



H.265 Compact Dome Network Camera

**WV-S3532LM/S3512LM** (Outdoor Vandal Resistant Transit model)

**WV-S3531L/S3511L** (Outdoor Vandal Resistant Dome model)

**WV-S3131L/S3111L** (Indoor Dome model)

Ver. 0.90

Security Systems Business Division

Panasonic Co., Ltd.

## Compact & simple design

The compact design makes it possible to install the camera anywhere, i.e. corridors, ATMs, boutiques, trains and buses and still deliver high visibility.

Conventional  
dome camera



Compact  
dome camera



Less equipment  
volume around 60%



## Concept & Main Features

**i-PRO**  
EXTREME

New i-PRO extreme compact dome camera can be installed in areas with limited space without destroying the atmosphere of the installation site. It has impressive performance even in very challenging and fast-paced surveillance environments.

### Extreme Visibility

Wide angle monitoring

Corridor mode

High sensitivity with color night vision 

Built in IR LED

Super dynamic / intelligent Auto 



WV-S3532LM(FHD)  
WV-S3512LM(HD)  
WV-S3531L(FHD)  
WV-S3511L(HD)

### Extreme Compression

H.265 compression with new smart coding technology



### Extreme Data Security

Secure communication with Symantec certification

WV-S3131L(FHD)  
WV-S3111L(HD)

### Extreme Reliability

Vandal resistant / IP66 / Railway standard compliant



# Extreme Visibility

**i-PRO**  
EXTREME

## ✓ Wide angle monitoring

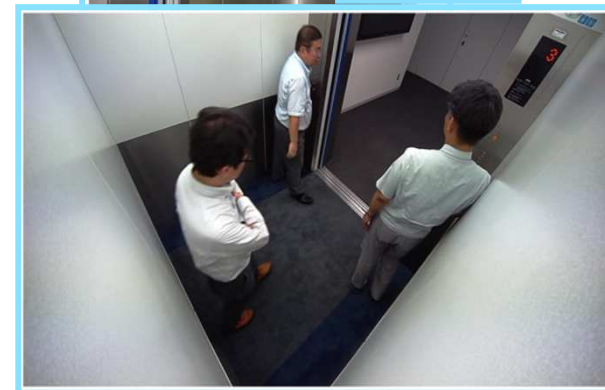
With its compact design, wide angle monitoring can be done using only one camera

Horizontal angle of view : 108 degree



Around 26 feet(8 meter) wide angle view

New i-PRO extreme camera WV-S3131L



Even in places of limited space such as lifts the camera is still able to minimize blind spots.

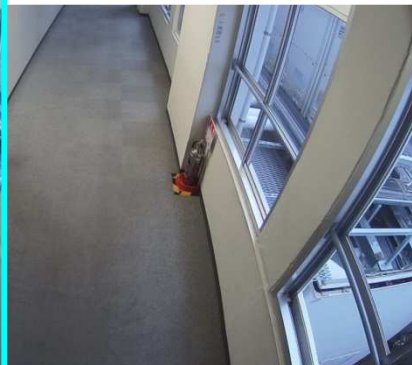
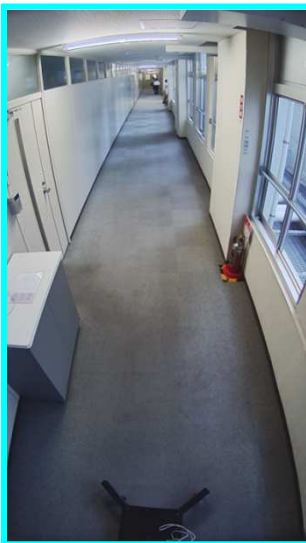
# Extreme Visibility

