (Video Motion Detection)		Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/optional extension software)		—	Yes (Type4)	Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS		Yes (8-areas)	Yes (8-areas)	Yes (8-areas)	—	—
Max. Connection		14	14	14	14	14
Audio	In (Line) / Out	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes
	In (Built-in MIC)	—	—	—	—	—
	Codec	G.711 / G.726 / AAC	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) (*2)	Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*3)	Yes (3) (*3)
Monitor Out		—	—	—	Yes (mini jack)	Yes (mini jack)
Vandal Resistant		IK10	IK10	IK10	IK10	—
Water and Dust Resistance		IP66 / IP67 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	—	—
Temperature		-50 to +60 deg. (*3) (AC100 to 240 V) -30 to +60 deg. (*3) (PoE) (*4)	-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+)	-10 to +50 deg.	-10 to +50 deg.
Power Source		100 to 240 V AC / PoE Injector	24 V AC / PoE+ / PoE injector	24 V AC / PoE+ / PoE injector	12 V DC / PoE	12 V DC / PoE
Dehumidification device		Yes	Yes	Yes	—	—
Other Functions		Optional IR LED, Built-in wiper and defroster, ISO14993(Salt damage resistance)	Easy setup package, Built-in heater, ClearSight coating,	Easy setup package, Built-in heater, ClearSight coating	Easy setup package, Built-in IR LED	Easy setup package, Built-in IR LED

(\*1) : Only for SD REC (\*2) : Alarm In1(Black & White In), Alarm In2(Alarm Out), Alarm In3(AUX Out) (x1 for each) (\*3) : Natural Silver model only. Gray & Brown model up to +55deg. (\*4) : Tested PoE injector

# Network Camera Comparison chart

# Box

Indoor / Outdoor		Outdoor				
Model Name		WV-X4170	WV-S1531LN	WV-S1511LN	WV-S1131	WV-S1111
Appearance		 <b>NEW</b> ONVIF   S   G	 ONVIF   S   G	 ONVIF   S   G	 Lens not included ONVIF   S   G	 Lens not included ONVIF   S   G
Sensor		1/2 MOS	1/3 MOS	1/3 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 / JPEG
	H.265 / H.264 multi stream	2	4	4	4	4
	JPEG multi stream	2	3 (Variable)	3 (Variable)	3 (Variable)	3 (Variable)
	H.265 / H.264 : VBR / AVBR (Advanced VBR)	VBR	VBR	VBR	VBR	VBR
	Smart Coding	Yes	Yes	Yes	Yes	Yes
Max. Resolution	16 : 9	2560 x 1440	1920 x 1080	1280 x 720	1920 x 1080	1280 x 720
	4 : 3	2560 x 1920 2992 x 2992 (1 : 1)	2048 x 1536 (*1)	1280 x 960	2048 x 1536 (*1)	1280 x 960
Max. FPS @Max. Resolution	H.265 / H.264	30fps (9 MP)	60fps (1080p)	60fps (720p)	60fps (1080p)	60fps (720p)
	JPEG	30fps (9 MP)	30fps (3 MP)	30fps (1.3 MP)	30fps (3 MP)	30fps (1.3 MP)
Super Dynamic / WDR / BLC		Super Dynamic	Enhanced SD	Enhanced SD	Enhanced SD	Enhanced SD
Color/BW		Day/Night (Electrical)	Yes (ICR)	Yes (ICR)	Yes (ICR)	Yes (ICR)
ABF (Auto Back Focus) / Auto Focus / Focus Assist		ABF	ABF	ABF	ABF	ABF
Min. Illumination	Color	0.3 lx @F1.9	0.015 lx @F1.7	0.008 lx @F1.6	0.01 lx @F1.4	0.007 lx @F1.4
	Color (Sens up)	0.02 lx (16x)	0.001 lx (16x)	0.0005 lx (16x)	0.0007 lx (16x)	0.0005 lx (16x)
	B/W	0.04 lx @F1.9	0.0 lx @F1.7 (w/IR)	0.0 lx @F1.6 (w/IR)	0.004 lx @F1.4	0.003 lx @F1.4
	B/W (Sens up)	0.0025 lx (16x)	—	—	0.0003 lx (16x)	0.0002 lx (16x)
Lens		f = 1.4 mm, F1.9	f = 9 to 21 mm, F1.7 Motorized	f = 2.8 to 10 mm, F1.6	CS Mount	CS Mount
Angular field of view	16 : 9	—	H : 14 to 34 deg. V : 8 to 19 deg.	H : 31 to 112 deg. V : 17 to 60 deg.	—	—
	4 : 3	-5°, 0°, +5°	H : 12 to 28 deg. V : 9 to 21 deg.	H : 26 to 91 deg. V : 19 to 67 deg.	—	—
Adjusting Angle	Pan	—	-180 to +180 deg.	-180 to +180 deg.	—	—
	Tilt	—	0 to +100 deg.	0 to +100 deg.	—	—
Optical Zoom		Choose from x1, x2, x4	2.3x	3.6x	—	—
Digital Zoom		—	4x	4x	4x	4x
Image Stabilizer		—	Yes	Yes	Yes	Yes
Corridor Mode		Yes	Yes	Yes	Yes	Yes
iA (Intelligent Auto)		—	Yes	Yes	Yes	Yes
VMD (Video Motion Detection)		—	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)	Yes (4-areas)
i-VMD (Intelligent VMD) (w/optional extension software)		—	Yes (Type4)	Yes (Type4)	Yes (Type4)	Yes (Type4)
VIQS		14	—	—	—	—
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 (SDXC)	Yes	Yes	Yes	Yes
SD memory Card	Slot	Yes	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)	Yes (SDXC)
	Password & Alter Detection	Yes	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		—	IK10	IK10	—	—
Water and Dust Resistance		0 to +40 deg.	IP66 / NEMA 4X	IP66 / NEMA 4X	—	—
Temperature		PoE	-40 to +60 deg. (*4)	-40 to +60 deg. (*4)	-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		360° monitoring	Yes	Yes	—	—
Other Functions		360° monitoring	Easy setup package, Built-in heater, ClearSight coating, Built-in IR LED	Easy setup package, Built-in heater, ClearSight coating, Built-in IR LED	Easy setup package	Easy setup package

