

# 2021 CPRO SECURITY SOLUTIONS

# AI

2021 CPRO SECURITY SOLUTIONS

VER. 2011



DEEP LEARNING



4K



BUBBLE FREE



MULTI SENSOR



ELEVATOR



PTZ

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## AI Deep Learning based IVA

We formed a technology partnership with VCA, an UK leading developer of video analytic software.

This partnership will bring to the market a comprehensive range of quality cameras and other hardware, specifically designed to enhance the performance of IVA.



## Complete Security Solutions Lead the World

We are expanding its share of the North American video security market and maximizing sales growth by increasing brand power through brand operations of its U.S. subsidiary, DW(Digital Watchdog). And we are focusing on selling DW brand and OEM of big global player, and trying to find new customers such as EMEA and Asia.

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# IVA TOTAL SOLUTION



CPRO, has formed a technology partnership with VCA, an UK leading developer of video analytic software. This partnership will bring to the market a comprehensive range of quality cameras and other hardware, specifically designed to enhance the performance of IVA.

Site based server to take video stream from any IP cameras to add VCA and DL to the installation. It is a stand-alone analysis device supporting up to 1, 4, 8, and 16 channels. Supported VMS and NVR platforms.



IVA Edge

IVA Bridge

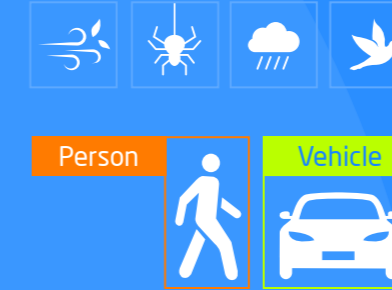
AI  
Deep Learning

IVA Server



## AI Deep learning Filter

Significant reduction in false alarms caused by site noise such as shaking leaves, spiders, rain, wild animals, moving lights. AI deep learning filter saves storage space and monitor efficiently.



Accurate Object  
Detection & Classification

Deactivation

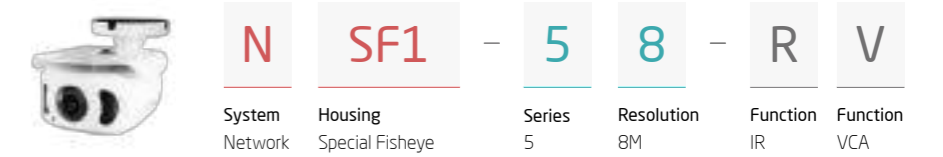
Alarm



VMS Spectrum detects and classifies objects to analyze a variety of events. The analyzed videos are stored as metadata and notifications are supported, including pop-up windows, emergency bells, and screen flashes. Also search for object size, color, and speed. It can be deployed on OS platforms such as Linux, Windows, Mac, and Android, making it easy for users to experience video analytics solutions on any device.

# NAMING RULE

Example :



## Housing

<b>VM2</b> Multi Sensor Vandal Dome PREDATOR	<b>VD11</b> MFZ Vandal Dome GENIUS	<b>VD7</b> Fixed Vandal Mini Dome SPACE V	<b>BT4</b> Vari-focal / MFZ Bullet VITUS III T
<b>VM3</b> Multi Sensor Vandal Dome SURROUND	<b>VD1</b> MFZ Vandal Dome Turret	<b>VD14</b> Fixed Vandal Mini Dome SPACE X	<b>BT3</b> Vari-focal / MFZ Bullet VITUS III
<b>VM5</b> Multi Sensor MFZ Vandal Dome SURROUND II	<b>VD2</b> MFZ Vandal Dome Turret II	<b>VD4</b> Fixed Vandal Mini Dome CORONA	<b>BT1</b> Vari-focal Bullet VITUS II
<b>SF1</b> Special Fisheye Bullet EYEVIEW	<b>NK6</b> Vari-focal / MFZ Vandal Surface Dome NUCLUS	<b>VP2</b> Vari-focal / MFZ Indoor Dome ARES	<b>BI3</b> Fixed Bullet VITUS
<b>VF2</b> Fisheye Vandal Dome Fisheye_Outdoor	<b>NK4</b> Vari-focal / MFZ Vandal Surface Dome NUCLUS_Analog	<b>NK5</b> Vari-focal / MFZ Indoor Dome KROWN_IP	<b>BI2</b> Fixed Mini Bullet FIESTO
<b>ST2</b> ToF PILLET	<b>VD5</b> Vari-focal / MFZ Vandal Dome CRONOS	<b>NK2</b> Vari-focal / MFZ Indoor Dome KROWN_Aanalog	<b>BI4</b> Fixed Bullet ??
<b>PX5</b> 30X PTZ Vandal Dome ENDLESS III	<b>VD8</b> Fixed Vandal Flat Dome SPACE IV	<b>VP3</b> Fixed Indoor Mini Dome SPACE VI	<b>CB3</b> Vari-focal Box PRAU
<b>PX7</b> 30X PTZ BLDC OVERVIEW	<b>VD9</b> Vari-focal / MFZ Vandal Flat Dome SPACE VII	<b>BT7</b> MFZ Bullet DOLCE III	<b>CB2</b> Vari-focal Box INTELLIO
<b>PX3</b> MFZ PTZ Vandal Dome Turret II	<b>VD13</b> Vari-focal / MFZ Vandal Flat Dome SPACE IX	<b>BT5</b> MFZ Bullet DOLCE II	<b>NV9</b> IVA Bridge IVA Bridge

## System

<b>N</b> Network
<b>C</b> Coaxial Analog
<b>D</b> Coaxial Digital
<b>W</b> Wi-Fi
<b>M</b> Miscellaneous

## Housing

- Dome		- Bullet	
<b>VM</b> Multi sensor		<b>BM</b> Multi sensor	
<b>VF</b> Fisheye		<b>BH</b> Thermal	
<b>NK</b> Series name		<b>BT</b> Tool	
<b>VD</b> Die-casting		<b>BI</b> Fixed	
<b>VP</b> Plastic			
- PTZ		- Box	
<b>PX</b> Zoom		<b>CB</b> Box	
<b>PR</b> Drop Ceiling			
- Special		- NVR	
<b>ST</b> Miscellaneous		<b>NV</b> NVR	
<b>SF</b> Special Fisheye			
<b>SH</b> Special Thermal			

## Chip

<b>A</b> Ambarella
<b>E</b> Eyeix
<b>H</b> Hisilicon
<b>N</b> Nextchip
<b>O</b> Miscellaneous
<b>1</b> Series 1
<b>2</b> Series 2
<b>3</b> Series 3
<b>4</b> Series 4
<b>5</b> Series 5
<b>6</b> Series 5
<b>7</b> Series 5

## Resolution

<b>0</b> 1M ↓
<b>2</b> 2M
<b>3</b> 3M
<b>4</b> 4M
<b>5</b> 5M
<b>6</b> 6M
<b>8</b> 8M
<b>12</b> 12M
<b>16</b> 16M
<b>20</b> 20M
<b>21</b> 21M
<b>32</b> 32M

## Function

<b>R</b> IR
<b>E</b> Elevator
<b>L</b> LPR
<b>Z</b> Zoom
<b>S</b> Special
<b>V</b> VCA
<b>A</b> Mic
<b>F</b> License Free

# PRODUCT LINE UP

● IP / VCA      No. : Multi Sensor  
 ● HD-ANALOG      E : Elevator  
    L : LPR

Housing	MULTI SENSOR			SPECIAL			PTZ			VANDAL DOME							
	VM2	VM3	VM5	SF1	VF2	ST2	PX5	PX7	PX3	VD11	VD1	VD2	NK6	NK4	VD13	VD9	VD8
Pro	12M				●												
	8M			●						●	●	●			●		
	5M	4		4	●					●	●	●	●			●	●
	4M		4														
	2M ↓						●	●	●	●		●				●	●
Main	4M											●				●	●
	2M										●		●	●	●	●	●
Eco	2M ↓														●	●	

● IP / VCA      No. : Multi Sensor  
 ● HD-ANALOG      E : Elevator  
    L : LPR

Housing	VANDAL DOME				INDOOR DOME				BULLET								BOX		
	VD5	VD7	VD14	VD4	NK5	NK2	VP2	VP3	BT7	BT5	BT4	BT3	BT1	BI3	BI2	BI4	CB2	CB3	
Pro	12M																		
	8M	●							●	●				●	●				
	5M	●	●		●	●	●			L			●	●		●	●		
	4M																●		
	2M ↓		E			●				●	L				●			●	
Main	4M		●																
	2M	●	●		●	●	●			●			●	●	●	●	●	●	●
Eco	2M ↓	●	●	●						●	●			●	●	●	●	●	