**i-PRO**  
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## ✓ Corridor mode

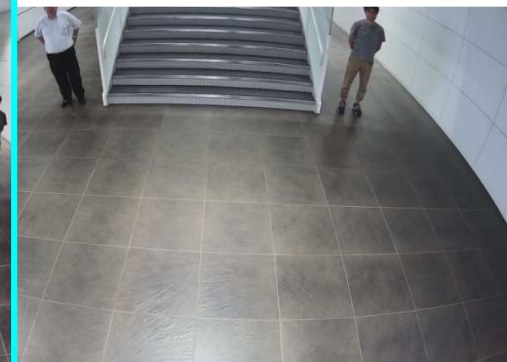
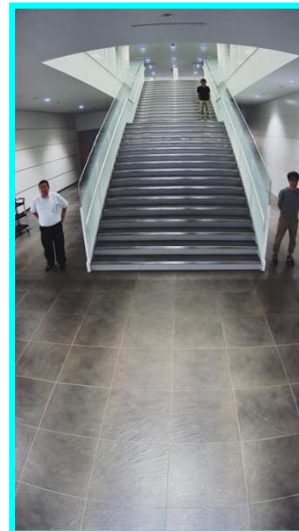
Monitoring can be made suitable for corridors, aisles, etc. by setting the image to be monitored at an aspect ratio of 9:16.