(\*1) : w/Super resolution (\*2) : Only for SD REC (\*3) : Alarm In1(Black & white input, Auto time adjustment input), Alarm In 2(Alarm Out), Alarm In 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.

# Panasonic PBXs at Work

Panasonic PBXs are being used in various places today.

Retail



Warehouse



Health Care



General Office



Hotel

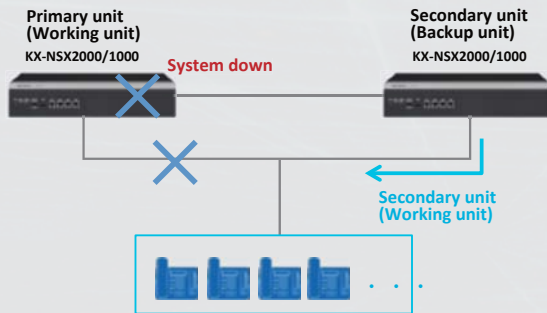


## System Redundancy at Any Type of Business

An enterprise oriented business communication server, the KX-NSX Series has redundancy and a simplified isolated mode operation feature. The price is affordable, yet stable phone operation will not disturb any business operation.

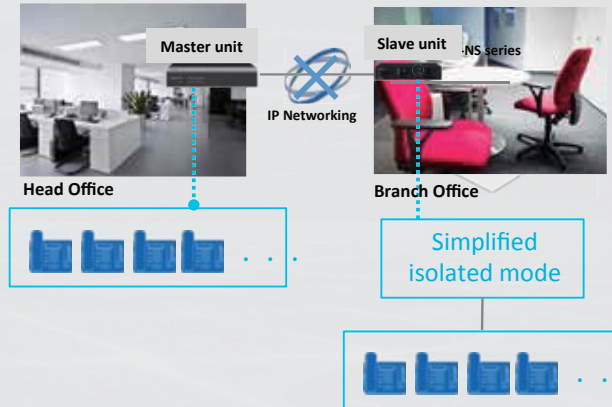
### ■ 1+1 Redundancy

When the primary unit is down, the secondary PBX will automatically maintain the connection.



### ■ Simplified Isolated Mode

When a network problem occurs between remote offices, even if communication is cut from the master, isolated communication is maintained.



'Connecting is a must' -Healthcare-



'The system must never go down' -Hotel-



'Losing connection = losing sales chance' -Retail-



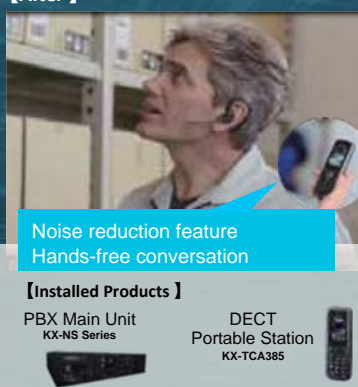
## DECT Solutions for Warehouses

Panasonic offers own brand DECT solutions. All the DECT device has the noise reduction feature, and there are 3 types of DECT that can be chosen according to the working environment.

**[Before]**



**[After]**



**Mission**

**[Needs]**

- Noisy work environment but communication is often required among staff.
- Need hands-free type of device for productivity.
- Need a tough wireless model

**Solution**

**[Benefit]**

Smoother voice communication with noise reduction feature



Standard Type

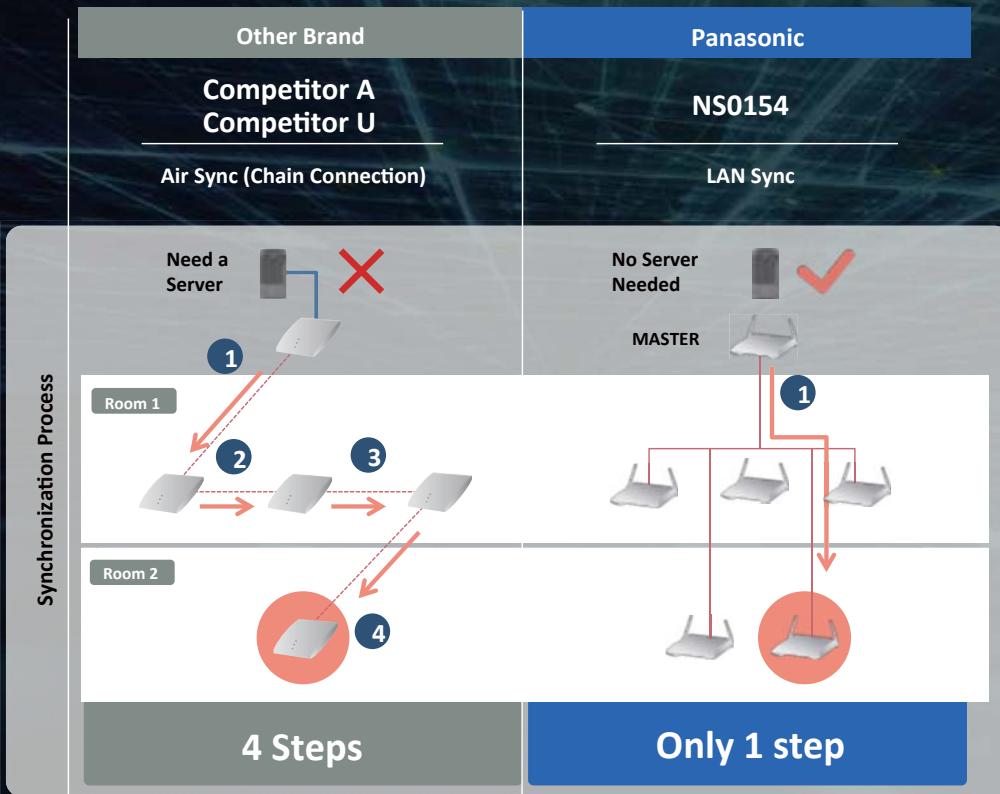
Lightweight Type (88g)