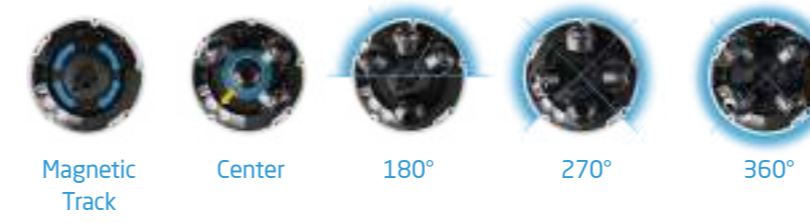
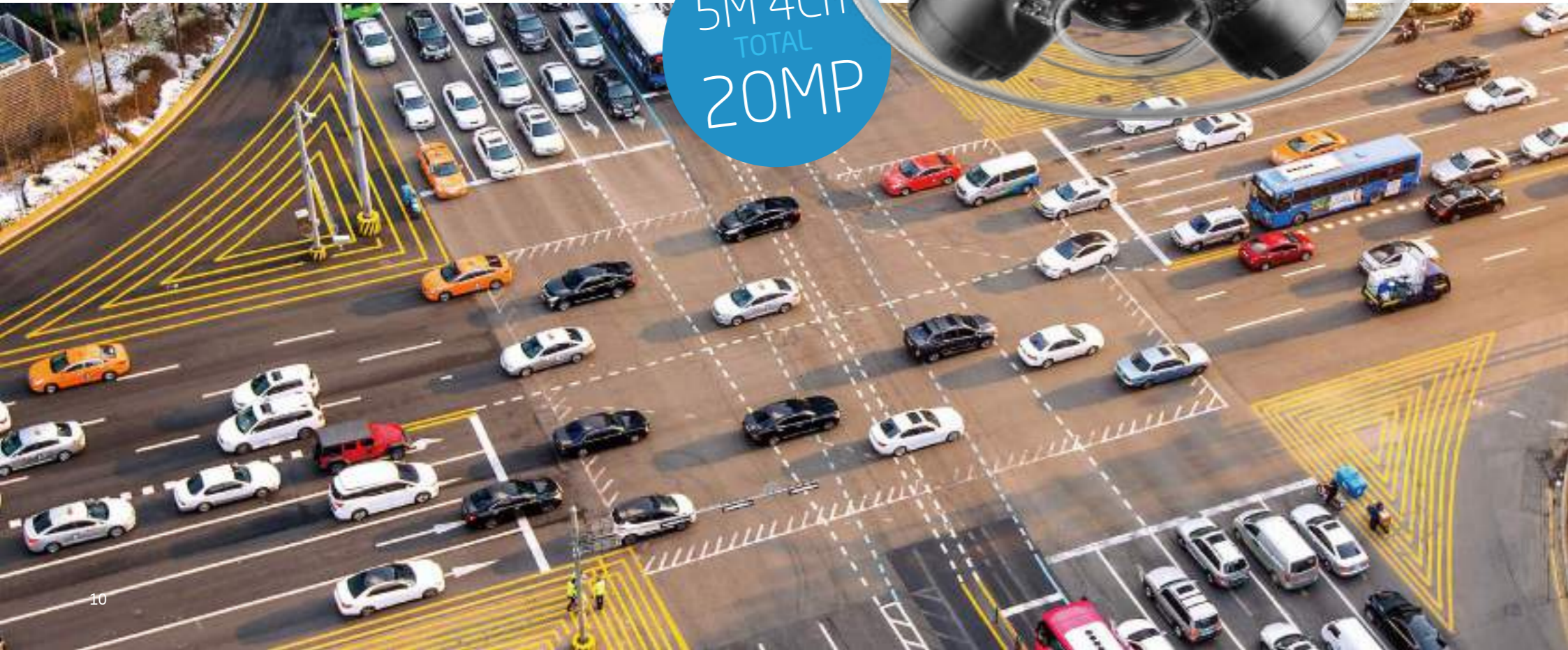
# 4 SENSOR SURROUND \_ MFZ CAMERA



NVM5-520

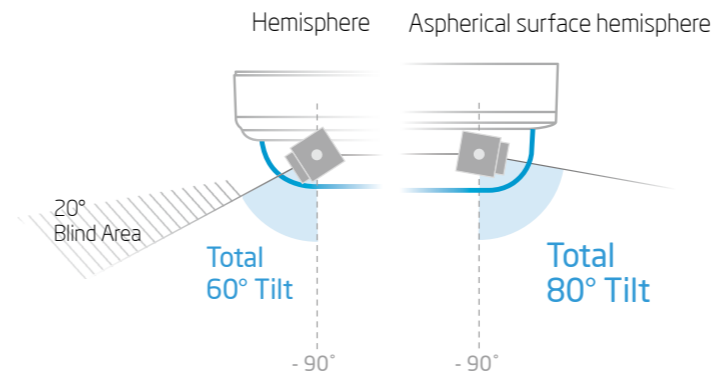


5M 4Ch  
TOTAL  
20MP



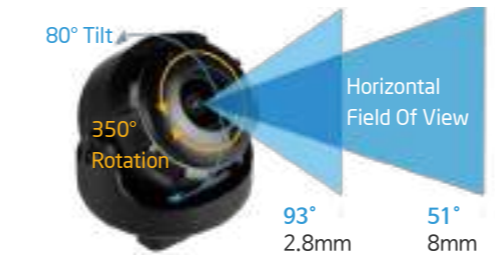
## Flexible Sensor Arrangement

Easy to arrange 4 Magnetic Sensors through the Track. You can get Vertical Top View through Center Position, and 180°, 270°, or 360° View of video.



## Extended Tilt Angle up to 80°

With Aspherical Surface Hemisphere, it can tilt up to 80° and minimize areas that are obscured.



## MFZ Lens Module

User can tilt and rotation the module whatever angle they want. And adjust the varifocal lens.

## Multi Sensor - SURROUND



	Total 20M IP Surround Dome NVM5-520	Total 16M IP Surround Dome NVM3-A16 (2.8   4.0   6.0   8.0 mm)
Image Device	1/2.8" 5.14M CMOS	1/3" 4M CMOS
Total Pixels	2592(H) x 1944(V)	2688 (H) x 1520 (V)
Focal Length	2.8~8.0mm / F1.6	2.8mm   4.0mm   6.0mm   8.0mm / F2.0
MIN.Illumination	Color : 0.11Lux / BW : 0Lux (F1.6)	Color : 0.41Lux / BW : 0.022 Lux (F2.0)
Horizontal Angle	93°~51°	90°   81°   51°   39°
Day & Night	TDN (True Day & Night)	TDN (True Day & Night)
WDR	WDR(DOL)	WDR(2x, 3x)
DNR	3D-DNR	3D-DNR
BLC	Yes	Yes
Privacy Zone	16 Programmable Zone	16 Programmable Zone
Edge Storage	SD / SDHC / SDXC	SD / SDHC / SDXC
Audio In / Out	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1
Alarm In / Out	1 Input / 1 Output	1 Input / 1 Output
Video Output	CVBS 1.0V p-p	CVBS 1.0V p-p
Power	DC 12V PoE IEEE 802.3at	DC 12V PoE IEEE 802.3at
Operating Temp	-20°C ~ 50°C	-20°C ~ 50°C
Certification	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
Dimensions (W x H)	210 x 92mm	192 x 84mm
Weight	1.9Kg	1.73Kg
Material	Aluminum	Aluminum

# 4 SENSOR PANORAMIC ULTIMATE HIGH RESOLUTION CAMERA



4CH  
TOTAL  
21MP

NVM2-A21

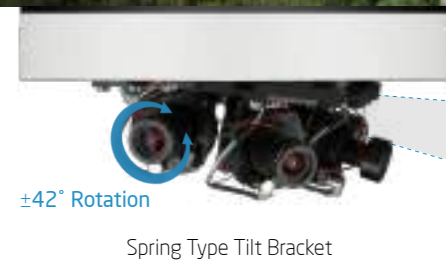
## Multi Sensor - PREDATOR



Total 21M IP  
Pano Dome  
NVM2-A21 (8.0 mm)

Image Device	1/1.8" 6.4M CMOS
Total Pixels	3096 (H) X 2080 (V)
Focal Length	8.0mm / F1.6
MIN. Illumination	Color : 0.16Lux / BW : 0.009Lux (F1.6)
Horizontal Angle	Over 180°
Day & Night	TDN (True Day & Night)
WDR	-
DNR	3D - DNR
Privacy Zone	16 Programmable Zone
Video Compression	H.264, MJPEG
Audio In / Out	1[1.0Vrms, 3K ohm] / 1
Alarm In / Out	1 Input / 1 Output
Video Output	-
Event Notification	FTP, E-mail, Alarm out, SD card
Edge Storage	SD / SDHC / SDXC
Power	DC12V PoE IEEE 802.3at
Operating Temp.	-20°C ~ 50°C
Certification	FCC, CE, ROHS, IP66
Dimensions (W x H)	192 x 108mm
Weight	1.9 kg
Materials	Aluminum

PREDATOR



±42° Rotation

Default Angle -5°

Total 15° Tilt

Max Angle -20°

### 21MP Ultimate High Resolution Camera

PTZ Camera can check the all directions you want, but there are limits to focusing on multiple directions at the same time. Our product can capture a wide area in Ultimate High Resolution and monitor various areas in the same time.