Corridor mode



In corridor

Corridor mode



Stairs in the lobby

New i-PRO extreme camera WV-S3131L

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# Extreme Visibility

**i-PRO**  
EXTREME

## ✓ High sensitivity with color night vision

It shows clear color images in low light condition at night time

An image by smart phone



WV-SFN130



New i-PRO Extreme camera

WV-S3131L



Under 0.85 lux lighting environment



# Extreme Visibility

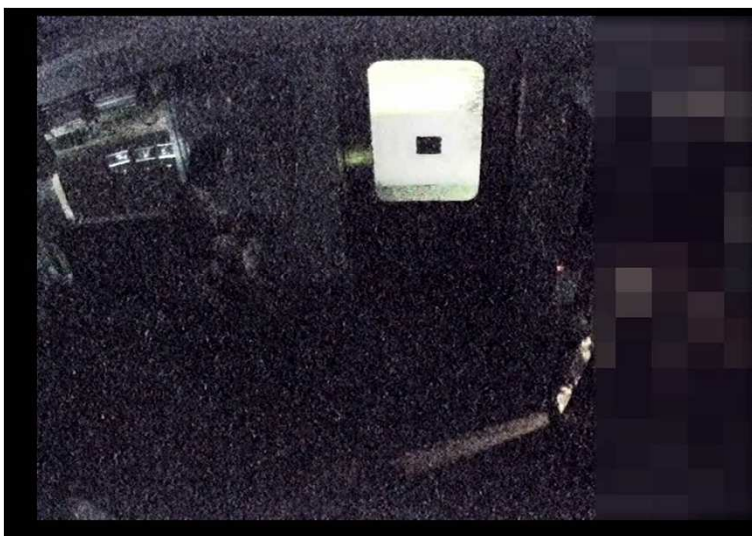
**i-PRO**  
EXTREME

## ✓ Built in IR LED

Enables to visible objects with built-in IR LED in even 0 lux condition

i-PRO smart HD camera WV-SFV110M

IR OFF



New i-PRO extreme camera WV-S3511L

IR ON



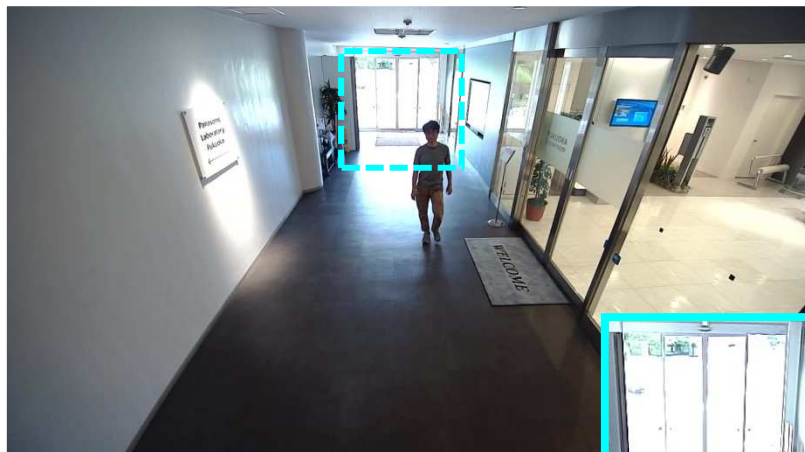
Under 0.01 lux lighting environment

# Extreme Visibility

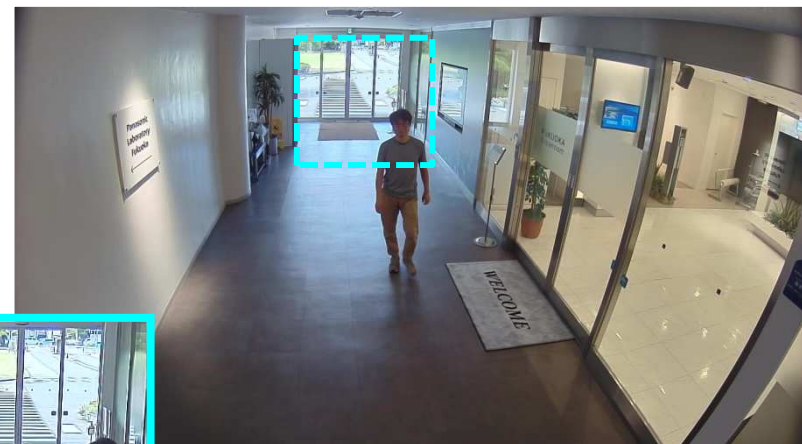
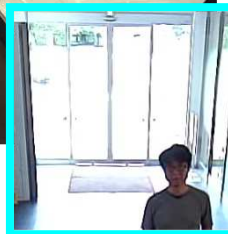
**i-PRO**  
EXTREME

- ✓ Super Dynamic 144dB(FHD model) / 134dB(HD model)

Both bright and dark area are visible by Super Dynamic function.



Super Dynamic  
OFF



Super Dynamic  
ON



New i-PRO extreme camera WV-S3131L



# Extreme Visibility

**i-PRO**  
EXTREME

## ✓ Intelligent Auto **iA**

iA-Intelligent Auto monitors scene dynamics and motion to adjust key camera settings automatically in real-time reducing distortion such as motion blur on moving objects.

i-PRO smart HD camera WV-SFV110M

New i-PRO extreme camera WV-S3511L

iA OFF

iA ON



# Extreme Compression

**i-PRO**  
EXTREME

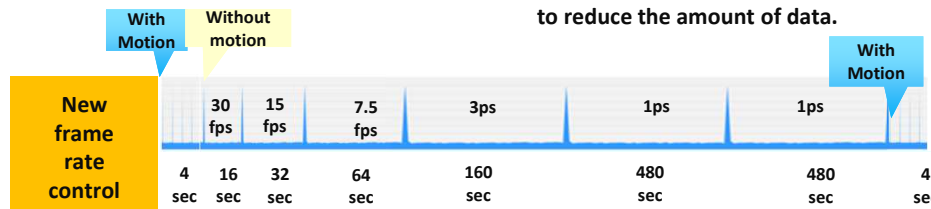
## ✓ H.265 compression with new smart coding technology

### GOP control

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



I-frames are thinned down to reduce the amount of data.



### Auto-VIQS

Automatically determines areas with and without motion and reduce the data volume of those without motion. It has built in "Smart Facial Coding" which detects faces at high quality.



Mid. bit rate (Original compression)

Bit rate reduction

Conventional  
H.264



i-PRO extreme  
H.265 + Smart coding  
**Max.95%**  
Value in bit rate depends on scene

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# Extreme Data Security

**i-PRO**  
EXTREME

## ✓ Secure communication with Symantec certification



### Vulnerability Assessment

- 3<sup>rd</sup> party assessment and penetration tests made to achieve higher security standards



### Symantec Device Certification

- Pre-installed Symantec Certification
- Video tampering detection



### End-to-End Data Encryption

- Support full encryption communication
- Camera encryption recording on-the-edge



### FIPS140-2 Level 1 CAVC compliant

(Federal Information Processing Standardization)