Tough Type



## DECT Solutions in Warehouses

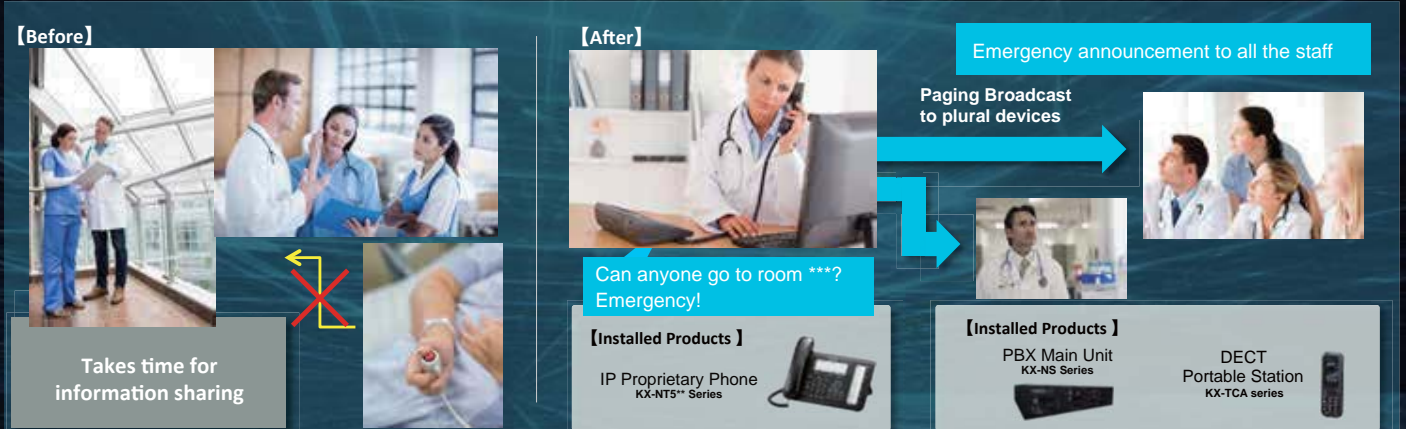
Cell station for DECT connection enables extremely easy installation, LAN synchronization.



Reduce  
Time and Cost  
for Cell Station  
Installation

## Paging (Broadcasting) System for Healthcare

Broadcasting to multiple members enables speedy information sharing for emergency cases.



### Mission

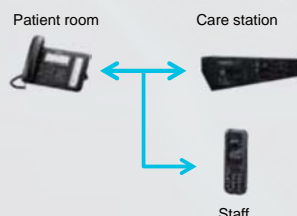
#### 【Needs】

- Sometimes there is a need to notify all of the staff in the event of an emergency.
- Need to contact the care staff in the event of an emergency, but do not know where they were

#### 【Related needs in other businesses】

- School announcement

### Solution



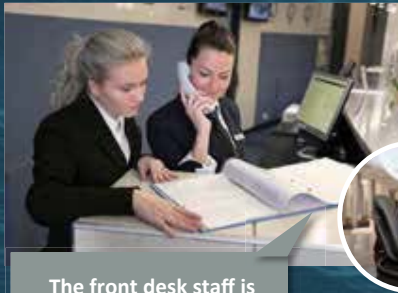
#### 【Benefit】

- The Multicast feature of the paging function can broadcast to all phones at once.
- Installing a multi cell DECT system makes it possible to provide wireless devices to all of the staff.
- Simple messages can be sent also by paging

## UC Solutions for Hotels

Unified communication among staff increases customer satisfaction in the hotel industry.

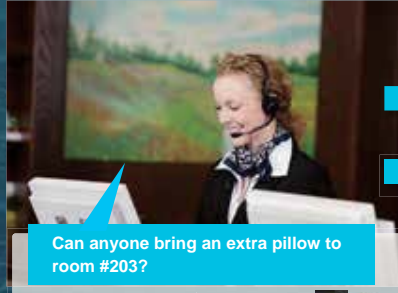
### 【Before】



The front desk staff is busy, and no one answers the call from the guest.

- The hotel guest is unhappy due to slow response to requests.