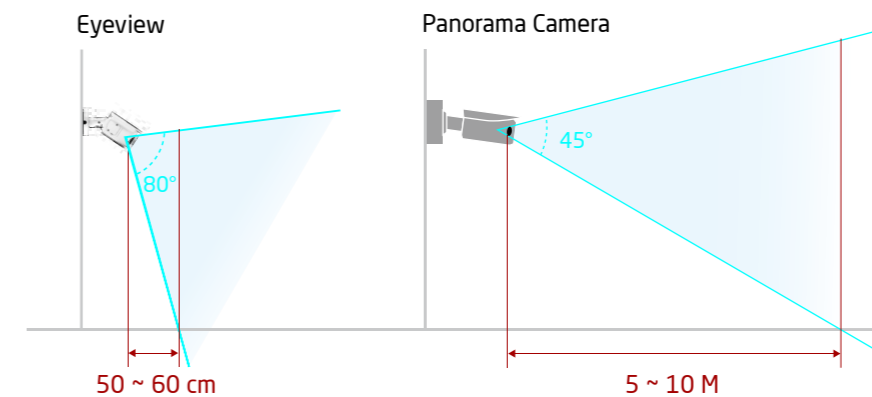
### Efficient Multiple Spot D-Zoom



# 1 SENSOR 4K EYEVIEW PANORAMIC BULLET CAMERA

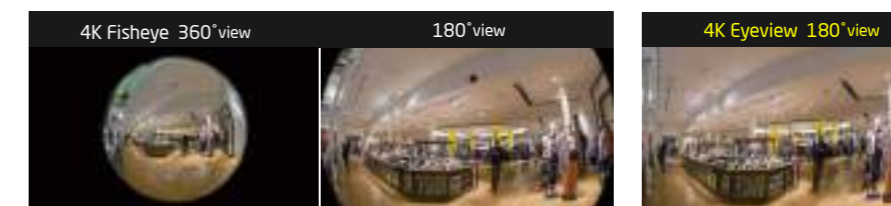


4K



Suitable for indoors installation by a focal length of at least 50 to 60cm

Compared to panoramic cameras with a focal length of at least 5 to 10m, it's much easier to install in narrow corridors or buses with the near 50 to 60cm. Also, the compact size doesn't affect interior design when installed indoors, mounts by fitting is easy to install.



## 4K 180° Panoramic Eyeview

The images output from the 4K sensor supports panoramic views with minimum distortion similar to human vision compared to Fisheye's de-warping images.

## External Control

You can control / access the Reset / 2nd Video Output / Micro SD Card from the outside.

## Special - EYEVIEW

4K



	4K IP Pano Bullet NSF1-58-R (2.3 mm)
Image Device	1/1.8" 8M CMOS
Total Pixels	3952(H) x 2320(V)
Focal Length	2.3mm / F2.8
MIN. Illumination	Color : 0.29Lux / BW : 0Lux (F2.8)
Horizontal Angle	180°
Day & Night	TDN (True Day & Night)
BLC	WDR(DOL)
DNR	3D-DNR
Privacy Zone	16 Programmable Zone
Video Compression	H.265, H.264, MJPEG
Audio In / Out	1[1.0Vms, 3K ohm] / 1
Alarm In / Out	1 Input / 1 Output
Video Output	CVBS 1.0V p-p
Event Notification	FTP, E-Mail, Alarm Out, SD Card
Edge Storage	SD / SDHC / SDXC
Power	DC 12V PoE IEEE 802.3af class3
Operating Temp.	-20°C ~ 50°C
Certification	FCC, CE, ROHS, IP67
Dimensions (W x D x H)	127.9 x 222.5 x 96.7mm
Weight	0.97Kg
Materials	Aluminum



# 360° WIDE ANGLE FISHEYE CAMERA



All CPRO's IP Cameras support the latest ONVIF version.



## 360° View Angle

With high sensitivity 12MP sensor and fisheye lens, you can get high resolution image as 360°.



**4K**  
**12MP**  
**3 IR**

## 3pcs of High Power IR LED Behind the Black IR bubble

To place IR LED behind the opaque dome to minimize the IR reflection at night.



## Different Types of View

Not only the 360° fisheye mode view, 180° panoramic mode and quartered mode are provided with S/W. It dewarps the view.

## IP66, Dust & Waterproof

Superior environment protection with its IP66 rating. The device is protected against invasive moisture, dust and even liquids. This superb environment protection is achieved through meticulous sealing and extra protective engineering.

## Special - FISHEYE

4K

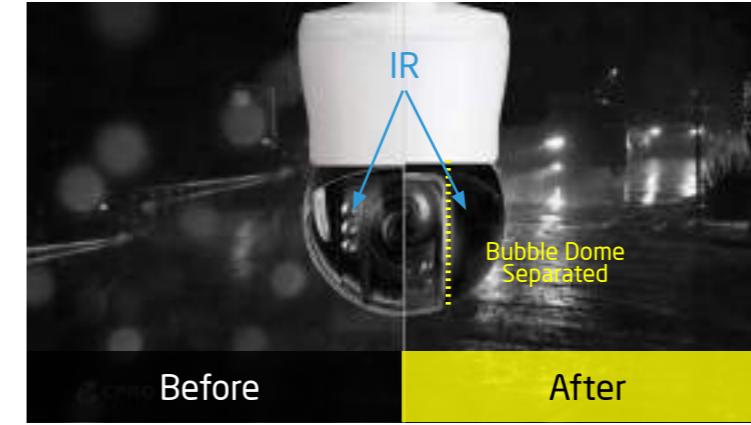


	12M IP Fisheye Dome NVF2-512-R	5M IP Fisheye Dome NVF2-45-R
Image Device	1/1.7" 12.4M CMOS	1/1.8" 6.4M CMOS
Total Pixels	4000 (H) x 3000 (V)	3096 (H) x 2080 (V)
Focal Length	2.1mm / F2.2	1.55mm / F2.5
MIN.Illumination	Color : 0.3Lux / BW : 0Lux (F2.2)	Color : 0.39Lux / BW : 0Lux (F2.5)
Horizontal Angle	185°	185°
IR	H 3 IR	H 3 IR
Day & Night	TDN (True Day & Night)	TDN (True Day & Night)
BLC	Yes	Yes
DNR	3D - DNR	3D - DNR
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Audio In / Out	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1
Alarm In / Out	1 Input / 1 Output	1 Input / 1 Output
Video Output	-	-
Event Notification	FTP, E - mail, Alarm Out, SD card	FTP, E - mail, SD card
Edge Storage	Micro SD / SDHC / SDXC	Micro SD
Power	DC 12V PoE IEEE 802.3af Class3	DC 12V PoE IEEE 802.3af
Operating Temp	-20°C ~ 50°C	-20°C ~ 50°C
Certification	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
Dimensions (W x H)	125 x 48mm	125 x 48mm
Weight	0.5kg	0.5kg
Material	Aluminum	Aluminum

# 30X PTZ HIGH POWER LED CAMERA

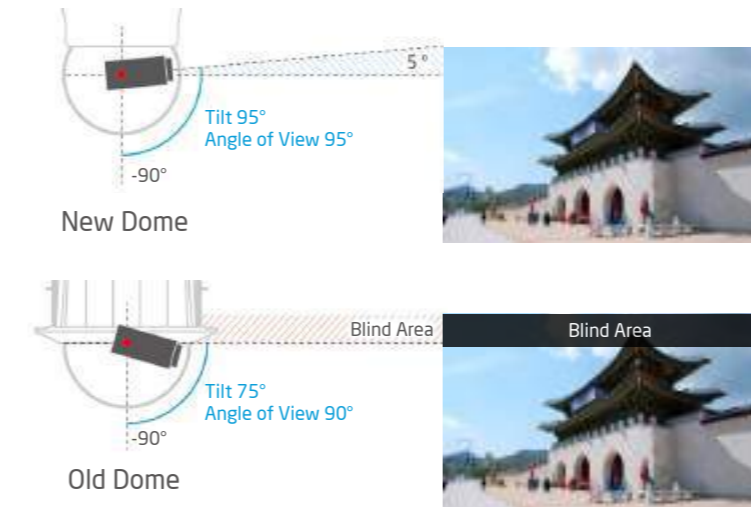


360°  
Endless  
PTZ



### Circular Dome and Integrated PTZ of IR LEDs and Zoom Module

Circular dome with integrated body of IR LED and zoom module rotates 360° without exposing the shooting direction. And the problem of IR diffuse reflection is solved by separating the bubble dome into a part surrounding the lens and IR.