- For federal/public safety usage



# Extreme Reliability



Achieve high endurance and long life usage under extreme conditions

■ Dustproof Test



■ High-Temperature Test



■ Pressure Test



■ Earthquake Test



■ Waterproof Test



■ Lifetime Test



■ Thunder Test



■ Static Electricity Test



■ Drop Test



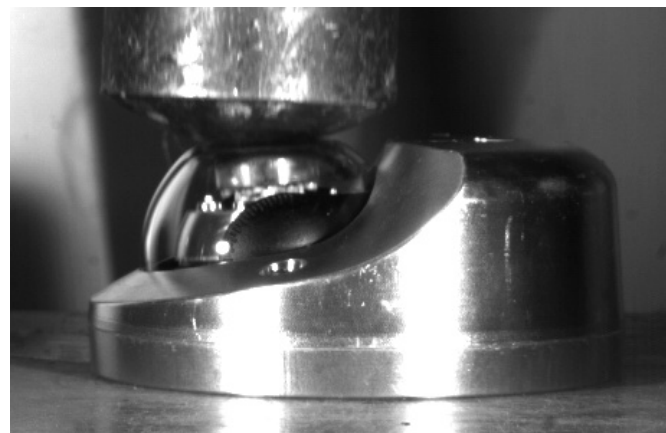
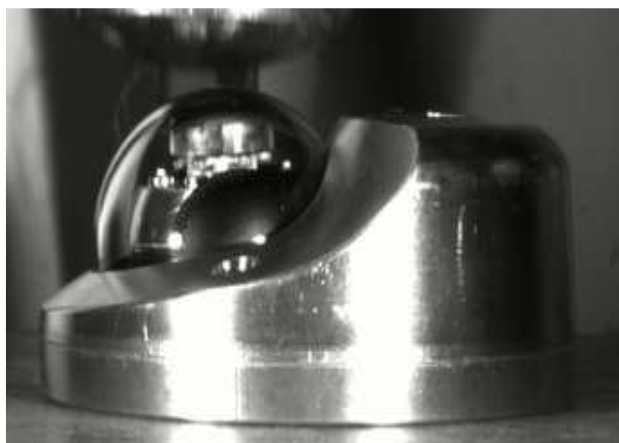
■ Box Shaking Test



# Extreme Reliability

**i-PRO**  
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- ✓ Vandal resistant (IK10) under challenging environments



**Vandal resistant test**



# Extreme Reliability

**i-PRO**  
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## ✓ Compatible to transit applications

It is robust enough for moving vehicles such as buses and trains to achieve stable monitoring.



**WV-S3532LM(FHD)**  
**WV-S3512LM(HD)**



- Vandal resistant (IK10)
- Railway application  
EN50155, IEC62236-3-2
- Fire safety on rolling stock  
EN45545-2 compliant, NFPA130

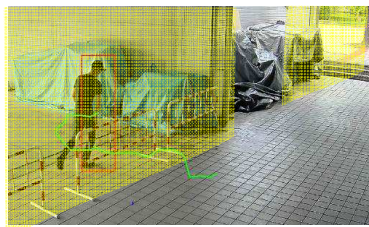


# Optional Intelligent VMD

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Detect various abnormal behavior of person by Optional intelligent VMD (i-VMD) software WV- SAE200

**Intruder detection**  
detects people or cars  
trespassing in restricted areas.



**Loitering detection**  
detects people who has loitered  
for too long in the area.



**Direction detection**  
detects people or cars that go  
the wrong direction.



**Scene change detection**  
detects tampering with the  
camera view.



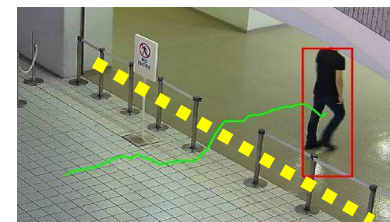
**Object detection (left)**  
detects something left behind that  
shouldn't be there.