### 【After】



#### 【Installed Products】

Video Com Terminal



Phone application



#### 2 Way Communication



Communication IP Camera



#### Group Chat



Group Chat



### Mission

#### 【Needs】

- Sometimes there is a problem in that the front desk staff cannot reach the right staff because they all move around the property.

#### 【Related needs in other businesses】

- Any businesses where the employees move around, such as warehouses, car dealers, retail shops, etc.

### Solution

Front desk



2way communication



Group chat



#### 【Benefit】

- The front desk staff can check if there is anyone at the designated area, and can call and talk with the IP Camera.
- It is also possible to send a group chat with the phone application installed in the employees' smartphones.\*

\*You need to install a 3<sup>rd</sup> party phone application for this usage case.

## Monitoring Solutions in Hotels

Panasonic can uniquely offer a total line-up including cameras. Contact one vendor for property management.

### 【Before】



High cost for hotel security.

### 【After】



#### 【Installed Products】

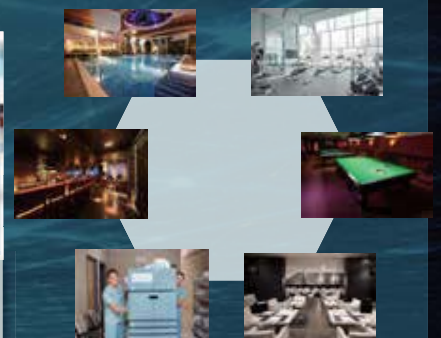
Compact IP Communication Camera

IP Video Doorphone

KX-NTV150



KX-NTV160



- Monitoring
- Motion/Voice detection available

### Mission

#### 【Needs】

- Hotel needs to provide hotel security for emergency prevention, but the cost is the crucial pain point.

#### 【Related needs in other businesses】

- Any businesses with a demand for monitoring the property from a remote site.

### Solution



#### 【Benefit】

- The property manager only needs to contact one vendor for the monitoring and communication system.
- Motion & voice detection prevents emergencies.



The KX-HDV430 can also monitor the image of high-end network camera devices from Panasonic.

# Communication and Entrance Control System for Retailers

Safety can be confirmed and conditions controlled from a distant office.

## 【Before】



There's no answer ...

- We can't communicate smoothly between our stores and the office.

## 【After】



I can smoothly contact staff wherever they are.

Unlock the Door

Contact the Warehouse



Check the Sales Floor

## Mission

### 【Needs】

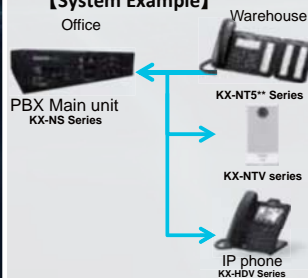
- We installed things like doorphones and security cameras separately, so they aren't connected as a system.
- We wanted to easily monitor the inside of our warehouse.

### 【Other Situations】

- Business with shipping services and warehouses
- Businesses with office wings, factories, etc.