### Extended Tilt Angle

Improved round dome has raised the center axis to support 5° to -90° tilt, resolving the angular blindness problem of the hemispherical dome.

### PTZ - ENDLESS III



	2M IP 30X IR PTZ NPX5-52-R
Image Device	1/2.8" 2.4M CMOS
Total Pixels	1981 (H) x 1288 (V)
Focal Length	4.3 ~ 129mm / F1.6 ~ F4.7 / AF
MIN.Illumination	Color : 0.05Lux / BW : 0 Lux (F1.6)
Horizontal Angle	58.9° ~ 211°
IR	H 6 IR
Day & Night	TDN(True Day & Night)
WDR	wDR
DNR	3D-DNR
Pan / Tilt / Zoom	Zx30, Tilt.-5° ~ 90°, Pan : 360°
Privacy Zone	16 Programmable Zone
Audio In / Out	1[1.0Vrms, 3K ohm] / 1
Alarm In / Out	1 Input / 1 Output
Video Output	CVBS 1.0V p-p
Power	DC 24V PoE IEEE 802.3at
Operating Temp	-20°C ~ 50°C
Certification	FCC, CE, ROHS, IP66
Dimensions (W x H)	150 x 160mm
Weight	2.8Kg
Material	Aluminum

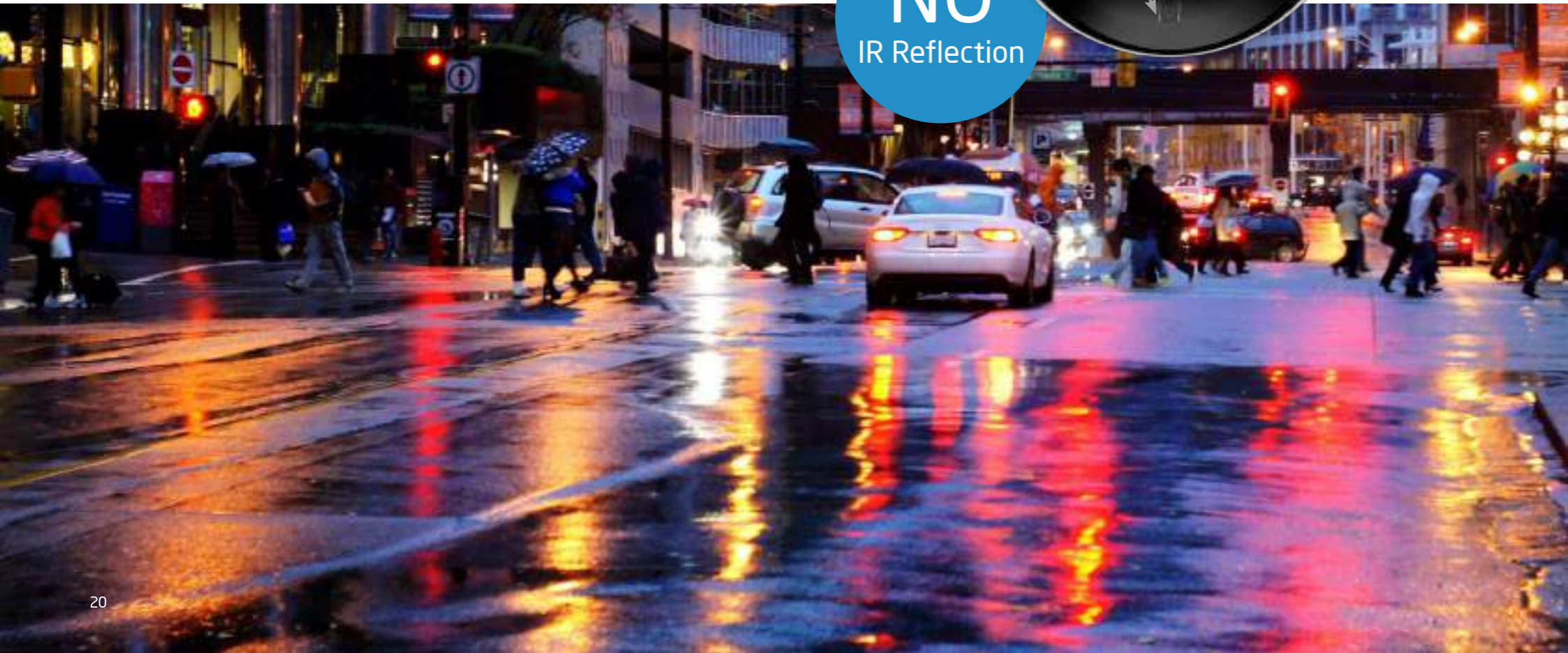
# BUBBLE FREE GENIUS CAMERA



NVD11-58-R



**NO**  
IR Reflection



## Adjusting Lenses with Free Dome cover

Adjustment the lens without disassembling the dome cover. AF coating prevents scratches and fingerprints on the lens' surface so that it can be easily cleaned after adjusting the lens.



## Bubble free dome - Prevent IR reflection

Unlike regular dome cameras, there is no bubble dome cover to minimize IR reflection caused by cobweb, rain, dust, and sand.



## External Control

You can control / access the Reset / 2nd Video Output / Micro SD Card from the outside.

## Dome - GENIUS / TURRET

4K



	8M IP IR Dome NVD11-58-R	5M IP IR Dome NVD2-55-R	5M IP IR Dome NVD2-55-R (2.8/4.0mm)
<b>Image Device</b>	1/2.8" 8M CMOS	1/2.8" 5.14M CMOS	1/2.8" 5.14M CMOS
<b>Total Pixels</b>	3864 (H) x 2228 (V)	2592 (H) x 1944 (V)	2592 (H) x 1944 (V)
<b>Focal Length</b>	2.7 ~ 13.5mm / F1.4 / MFZ, P - IRIS	2.7 ~ 13.5mm / F1.4 / MFZ, P - IRIS	2.1mm, F1.8 / 4.0mm, F2.0
<b>MIN.Illumination</b>	Color : 0.09Lux / BW : 0 Lux (F1.4)	Color : 0.08Lux / BW : 0 Lux (F1.4)	2.8mm, 0.13Lux, 0Lux with IR 4.0mm, 0.16Lux, 0Lux with IR
<b>Horizontal Angle</b>	90.3° ~ 33.1°	85° ~ 31°	2.8mm : 103° / 4.0mm : 82°
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR
<b>IR Distance</b>	TBD	70ft	70ft
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	WDR	WDR (DOL)	WDR (DOL)
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	1[1.0Vrms, 3K ohm] / 1	N/A	N/A
<b>Video Output</b>	CVBS 1.0V p-p	N/A	N/A
<b>Edge Storage</b>	SD / SDHC / SDXC	N/A	N/A
<b>Power</b>	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP67
<b>Dimensions (W x H)</b>	125 x 106mm	125 x 122mm	125 x 122mm
<b>Weight</b>	0.8Kg	0.85Kg	0.85Kg
<b>Material</b>	Aluminum	Aluminum	Aluminum

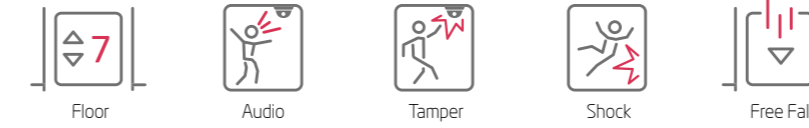
# AI MACHINE LEARNING ELEVATOR CAMERA



NVD7-22-RE

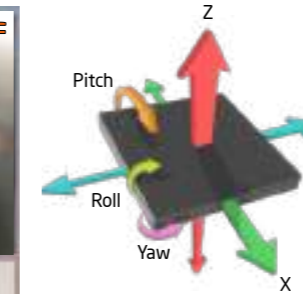


3-Axis  
sensor



## Detection Anomalous signs by sound & vibration

Detects anomalies in the elevator with sound and vibration.



## Cognition of elevator layer by the machine-running

The cameras installed in the elevator can detect vibrations and use the machine running to apprehend the number of floors. Displayed Floor information image as a message and meta data is communicated via Onvif, RTSP.

## Providing data by recording mileage for an inspection

A camera provides a total distance traveled from the installation, and this data helps to determine a time of safety inspection service.