**Object detection (removed)**  
detects objects disappearing that  
should be present.



**Cross line detection**  
detects people or objects crossing  
the imaginary lines.



# Specifications – Outdoor vandal resistant transit models

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		WV-SFV110M (HD)	WV-S3512LM (HD)	WV-SFV130M (FHD)	WV-S3532LM (FHD)
Image sensor			1 / 3 type CMOS		
Video codec		H.264, JPEG	H.264, H.265, JPEG	H.264, JPEG	H.264, H.265, JPEG
Max. video resolution (pixel)		16:9 : 1280 x 720, 4:3 : 1280 x 960		16:9 : 1920 x 1080, 4:3 : 2048 x 1536 (Super resolution)	
Max. frame rate		30 fps	16:9 : 60 fps, 4:3 : 30 fps	30 fps	16:9 : 60 fps, 4:3 : 30 fps
Minimum Illumination *Shutter speed 1/30s	Color	0.04 lx @ F2.3	0.02lx @F2.3	0.1lx @F2.3	0.03lx @F2.3
	B/W	0.03lx @ F2.3	0.01lx @F2.3, 0 lx @ IR	0.08lx @F2.3	0.015lx @F2.3, 0 lx @ IR
Angular Field of View *16:9 mode	Horizontal	16:9 : 100° , 4:3 : 100°	16:9 : 97° , 4:3 : 97°	16:9 : 108° , 4:3 : 89°	16:9 : 108° , 4:3 : 89°
	Vertical	16:9 : 55° , 4:3 : 73°	16:9 : 54° , 4:3 : 72°	16:9 : 60° , 4:3 : 66°	16:9 : 60° , 4:3 : 66°
WDR		Super Dynamic (120dB)	Super Dynamic (134dB)	Super Dynamic (120dB)	Super Dynamic (144dB)
Intelligent Auto		--	Yes	--	Yes
Corridor mode		--	Yes	--	Yes
ICR / IR LED		-- / --	Yes / Yes(15m)	-- / --	Yes / Yes(15m)
Built in microphone			Yes		
SD memory card slot		1slot (SDXC/SDHC/SD)	1slot (microSDXC/SDHC/SD)	1slot (SDXC/SDHC/SD)	1slot (microSDXC/SDHC/SD)
M12 connector / Railway standard			Yes / EN50155 : 2017 Class OT2/ST2 (EN 50155 : 2007 Class TX), IEC62236-3-2		
Secure communication		--	FIPS 140-2 Level 1 compliant	--	FIPS 140-2 Level 1 compliant
Environmental			IP66, IK10		
Power Source / Ambient Operating Temperature			PoE / -40° C ~ +60° C (-40° F ~ +140° F)		
Dimension (mm)		ø109 mm x 70 mm (H)	ø109 mm x 53 mm (H)	ø109 mm x 70 mm (H)	ø109 mm x 53 mm (H)

# Specifications – Outdoor vandal resistant models



		WV-SFV110 (HD)	WV-S3511L (HD)	WV-SFV130 (FHD)	WV-S3531L (FHD)
Image sensor			1 / 3 type CMOS		
Video codec		H.264, JPEG	H.264, H.265, JPEG	H.264, JPEG	H.264, H.265, JPEG
Max. video resolution (pixel)		16:9 : 1280 x 720, 4:3 : 1280 x 960	16:9 : 1920 x 1080, 4:3 : 2048 x 1536 (Super resolution)		
Max. frame rate		30 fps	16:9 : 60 fps, 4:3 : 30 fps	30 fps	16:9 : 60 fps, 4:3 : 30 fps
Minimum Illumination *Shutter speed 1/30s	Color	0.04 lx @ F2.3	0.02lx @F2.3	0.1lx @F2.3	0.03lx @F2.3
	B/W	0.03lx @ F2.3	0.01lx @F2.3, 0 lx @ IR	0.08lx @F2.3	0.015lx @F2.3, 0 lx @ IR
Angular Field of View *16:9 mode	Horizontal	16:9 : 100° , 4:3 : 100°	16:9 : 97° , 4:3 : 97°	16:9 : 108° , 4:3 : 89°	16:9 : 108° , 4:3 : 89°
	Vertical	16:9 : 55° , 4:3 : 73°	16:9 : 54° , 4:3 : 72°	16:9 : 60° , 4:3 : 66°	16:9 : 60° , 4:3 : 66°
WDR		Super Dynamic (120dB)	Super Dynamic (134dB)	Super Dynamic (120dB)	Super Dynamic (144dB)
Intelligent Auto		--	Yes	--	Yes
Corridor mode		--	Yes	--	Yes
ICR / IR LED		-- / --	Yes / Yes(15m)	-- / --	Yes / Yes(15m)
Built in microphone			Yes		
SD memory card slot		1slot (SDXC/SDHC/SD)	1slot (microSDXC/SDHC/SD)	1slot (SDXC/SDHC/SD)	1slot (microSDXC/SDHC/SD)
Secure communication		--	FIPS 140-2 Level 1 compliant	--	FIPS 140-2 Level 1 compliant
Environmental			IP66, IK10		
Power Source / Ambient Operating Temperature			PoE / -40° C ~ +60° C (-40° F ~ +140° F)		
Dimension (mm)		ø109 mm x 70 mm (H)	ø109 mm x 53 mm (H)	ø109 mm x 70 mm (H)	ø109 mm x 53 mm (H)