## Solution

### 【System Example】

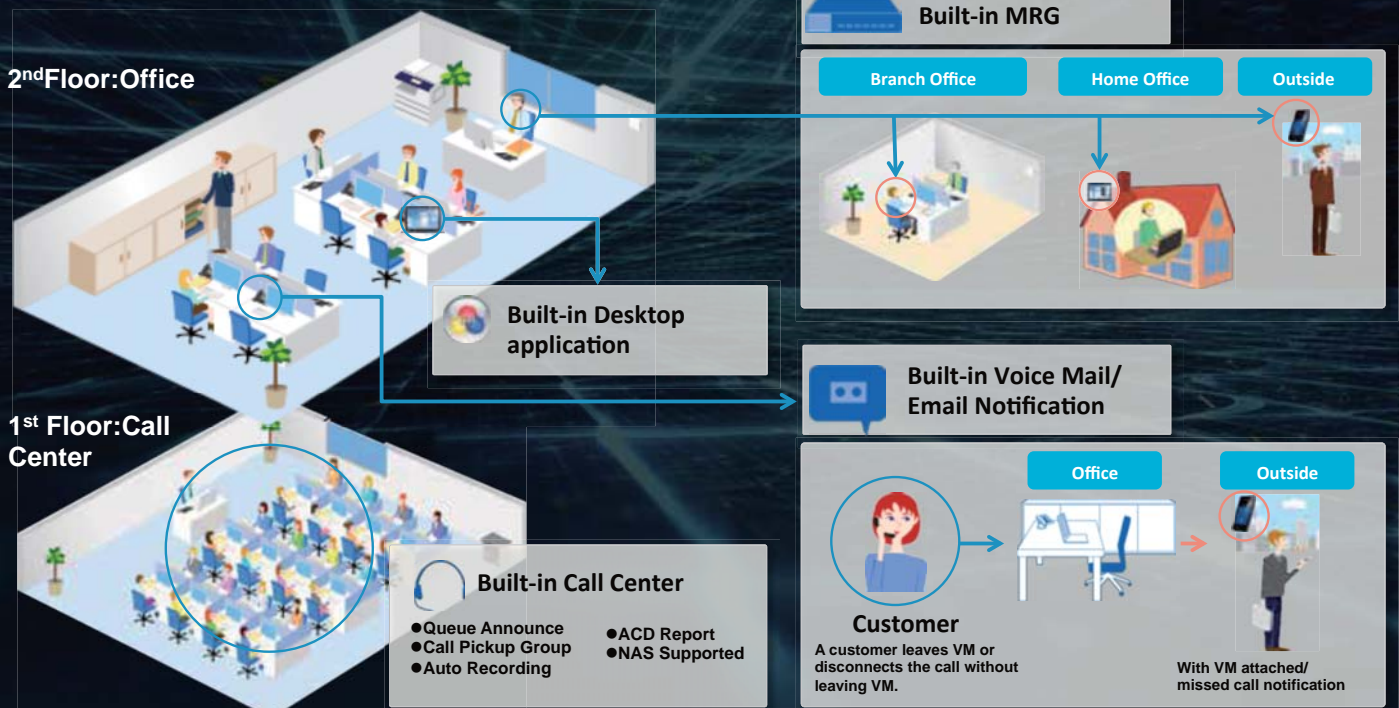


### 【Benefits】

- We were able to connect the KX-NTV160 IP Video Doorphone and KX-HDV430 for use as a doorphone with monitor. By also connecting a third-party door opener, the door can be remotely unlocked. The KX-HDV430 can also be used as a network security camera monitor.
- By installing the KX-NTV150 Communication IP Camera inside the warehouse, we're able to monitor the warehouse from the KX-HDV430 in our office. Conversation is also possible between the KX-NTV150 and KX-HDV430.

# Built-in Application Feature for Any Type of Office

The KX-NS Series has a built-in function that provides voice mail, MRG, call center, and desktop applications that require no external hardware or add-on applications.



# Network Switch



2017 vol. E-3

## Data Access Switch



Server



Network  
Peripheral  
Devices



Personal  
Computer



**ZEQUO Series**



**AS Series (Non PoE)**



**eG Series**

## PoE Switch



IP Camera



Wireless AP



IP Phone



**AS Series (PoE)**



**L Series (PoE)**

Panasonic Eco Solutions Networks Co., Ltd.

2017.12 Website for Network Devices (Check our website for the latest information!)  
[panasonic.co.jp/es/pesnw/english/](http://panasonic.co.jp/es/pesnw/english/)

- Unsurpassed Reliability from a Trustworthy Japanese Manufacturer.
- Proven track-record integrating with security network cameras.



#### High Reliability

Panasonic Network Switches are chosen by many customers in Japan and expanding a strong brand presence in the market.

#### High Product Quality

All units/ports are checked and verified in Japan to ensure product quality prior to shipping from factory.



#### Great Performance

Panasonic cameras and switches are tested in various scenarios to ensure best performances.



### Useful switch features for camera integration



#### Easy Setup (Easy IP Address Setup)

The IP addresses for both the switches and cameras can be set up simultaneously using Easy IP Address Setup Software — making configuration a snap! → p.19



#### High Durability (10 kV Surge Resistance)

Surge protection devices are installed for all UTP ports. This reduces the risk of damage from lightning strikes when delivering power to outdoor device. → p.19

\* Surge resistance is 7kV for Switch-M5eGLPWR+.



#### Works in High-temp Environments (Operating Temperature up to 50°C)

Panasonic switches support extended operating temperature up to 50°C and deliver flexibility in designing your network.



#### Swift recovery of frozen network components (PoE Automatic Reboot)

Switches automatically turn off and reboot the troubled device when there is no response. You can save time and cost for maintenance with less recovery time. (Configure this feature using the free ZEQUO Assist Plus application.) → p.19



#### Rapid detection of optical communication failures (DDM/Digital Diagnostic Monitoring)

Rapid troubleshooting is made possible by monitoring transmission and reception of optical signals. → p.18

Get the latest information on our website!

<http://panasonic.co.jp/es/pesnw/english/>

#### Enhanced product search!

- Setting Examples  
Detailed configuration examples with pictures.
- Demo movie  
Video explanations of features.
- Product Finder  
Input detailed specs to find the product you need.
- Data sheets, Pictures, FAQs and more

# Customer Reference for Security Network Camera Application

## Council for Promotion of the Shibuya New Cultural District Project

Commercial Complex

### Customer Benefits

- Minimize the investment cost by choosing the right switch based on the number of cameras for each floor of the building.
- Multicast helps build a smooth video streaming without dropped frames.
- Build redundancy between core and distribution switches to achieve a stable network when device failure occurs.



## Toyota City Hall East Building

Municipal Government

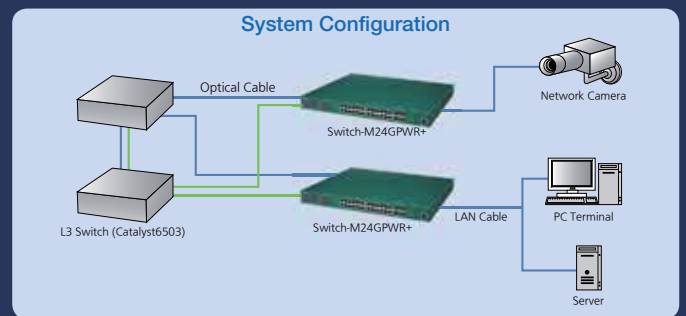
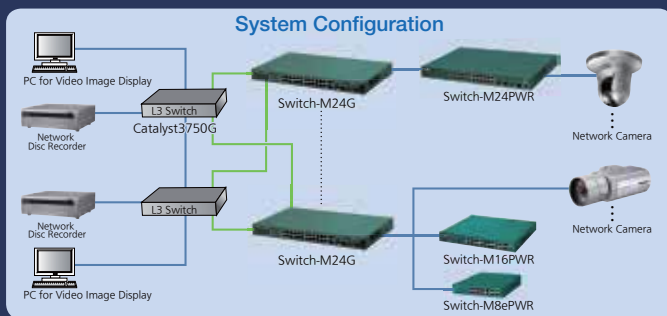
### Customer Benefits

- Low power consumption reduces both operating cost and environmental footprint
- Switch operating conditions can be monitored with temperature and fan sensors. Sending SNMP traps when there is an error allows for swift failure response.