## Dome - Elevator

AI



2M IP  
IR Mini Dome  
NVD7-22-RE (2.1 | 2.8mm)

Image Device	1/2.8" 2.1M CMOS
Total Pixels	1945 (H) x 1109 (V)
Focal Length	2.1mm, F2.3 / 2.8mm, F2.0
MIN.Illumination	2.1mm, 0.07Lux 2.8mm, 0.05Lux, 0Lux with IR
Horizontal Angle	2.1mm : 147° / 2.8mm : 115°
IR	H 2 IR
IR Distance	60ft (2.8mm only)
Day & Night	TDN (True Day & Night) (2.8mm only)
WDR	WDR (DOL)
DNR	3D - DNR
Video Compression	H.265, H.264, MJPEG
Audio In / Out	1(Mic) / 0
Event Trigger	Motion Alarm, Network disconnection, Temperature critical
Edge Storage	Micro SD / SDHC / SDXC
Power	DC 12V PoE IEEE 802.3af Class2
Operating Temp	-20°C ~ 50°C
Certification	FCC, CE, ROHS, IP66
Dimensions (W x H)	105 x 60.7mm
Weight	0.36kg
Material	Aluminum

# PEOPLE COUNTING ToF CAMERA



3D  
based



## High accuracy with Compact size and precision 3D counting sensor

It's much smaller than a regular ToF camera and can be installed in small stores. High-precision 3D counting sensors can be installed in crowded areas or in high-diameter entrances to increase accuracy by 97% on average.

## Optimized for outdoor installation with self-waterproof lenses

The lens itself has waterproof function and is optimized for indoor and outdoor installation.

## Minimize IR reflection by a black-window cover that penetrates the Laser Diode

Using a black-window cover that penetrates the Laser Diode, IR reflection is significantly reduced in night mode images than normal transparent dome cover.

## Special - ToF



	People Counting ToF IR Camera NST2-00-R	People Counting ToF IR Camera NST2-00-RS
Image Type	Monochrome	Monochrome
Effective Pixels	320 x 240	320 x 240
IRIS Type	Fixed	Fixed
Horizontal Angle	92°	92°
Wave length	945 nm (Robust to Sunlight)	945 nm (Robust to Sunlight)
Operating Range	ST2_Short Range : 0.2 ~ 2.5m	ST2_Middle Range : 0.5 ~ 6m
Max Resolution	320 x 240 (QVGA)	320 x 240 (QVGA)
Video Bitrate	10FPS	10FPS
Edge storage	Supported (micro SD type)	Supported (micro SD type)
Audio In / Out	1[1.0Vrms, 3K ohm] / 1	1[1.0Vrms, 3K ohm] / 1
Alarm In / Out	1 Input / 1 Output	1 Input / 1 Output
Video Output	CVBS 1.0V p-p	CVBS 1.0V p-p
Ethernet	10 / 100 Base-T	10 / 100 Base-T
Power	DC 12V Ultra PoE+	DC 12V Ultra PoE+
Operating Temp	-20°C ~ 50°C	-20°C ~ 50°C
Certification	FCC, CE, Laser Class 1, IP66	FCC, CE, Laser Class 1, IP66
Dimensions (W x H)	121 x 55 mm	121 x 55 mm
Weight	0.55 kg	0.55 kg
Material	Aluminum	Aluminum

# 4K / LPR / 8X HIGH POWER LED BULLET CAMERA

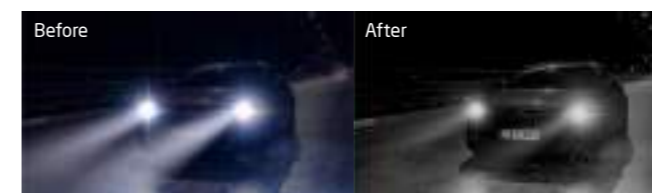


NBT7-58-RS



## 5MP Sensor and 8x Zoom Support

It is equipped with a 5MP CMOS sensor and supports processing speed up to 30fps to accurately identify fast-moving vehicles and license plates, and shoots license plates more clearly through 8x optical zoom.



## License Plate Recognition

A special filter that blocks visible external light and transmits only infrared rays has been applied to minimize license plate blocking caused by car headlights.

## 4K Ultra High Resolution

4K provides clearer and more accurate images with resolutions up to four times higher than standard HDTV 1080p resolution. It is becoming a new standard for video security systems that require ultra high resolution smart surveillance.

## DOLCE

4K



4K



8M IP  
IR Bullet  
NBT7-58-RS

8M IP  
IR Bullet  
NBT7-58-R

5M IP LPR  
IR Bullet  
NBT5-45-RL

<b>Image Device</b>	1/1.8" 8M CMOS	1/2.8" 8M CMOS	1/2.8" 5.14M CMOS
<b>Total Pixels</b>	3952 (H) x 2320 (V)	3864 (H) X 2228 (V)	2592 (H) x 1944 (V)
<b>Focal Length</b>	3.6~10mm, F1.5 / MFZ, P-IRIS	2.7~13.5mm, F1.4 / MFZ, P-IRIS	6.0 ~ 50mm / F1.6 / MFZ, P-IRIS
<b>MIN.Illumination</b>	Color : 0.09Lux / BW : 0Lux (F1.5)	Color : 0.09Lux / BW : 0Lux (F1.4)	0 Lux (F1.6)
<b>Horizontal Angle</b>	98.4°(W) ~ 45.7°(T)	90.3°(W) ~ 33.1°(T)	40.8°(W) ~ 6.9°(T)
<b>IR</b>	H 6 IR	H 6 IR	H 6 IR
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	-
<b>WDR</b>	WDR (DOL)	WDR (DOL)	-
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1
<b>Alarm In / Out</b>	1 Input / 1 Output	1 Input / 1 Output	1 Input / 1 Output
<b>Video Output</b>	CVBS 1.0V p-p	CVBS 1.0V p-p	CVBS 1.0V p-p
<b>Pan/Tilt/Zoom</b>	Z: X2.7 Optical	Z: X5 Optical	Z: X8 Optical
<b>Edge Storage</b>	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC
<b>Power</b>	DC 12V PoE IEEE 802.3at class3	DC 12V PoE IEEE 802.3at class3	DC 12V PoE IEEE 802.3af class 3
<b>Operating Temp</b>	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)
<b>Certification</b>	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	310 x 97mm	310 x 97mm	247.2 x 96.7mm
<b>Weight</b>	1.2kg	1.2kg	0.9kg
<b>Material</b>	Aluminum	Aluminum	Aluminum



### R&D Center / Korea Factory



#### Best Quality

Continuous pursuit of the best image quality by video professionals with over 30 years of experience.



#### Support

QA maintains high quality through continuous education and support, and is responsible for customer impressions and quality.



#### Good Design

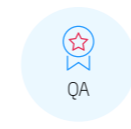
It is easy and convenient to install, and has a sophisticated appearance.



#### Great Partnership

Inventory, production management, local RMA support and custom OEM projects.

### Vietnam Factory



#### Quality Assurance

We maintain higher QA standards through intensive training and continuous support.



Clean Room

#### Clean Room / SMD

Produce products in a clean room and a batch production system that is capable of SMD and mechanism (Plastic/Die Casting) is established.



ERP / RMA

#### ERP / RMA

We have systematic inventory and production management through ERP, and local RMA support.



Knowhow

#### Know-How

We are committed to the best video quality by professionals with over 30 years of experience.



### R&D CENTER \_ South Korea

R&D center based in Pangyo is focused on developing multi-sensor camera technology, while the developed technology has being helped to introduce variety of specialized products in the market. In addition, the R&D center continuously researches and develops IP and coaxial cameras. With over 30 patents of in-house technology, we aggressively invest to develop new technology.

### FACTORY \_ South Korea

Factory located in Seongnam Korea is committed to keeping higher standard of quality assurance with the production line. We maintain to have various quality tests to ensure our products are guaranteed for customers and support a customer service



### CPRO VIETNAM \_ Northern Hanoi

Since established the 1st production facility in Hanoi, Vietnam, we have newly founded the 2nd factory in 2017.

### VIETNAM FACTORY\_ Production, Quality Control

The 2nd factory in Vietnam is capable of producing entire camera assembly and inspection process in a clean room, and is plan to build a mass production system from parts to finished products with SMD and mechanism process.

# IVA BRIDGE

## Adds Analytics to any IP Camera

Site based server to take video stream from any IP cameras to add IVA and DL to the installation.