# Specifications – Indoor models

**i-PRO**  
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		WV-SFN110 (HD)	WV-S3111L (HD)	WV-SFN130 (FHD)	WV-S3131L (FHD)
Image sensor			1 / 3 type CMOS		
Video codec		H.264, JPEG	H.264, H.265, JPEG	H.264, JPEG	H.264, H.265, JPEG
Max. video resolution (pixel)		16:9 : 1280 x 720, 4:3 : 1280 x 960		16:9 : 1920 x 1080, 4:3 : 2048 x 1536 (Super resolution)	
Max. frame rate		30 fps	16:9 : 60 fps, 4:3 : 30 fps	30 fps	16:9 : 60 fps, 4:3 : 30 fps
Minimum Illumination *Shutter speed 1/30s	Color	0.04 lx @ F2.3	0.02lx @F2.3	0.1lx @F2.3	0.03lx @F2.3
	B/W	0.03lx @ F2.3	0.01lx @F2.3, 0 lx @ IR	0.08lx @F2.3	0.015lx @F2.3, 0 lx @ IR
Angular Field of View *16:9 mode	Horizontal	16:9 : 100° , 4:3 : 100°	16:9 : 97° , 4:3 : 97°	16:9 : 108° , 4:3 : 89°	16:9 : 108° , 4:3 : 89°
	Vertical	16:9 : 55° , 4:3 : 73°	16:9 : 54° , 4:3 : 72°	16:9 : 60° , 4:3 : 66°	16:9 : 60° , 4:3 : 66°
WDR		Super Dynamic (120dB)	Super Dynamic (134dB)	Super Dynamic (120dB)	Super Dynamic (144dB)
Intelligent Auto		--	Yes	--	Yes
Corridor mode		--	Yes	--	Yes
ICR / IR LED		-- / --	Yes / Yes(15m)	-- / --	Yes / Yes(15m)
Built in microphone			Yes		
SD memory card slot		1slot (SDXC/SDHC/SD)	1slot (microSDXC/SDHC/SD)	1slot (SDXC/SDHC/SD)	1slot (microSDXC/SDHC/SD)
Secure communication		--	FIPS 140-2 Level 1 compliant	--	FIPS 140-2 Level 1 compliant
Power Source / Ambient Operating Temperature			PoE / 0° C ~ +40° C (-32° F ~ +104° F)		
Dimension (mm)		ø104 mm x 47 mm (H)	ø104 mm x 51 mm (H)	ø109 mm x 70 mm (H)	ø104 mm x 47 mm (H)

# Industry examples

**i-PRO**  
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Those cameras are suitable under the extreme conditions

- ✓ Retails
  - ✓ Education
  - ✓ Bank (ATM)
  - ✓ Transit (Bus/Train)
  - ✓ Building (Corridor/lift)
- and more.



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BUSINESS

***i-PRO***  
***EXTREME***