Toyota City Hall East Building

Equipment Installed at Toyota City Hall



## Lineup of Switches

Network

PoE (Power Supply to Camera)

ZEQUO Series (L3)  
ZEQUO Series (L2)

Managed



L3 Core

Multicast  
Redundancy Stack, LAG, STP, Ring

L2 Core to Distribution

Multicast  
Redundancy LAG, STP, Ring

eG Series

Light Managed



L2 Distribution to Edge

Multicast  
Redundancy LAG

AS Series (Non PoE)

Advanced Smart



Multicast  
Redundancy LAG

L Series



Multicast  
Redundancy PoE LAG, STP, Ring  
PoE Plus, PoE  
Power distribution to outdoor devices (10 kV surge resistance)

Switch-S24GPWR



Multicast  
Redundancy PoE LAG  
PoE  
Power distribution to outdoor devices (10 kV surge resistance)

AS Series (PoE Plus Switch)



Multicast  
Redundancy PoE LAG  
PoE Plus, PoE

# L Series

PoE switch with gigabit fiber support on all ports

- IEEE802.3at (PoE Plus 30W power distribution) compatible.
- Enhanced surge resistance on the port side helps prevent surges due to lighting strikes from affecting the unit when it is connected to outdoor devices.
- The built-in SFP slot and long distance ring structure allow for flexible network construction.



**Easy Setup**  
(Easy IP Address Setup)

The IP addresses for both the switches and cameras can be set up simultaneously using Easy IP Address Setup Software. → p.19



**Swift recovery of frozen network components**  
(PoE Automatic Reboot)

Switches automatically turn off and reboot the troubled device when there is no response. You can save time and cost for maintenance. (Configure this feature using the free ZEQUO Assist Plus application.) → p.19



**Secure and energy efficient**  
(PoE Timer Application / PoE Scheduler Function)

Power delivered to IP phones or wireless LAN access points can be turned off automatically on holidays and night time. This function is not only reducing the power consumption but also prevents unauthorized use. → p.20



**High Durability**  
(10 kV Surge Resistance)

Surge protection devices are installed for all UTP ports. This reduces the risk of damage from lightning strikes when delivering power to outdoor equipment. → p.19  
\* Surge resistance is 7kV for Switch-M5eGLPWR+.


## SFP Modules



**1000BASE-SX SFP Module**

**Multi-mode optical fiber compatible**

<b>SG</b> PN54021K-SG	50/125 μm, 500 MHz-km	Max. reach 550 m
<b>TH</b> PN54021K-TH	50/125 μm, 400 MHz-km	Max. reach 500 m
<b>MY</b> PN54021K-MY	62.5/125 μm, 200 MHz-km	Max. reach 275 m
<b>ID</b> PN54021K-ID	62.5/125 μm, 160 MHz-km	Max. reach 220 m



**1000BASE-LX SFP Module**

**Single-mode optical fiber compatible Max. reach 10 km**

**Multi-mode optical fiber compatible**

<b>SG</b> PN54023K-SG	50/125 μm, 500 MHz-km	Max. reach 550 m
<b>TH</b> PN54023K-TH	50/125 μm, 400 MHz-km	Max. reach 550 m
<b>MY</b> PN54023K-MY	50/125 μm, 400 MHz-km	Max. reach 550 m
<b>ID</b> PN54023K-ID	62.5/125 μm, 500 MHz-km	Max. reach 550 m

SFP Slot Equipped

DDM

Operating Temperature  
up to 50°C

PoE Plus

## Switch-M24eGLPWR+

**SG** PN28248-SG  
**TH** PN28248-TH  
**MY** PN28248-MY  
**ID** PN28248-ID



**24**  
Port Power  
Distribution

Port configuration

10/100/1000BASE-T x 26 (24 + 2combo) Port  
SFP x 2 (2combo) Port

**185w**  
PoE  
Budget

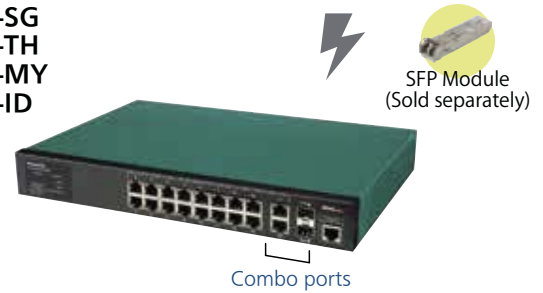
PoE Plus Power Distribution (802.3at) x 24 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