### IVA Bridge

1 / 4 / 8 / 16 ch  
Standalone  
Analytics Appliance  
NV3



SYSTEM	Browsers	IE*, Safari*, Chrome, Firefox* (latest versions)
	Clients	PC, iPad*, iPhone*, Android
	No. Channels	4 ch @ 1080p30 / 8 ch @ 720p30 / 16 ch @ D1 30fps
	Software Update	Automatic or Manual
	Video Format	H.264, MJPEG
EXTERNAL IN / OUT	Digital In / Out	4 / 4
	RS-485	2
AUDIO	Audio In / Out	-
	Video Input Method	RTSP, ONVIF, Supported VMS / NVR* / PSIM* Platforms
SUPPORTED INTERFACE	Output Data Format	Events : TCP, HTTP, SMTP, VMS / NVR / PSIM Client Metadata : XML*, JSON
	Web Interface	HTML5 via embedded web server, No plugins necessary
	API	RESTful API for 3rd party integration and customization
DIAGNOSTICS	Tamper	Camera Tamper Alert, Loss of Video Input Connection Alert

BASIC EVENT RULES	Sources	Digital In : any analytics rule
	Actions	Digital Out : E-mail, TCP, HTTP and FTP* notification Local event log*
GENERAL	Power	DC 12V / 15.4W @ 12VDC
	Operating Temp	-20°C ~ 50°C
	Certification	FCC, CE
	Dimensions (W x D x H)	176.6 x 200 x 53.6mm
	Weight	1.8Kg
	Material / Color	Aluminum / Anodized black
SUPPORTED ANALYTICS	Object Tracking	Robust object tracking engine tracks through occlusion, high probability of detection, low false positive rate. Multiple modes permit optimization for intrusion detection or business intelligence tracking
	Abandoned Object Detection	Detects objects left or removed from a scene
	Object Counting	Accurate people and vehicle counting, even in dense scenes
	Event Rules	Intrusion detection, Shake cancellation, Tamper detection, Enter & exit filters, Appear & disappear filters, Stopping filter, Dwell filter, Direction filter, Counting, Abandoned object filter, Removed object filter, Zones & lines, Speed filter, 3D calibration, Tailgating filter, Logical rules*, People Tracker*, Color Filter*

\* Please check the availability with your account manager.

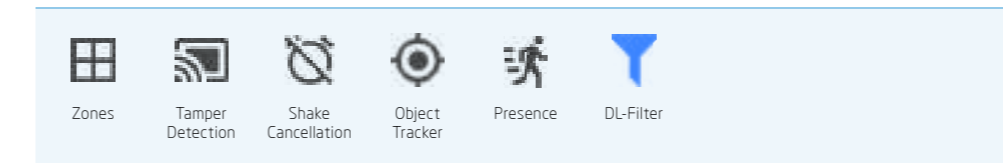


# IVA EDGE

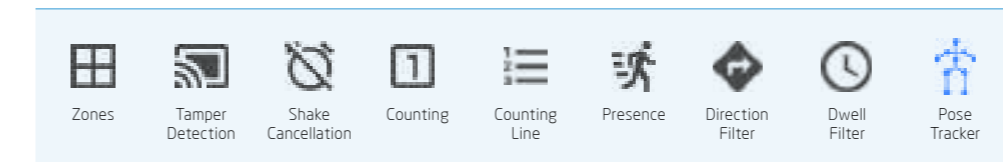
## Largest range of AI cameras in the world

Full range of IP cameras with various analytic rule sets to provide a cost effective and flexible solution for any application.

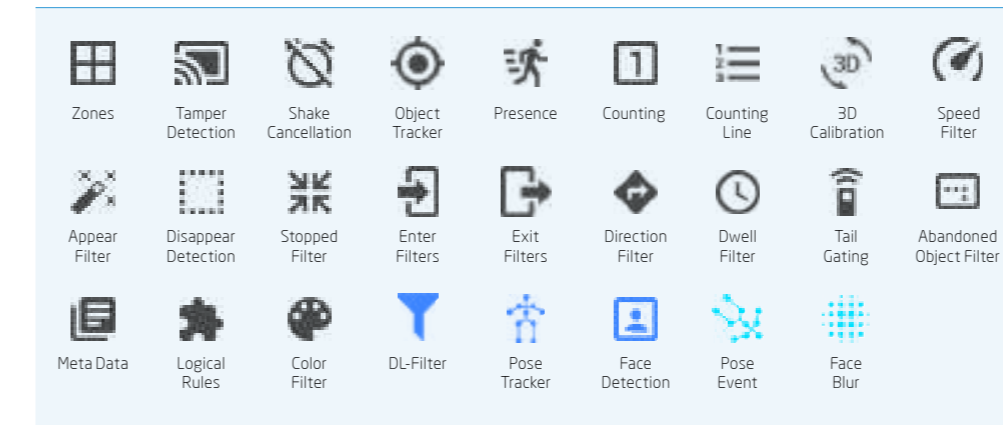
### Presence / Presence



### Count / Count AI



### Pro / Pro AI / Pro AI v1.5



### SPECIFICATION

\* Please check the availability with your account manager.

ANALYTICS _Basic	Analytics Engine	VCA Technology's advanced tracking algorithm with rich library of detection behaviors
	Detection Zones and Rules	40 zones (Multi-segment Polygons and Lines) in total, 60 rules in total as standard
	Intrusion Detection	Detection of the presence of an object
	Tamper Detection	Supported as standard
ANALYTICS _Advanced	Detection Behavior	Enter, Exit, Appear, Disappear, Stop, Direction, Dwell filter, Speed filter*, Abandoned/Removed object filter, Tailgating, Color Filter*
	Logical Rules	Extends standard rules to allow various combinations of the inputs
	3D Behavior	Perspective Corrected Size and Speed Filters
	Object Classification	Configured Max./Min. object sizes and Max./Min. speeds
	People Tracking*	Tracks individuals separately among overlapped multiple people
	Counting Line	High accuracy people and vehicle counting, 20 counters in total
Meta Data	JSON format, Plain XML format	





# IVA SERVER

## IP Video Management Software (IPVMS)

Apps for all operating systems. Cloud enabled.  
Automated. Intuitive. Built for Users.  
Auto-discover devices from hundreds of manufacturers.  
Open for developers. Integrate anything.



### Open architecture / Cross platform

DW Spectrum® IPVMS is an endlessly customizable IP Video Management platform that gives users the ability to create tailored networked video solutions for any type of project, or use by anyone, on any device.



### End-to-end IP solutions.

Although DW Spectrum® IPVMS is open to be deployed on a vast number of solutions, it is also part of DW's complete end-to-end IP solution, with Blackjack® servers and MEGApix® IP Cameras.



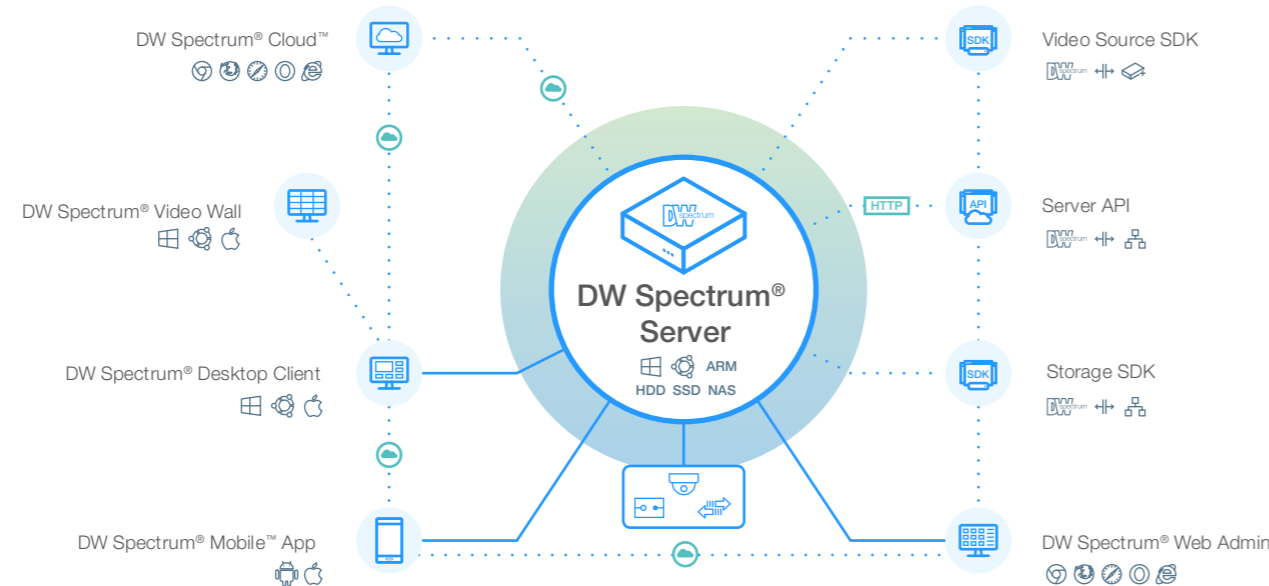
### End-to-end IP solutions.