PoE Plus

## Switch-M16eGLPWR+

**SG** PN28168-SG  
**TH** PN28168-TH  
**MY** PN28168-MY  
**ID** PN28168-ID



**16**  
Port Power  
Distribution

Port configuration

10/100/1000BASE-T x 18 (16 + 2combo) Port  
SFP x 2 (2combo) Port

**185w**  
PoE  
Budget

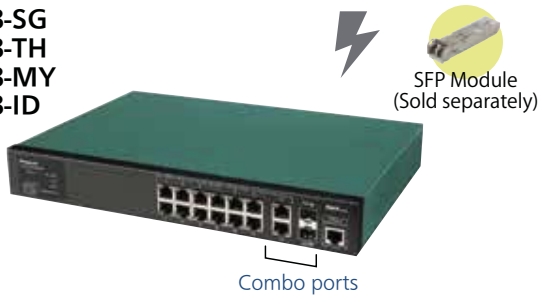
PoE Plus Power Distribution (802.3at) x 16 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

PoE Plus

## Switch-M12eGLPWR+

**SG** PN28128-SG  
**TH** PN28128-TH  
**MY** PN28128-MY  
**ID** PN28128-ID



**12**  
Port Power  
Distribution

Port configuration

10/100/1000BASE-T x 14 (12 + 2combo) Port  
SFP x 2 (2combo) Port

**185w**  
PoE  
Budget

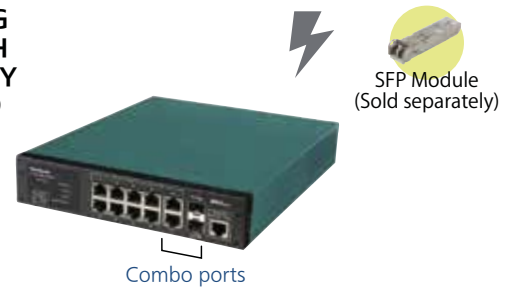
PoE Plus Power Distribution (802.3at) x 12 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

PoE Plus

## Switch-M8eGLPWR+

**SG** PN28088-SG  
**TH** PN28088-TH  
**MY** PN28088-MY  
**ID** PN28088-ID



**8**  
Port Power  
Distribution

Port configuration

10/100/1000BASE-T x 10 (8 + 2combo) Port  
SFP x 2 (2combo) Port

**124w**  
PoE  
Budget

PoE Plus Power Distribution (802.3at) x 8 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, stacking bracket, screws

PoE Plus

## Switch-M5eGLPWR+

**SG** PN28058-SG  
**TH** PN28058-TH  
**MY** PN28058-MY  
**ID** PN28058-ID



**4**  
Port Power  
Distribution

Port configuration

10/100/1000BASE-T x 6 (4 + 2combo) Port  
SFP x 2 (2combo) Port

**62w**  
PoE  
Budget

PoE Plus Power Distribution (802.3at) x 4 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, stacking bracket, screws

Features

Stack	SD card	MSTP	RSTP	STP	IGMP Snooping	Multicast Filtering	Multicast Group Registration
SNMP	QoS	Port Monitoring	VLAN	DDM	UTP Cable Diagnostic	WEB	Menu
CLI	PoE Plus	PoE	IP address	PoE Automatic Reboot	10 kV Surge Resistance*		

\* Surge resistance is 7kV for Switch-M5eGLPWR+.

# AS Series

Gigabit PoE Switch with basic features

PoE



- GA-AS4TPoE+
- GA-AS16TPoE+
- GA-AS24TPoE+
- GA-AS12TPoE+
- GA-AS48TPoE+
- GA-AS10TPoE+

Non PoE



- GA-AS4T
- GA-AS16T
- GA-AS24T
- GA-AS12T
- GA-AS48T
- GA-AS10T

192.168.XX

**Easy Setup**  
(Easy IP Address Setup)

The IP addresses for both the switches and cameras can be set up simultaneously using Easy IP Address Setup Software. → p.19



**Configuration that anyone can understand**  
(Web-based configuration)

Switches can be configured through a web browser. Configuration is easy, requiring just mouse and keyboard.

## Light Managed (PoE Switch)

All Gigabit

10 kV Surge Resistance

PoE

### Switch-S24GPWR

- SG PN25249-SG
- TH PN25249-TH
- MY PN25249-MY
- ID PN25249-ID



24  
Port Power  
Distribution

124w  
PoE  
Budget

Port configuration

10/100/1000BASE-T x 24 Port

PoE Power Distribution (802.3af) x 24 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

Features

Stack	SD card	MSTP	RSTP	STP	IGMP Snooping	Multicast Filtering	Multicast Group Registration
SNMP	QoS	Port Monitoring	VLAN	DDM	UTP Cable Diagnostic	WEB	Menu
CLI	PoE Plus	PoE	IP address	PoE Automatic Reboot	10 kV Surge Resistance		

# AS Series (PoE Plus Switch) Advanced Smart

All Gigabit

Operating Temperature up to 50°C

PoE Plus

## GA-AS48TPoE+

- SG** PN25488-SG
- TH** PN25488-TH
- MY** PN25488-MY
- ID** PN25488-ID



**48**  
Port Power Distribution

**336w**  
PoE Budget

Port configuration

10/100/1000BASE-T x 50 Port

PoE Plus Power Distribution (802.3at) x 48 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

PoE Plus

## GA-AS24TPoE+

- SG** PN25248-SG
- TH** PN25248-TH
- MY** PN25248-MY
- ID** PN25248-ID



**24**  
Port Power Distribution

**168w**  
PoE Budget

Port configuration

10/100/1000BASE-T x 26 Port

PoE Plus Power Distribution (802.3at) x 24 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

PoE Plus

## GA-AS16TPoE+

- SG** PN25168-SG
- TH** PN25168-TH
- MY** PN25168-MY
- ID** PN25168-ID



**16**  
Port Power Distribution

**112w**  
PoE Budget

Port configuration

10/100/1000BASE-T x 18 Port

PoE Plus Power Distribution (802.3at) x 16 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, 19-inch rack mount kit, screws

PoE Plus

## GA-AS12TPoE+

- SG** PN25128-SG
- TH** PN25128-TH
- MY** PN25128-MY
- ID** PN25128-ID



**12**  
Port Power Distribution

**84w**  
PoE Budget

Port configuration

10/100/1000BASE-T x 14 Port

PoE Plus Power Distribution (802.3at) x 12 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, Stacking bracket, screws

PoE Plus

## GA-AS10TPoE+

- SG** PN25108-SG
- TH** PN25108-TH
- MY** PN25108-MY
- ID** PN25108-ID



**10**  
Port Power Distribution

**70w**  
PoE Budget

Port configuration

10/100/1000BASE-T x 12 Port

PoE Plus Power Distribution (802.3at) x 10 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, Stacking bracket, screws

PoE Plus

## GA-AS4TPoE+

- SG** PN25048-SG
- TH** PN25048-TH
- MY** PN25048-MY
- ID** PN25048-ID



**4**  
Port Power Distribution

**62w**  
PoE Budget

Port configuration

10/100/1000BASE-T x 6 Port

PoE Plus Power Distribution (802.3at) x 4 Port

- Accessories : Instruction manual, power cord, rubber feet, CD-ROM, Stacking bracket, screws

### Features

Stack	SD card	MSTP	RSTP	STP	IGMP Snooping	Multicast Filtering	Multicast Group Registration
SNMP	QoS	Port Monitoring	VLAN	DDM	UTP Cable Diagnostic	WEB	Menu
CLI	PoE Plus	PoE	IP address	PoE Automatic Reboot	10 kV Surge Resistance		

## Features

Here are some of the useful features Panasonic switches offer, in addition to standard functions such as VLAN, QoS, IGMP Snooping, and Link Aggregation.



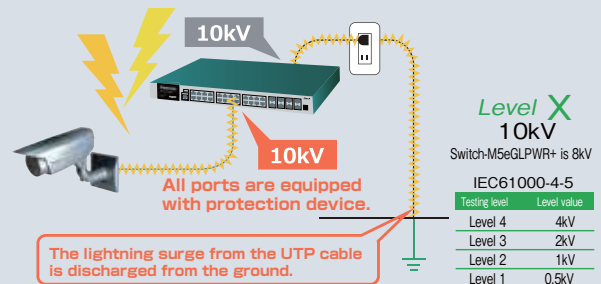
### Enhanced Surge Resistance **10 kV Surge Resistance** \* Surge resistance is 7kV for Switch-M5eGLPWR+.

PoE Plus L Series Switch-S24GPWR

Surge protection devices (SPD) are installed on all UTP ports. Lightning-induced surges from the UTP port side are diverted to ground. This results in a surge resistance of 10kV\* — 2.5 times more durable than conventional models (based on our testing methods).

Note

- \* This is not a guarantee against malfunction.
- \* Although the surge resistance of the wiring has been improved, separate surge arresters are strongly recommended on the power source and UTP port sides of the switch and port side of any PoE connected devices, as additional measures against lightning strikes.

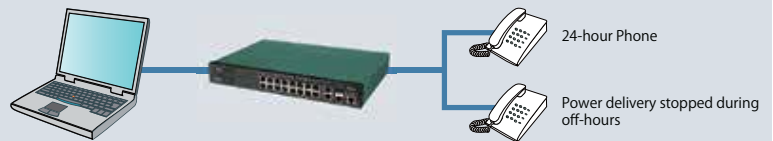


### Schedule power supply to network devices

PoE Plus L Series Switch-S24GPWR

The "PoE Timer Application" (free) lets you schedule power supply via PoE. You can save power consumption by not supplying power to devices such as IP phones and wireless LAN access points when they are not in use.

\* This is a built-in feature of the Switch-S24GPWR and PoE Plus L Series.

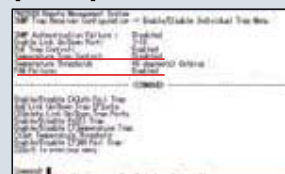


### Temperature/Fan Sensor \* The eG Series (M24/M16/M8) does not have a fan, so does not include a fan sensor.

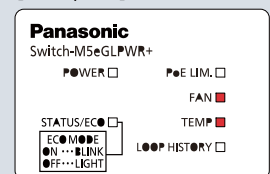
ZEQUO Series eG Series PoE Plus L Series

The temperature and fan sensor are built into the switch and sends an SNMP trap when the internal temperatures exceeds the set temperature or when the fan fails.

【Console】



【Front panel】







#### **Trademarks and registered trademarks**

##### **Security System**

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##### **Important**

- Safety Precaution: Carefully read the important 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.

##### **Network Switch**

##### **Safety Precaution**

- Please read the instruction manual before installing or operating the device. For further information, please contact your nearest Panasonic Representative or call Panasonic customer support.
- All products in this catalog are designed for indoor use only.
- For fire safety, please do not bundle power cords when devices are in use.

##### **PBX**

##### **Important**

- Please contact your nearest Panasonic dealer for the necessary information on things such as Activation Keys.
- Some models and applications are available in limited countries.
- The images shown of products display and lamps are composite images.
- Weights and dimensions are approximate.
- Design and specification subjects to change without notice.
- These products may be subject to export control regulations.

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- Design and specifications are subject to change without notice.

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