Highly refined GUI delivers seamless transitions, customizable layouts and zoom to create regions of interest or image enhancements.



### Lifetime updates included

While other companies require annual maintenance agreements, DW Spectrum® IPVMS system upgrades are always free of charge.



### Enterprise features are standard.

DW Spectrum® IPVMS includes many enterprise level features such as;

- Custom user role management
- Multi-server and centralized management
- Health monitor
- Video storage analytic
- Failover: Protects video recording from data loss
- LDAP / active directory
- Video wall



Cross Platform



Seamless Transition



Customizable Layouts



Forensic Spyglass™



No Annual Maintenance Fees

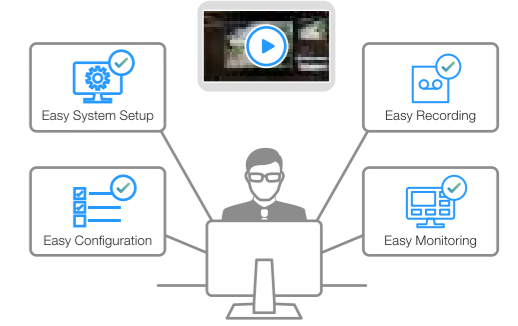


Enterprise Scalability



### Interface is dramatically easier to use.

Highly refined GUI delivers seamless transitions, customizable layouts and zoom to create regions of interest or image enhancements.



## SPECIFICATION

NETWORK	IP Protocols	Static, DHCP, Wireless
	Mobile Applications	Apple® iOS devices: iPad, iPad mini, iPhone, iPod Touch Android® devices: all Smartphones and Tablets
	ONVIF Conformant	
	Network Connection	1000 Mbps
PERFORMANCE	Camera Image Control	Brightness, Contrast, Saturation, Hue, 3D-DNR, WDR, Camera Firmware Upgrade and Reboot
	Firmware Upgrade	USB drive, Network Upgrade, FTP Remote Upgrade
	Playback Resolution	Based on Recording Parameter
	Recording Mode	Continuous, Motion, Motion + Low Resolution Always
	Search Modes	Instant motion-based smart search, Advanced thumbnail search, Calendar search, Preview search, Bookmarks, Frame-By-Frame search
	Special features	Fully customizable layouts, Easy drag-n-drop camera management and recording

VIDEO	Compression type	H.265, H.264, MJPEG, MPEG4
	Pre-alarm recording	Yes
	External export devices	Micro SD card, USB flash drive, USB HDD
	Dual-stream recording	Yes
Operating system	Maximum supported cameras	Linux®, Windows®, Mac® (client only)  Maximum recommended elements in a single system
		Maximum recommended servers in a system : 100. Maximum recommended resources in a system : 10,000. Maximum recommended users in a system : 1000.
		The maximum number of MEGApix® CaaS™ all-in-one edge cameras in a single system is 30 cameras (all in the same local network, using MEGApix CaaS cameras only).  Maximum Blackjack® DW-BJMINI in a system : 5 (all in same local network). * The maximums above are based on lab testing results and could vary significantly based on a project's real-world environment.

IVA Edge / IP Cameras



	2M IP IR Dome <b>NVD2-22-R</b>	2M IP IR Dome <b>NVD2-22-R</b> (2.8   4.0   6.0 mm)	5M IP IR Vandal Dome <b>NNK6-45-R</b>	2M IP IR Vandal Dome <b>NNK6-22-R</b>	8M IP IR Flat Dome <b>NVD13-58-RS</b>	8M IP IR Flat Dome <b>NVD13-58-RS</b> (2.8   4.0mm)
<b>Image Device</b>	1/2.8" 2.1M CMOS	1/2.8" 2.1M CMOS	1/2.8" 5.14M CMOS	1/2.8" 2.1M CMOS	1/1.8" 8M CMOS	1/1.8" 8M CMOS
<b>Total Pixels</b>	1945 (H) X 1109 (V)	1945 (H) X 1109 (V)	2592 (H) X 1944 (V)	1945 (H) X 1109 (V)	3952 (H) X 2320 (V)	3952 (H) X 2320 (V)
<b>Focal Length</b>	2.7~13.5mm, F1.8 / MFZ, P - IRIS	2.8mm, F2.0   4.0mm, F2.6   6.0mm, F2.0	2.7~13.5mm, F1.4 / MFZ, P - IRIS	2.8 ~ 12mm, F1.4 / MFZ, P - IRIS	3.6 ~ 10mm, F1.5 / MFZ, P - IRIS	2.8mm, 4.0mm / F2.0
<b>MIN. Illumination</b>	Color : 0.043Lux / BW : 0 Lux (F1.8)	Color : 0.05Lux / 0.09Lux / 0.05Lux	Color : 0.08Lux / BW : 0 Lux (F1.4)	Color : 0.02Lux / BW : 0 Lux (F1.4)	Color : 0.09Lux / BW : 0 Lux (F1.5)	Color : 0.1Lux / BW : 0 Lux (F1.6)
<b>Horizontal Angle</b>	93.6° (W) ~ 34.1° (T)	110° / 85° / 53°	96° (W) ~ 31° (T)	96° (W) ~ 35° (T)	98.4° (W) ~ 45.7° (T)	105.4° / 48.6°
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR	H 2 IR	H 2 IR	H 2 IR
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	WDR (DOL)	WDR (DOL)	WDR (DOL)	WDR (DOL)	WDR (DOL)	WDR (DOL)
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	N/A	N/A	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1
<b>Alarm In / Out</b>	N/A	N/A	1 Input / 1 Output	1 Input / 1 Output	1 Input / 1 Output	1 Input / 1 Output
<b>Video Output</b>	N/A	N/A	CVBS 1.0V p-p	CVBS 1.0V p-p	CVBS 1.0V p-p	CVBS 1.0V p-p
<b>Event Notification</b>	FTP, E - mail, SD card	FTP, E - mail, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card
<b>Edge Storage</b>	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC
<b>Power</b>	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP68	FCC, CE, ROHS, IP68	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	125 x 122mm	125 x 122mm	139 x 125.4mm	139 x 125.4mm	125 x 92mm	125 x 92mm
<b>Weight</b>	0.85kg	0.8kg	1.25kg	1.25kg	0.52 kg	0.52 kg
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum



	5M IP IR Flat Dome <b>NVD9-45-R</b>	2M IP IR Flat Dome <b>NVD9-22-R</b>	2M IP IR Flat Dome <b>NVD9-12-R</b>	5M IP IR Flat Dome <b>NVD8-45-R</b> (4.0   8.0 mm)	2M IP IR Flat Dome <b>NVD8-22-R</b> (4.0   8.0 mm)	2M IP IR Flat Dome <b>NVD8-12-R</b> (3.6 mm)
<b>Image Device</b>	1/2.8" 5.14M CMOS	1/2.8" 2.1M CMOS	1/2.9" 2.2M CMOS	1/2.8" 5.14M CMOS	1/2.8" 2.1M CMOS	1/2.9" 2.2M CMOS
<b>Total Pixels</b>	2592 (H) X 1944 (V)	1945 (H) X 1109 (V)	2001 (H) X 1121 (V)	2592 (H) X 1944 (V)	1945 (H) X 1109 (V)	2001 (H) X 1121 (V)
<b>Focal Length</b>	2.7~13.5mm, F1.4 / MFZ, P - IRIS	2.8 ~ 12mm, F1.4 / MFZ, P-Iris	2.7 ~ 13.5mm, F1.6 / Vari-focal	4.0mm   8.0mm, F2.0	4.0mm, F2.6   8.0mm, F1.6	3.6mm, F2.0 / Fixed
<b>MIN. Illumination</b>	Color : 0.08Lux / BW : 0 Lux (F1.4)	Color : 0.02Lux / BW : 0 Lux (F1.4)	Color : 0.16Lux / BW : 0 Lux (F1.6)	Color : 0.16Lux / BW : 0 Lux (F2.0)	Color : 0.09Lux (F2.6) / 0.03Lux (F1.6)	Color : 0.25Lux / BW : 0 Lux (F2.0)
<b>Horizontal Angle</b>	96° (W) ~ 31° (T)	96° (W) ~ 35° (T)	89.6° (W) ~ 27° (T)	82.3° / 37.8°	86° / 40°	94°
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR	8 IR	8 IR	8 IR
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	WDR (DOL)	WDR (DOL)	Digital-WDR	WDR (DOL)	WDR (DOL)	Digital-WDR
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	N/A	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	N/A
<b>Alarm In / Out</b>	1 Input / 1 Output	1 Input / 1 Output	N/A	1 Input / 1 Output	1 Input / 1 Output	N/A
<b>Video Output</b>	CVBS 1.0V p-p	CVBS 1.0V p-p	N/A	CVBS 1.0V p-p	CVBS 1.0V p-p	N/A
<b>Event Notification</b>	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail
<b>Edge Storage</b>	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	N/A	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	N/A
<b>Power</b>	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3af class2
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	125 x 92mm	125 x 92mm	125 x 92mm	125 x 74.3mm	125 x 74.3mm	125 x 74.3mm
<b>Weight</b>	0.51kg	0.51kg	0.51kg	0.42kg	0.42kg	0.42kg
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

IVA Edge / IP Cameras



	5M IP IR Mini Dome <b>NVD7-45-R</b> (2.8 4.0 6.0 8.0 mm)	2M IP IR Mini Dome <b>NVD7-22-R</b> (2.8 4.0 6.0 8.0 mm)	2M IP IR Mini Dome <b>NVD7-12-R</b> (2.8 4.0 6.0 mm)	2M IP IR Mini Dome <b>NVD14-12-R</b>	2M IP X3 PTZ <b>NPX3-52</b>	5M IP IR Bullet <b>NBT5-45-RZ</b>
<b>Image Device</b>	1/2.8" 5.14M CMOS	1/2.8" 2.1M CMOS	1/2.9" 2.2M CMOS	1/2.9" 2.2M CMOS	1/2.8" 2.1M CMOS	1/2.8" 5.14M CMOS
<b>Total Pixels</b>	2592 (H) x 1944 (V)	1945 (H) x 1109 (V)	2001 (H) x 1121 (V)	2001 (H) x 1121 (V)	1945 (H) x 1109 (V)	2592 (H) x 1944 (V)
<b>Focal Length</b>	2.8mm, F1.8 l etc : F2.0	2.8mm, F2.0   4.0mm, F2.6   6.0mm, F2.0   8.0mm, F1.6	4.0mm, F2.0 / 2.8mm, F1.85 / 6.0mm, F2.0	2.8mm, F2.0	2.8~8mm, F1.95~F2.65 / MFZ, P-IRIS	6.0 ~ 50mm / F1.6 / MFZ, P-IRIS
<b>MIN. Illumination</b>	Color : 0.13Lux (2.8mm) / 0.16Lux (etc)	Color : 0.05Lux / 0.09Lux / 0.05 / 0.03Lux	Color : 0.25Lux / BW : 0 Lux (F2.0)	Color : 0.25Lux / BW : 0 Lux (F2.0)	Color : 0.03Lux / BW : 0.006Lux (F1.6)	Color : 0.08Lux / BW : 0Lux (F1.6)
<b>Horizontal Angle</b>	102.4° / 82.3° / 51.9° / 37.8°	115° / 86° / 55° / 40°	84° / 93.1° / 50.8°	118° / 103° / 56°	114.7°(W) ~ 59.3°(T)	40.8°(W) ~ 6.9°(T)
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR	8 IR	N/A	H 6 IR
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	WDR (DOL)	WDR (DOL)	Digital-WDR	Digital-WDR	WDR (DOL)	WDR (DOL)
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	1(Mic) / 0	1(Mic) / 0	N/A	1(Mic) / 0	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1
<b>Alarm In / Out</b>	N/A	N/A	N/A	N/A	1 Input / 1 Output	1 Input / 1 Output
<b>Video Output</b>	N/A	N/A	N/A	N/A	N/A	CVBS 1.0V p-p
<b>Event Notification</b>	FTP, E - mail, SD card	FTP, E - mail, SD card	FTP, E - mail	FTP, E - mail	FTP, E-mail, Alarm out, SD card	FTP, E-mail, Alarm out, SD card
<b>Edge Storage</b>	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	N/A	N/A	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC
<b>Power</b>	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3at class3	DC 12V PoE IEEE 802.3af class 3
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-40°C ~ 50°C (Cold Start)
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP65	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	105 x 60.7mm	105 x 60.7mm	105 x 60.7mm	105 x 67mm	125 x 116mm	247.2 x 96.7mm
<b>Weight</b>	0.36kg	0.36kg	0.36kg	0.37kg	1kg	0.9kg
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum



	5M IP IR Bullet <b>NBT5-45-R</b>	2M IP IR Bullet <b>NBT5-22-RZ</b>	2M IP IR Bullet <b>NBT5-22-RS</b>	2M IP IR Bullet <b>NBT5-22-R</b>	2M IP IR Bullet <b>NBT3-12-R</b>	5M IP IR Mini Bullet <b>NBI2-45-R</b> (4.0mm)
<b>Image Device</b>	1/2.8" 5.14M CMOS	1/2" 2.1M CMOS	1/2" 2.13M CMOS	1/2.8" 2.1M CMOS	1/2.9" 2.2M CMOS	1/2.8" 5.14M CMOS
<b>Total Pixels</b>	2592 (H) x 1944 (V)	1945 (H) x 1109 (V)	1952 (H) x 1113 (V)	1945 (H) x 1109 (V)	2001 (H) x 1121 (V)	2592(H) X 1944 (V)
<b>Focal Length</b>	2.7~13.5mm, F1.4 / MFZ, P-IRIS	6~50mm, F1.6 / MFZ, P-IRIS	3.6~10mm, F1.5 / MFZ, P-IRIS	2.8~12mm, F1.4 / MFZ, P-IRIS	2.7 ~ 13.5mm, F1.6 / Vari-focal	4.0mm, F2.0 / Fixed
<b>MIN. Illumination</b>	Color : 0.08Lux / BW : 0Lux (F1.4)	Color : 0.04Lux / BW : 0Lux (F1.6)	Color : 0.01Lux / BW : 0Lux (F1.5)	Color : 0.02Lux / BW : 0Lux (F1.4)	Color : 0.16Lux / BW : 0 Lux (F1.6)	Color : 0.16Lux / BW : 0 Lux (F2.0)
<b>Horizontal Angle</b>	85°(W) ~ 31°(T)	44.8°(W) ~ 6.7°(T)	92°(W) ~ 42.4°(T)	96°(W) ~ 35°(T)	89.6° (W) ~ 27° (T)	82.3°
<b>IR</b>	H 6 IR	H 6 IR	H 6 IR	H 6 IR	H 3 IR	H 2 IR
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	WDR (DOL)	WDR (DOL)	WDR (DOL)	WDR (DOL)	Digital-WDR	WDR (DOL)
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	N/A	N/A
<b>Alarm In / Out</b>	1 Input / 1 Output	1 Input / 1 Output	1 Input / 1 Output	1 Input / 1 Output	N/A	N/A
<b>Video Output</b>	CVBS 1.0V p-p	CVBS 1.0V p-p	CVBS 1.0V p-p	CVBS 1.0V p-p	N / A	N / A
<b>Event Notification</b>	FTP, E-mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E-mail	FTP, E - mail, SD card
<b>Edge Storage</b>	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	N/A	Micro SD / SDHC / SDXC
<b>Power</b>	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3
<b>Operating Temp</b>	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	247.2 x 96.7mm	247.2 x 96.7mm	247.2 x 96.7mm	247.2 x 96.7mm	252 x 96.7mm	163x 67.5mm
<b>Weight</b>	0.9kg	0.9kg	0.9kg	0.9kg	0.75kg	0.5kg
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

## IVA Edge / IP Cameras



	2M IP IR Mini Bullet <b>NBI2-22-R</b> (4.0mm)	2M IP IR Mini Bullet <b>NBI2-12-R</b> (4.0mm)	5M IP Indoor IR Dome <b>NNK5-45-R</b>	2M IP Indoor IR Dome <b>NNK5-22-R</b>	2M IP Indoor IR Plastic Mini Dome <b>NVP3-12-R</b> (4.0mm)	2M IP Box <b>NCB2-22</b>
<b>Image Device</b>	1/2.8" 2.1M CMOS	1/2.9" 2.2M CMOS	1/2.8" 5.14M CMOS	1/2.8" 2.1M CMOS	1/2.9" 2.2M CMOS	1/2.8" 2.1M CMOS
<b>Total Pixels</b>	1945 (H) x 1109 (V)	2001 (H) x 1121 (V)	2592 (H) x 1944 (V)	1945 (H) x 1109 (V)	2001 (H) x 1121 (V)	1945 (H) x 1109 (V)
<b>Focal Length</b>	4.0mm, F2.6 / Fixed	4.0mm, F2.0 / Fixed	2.7 ~ 13.5mm, F1.4 / MFZ, P - IRIS	2.8 ~ 12mm, F1.4 / MFZ, P - IRIS	4.0mm, F2.0 / Fixed	-
<b>MIN. Illumination</b>	Color : 0.09Lux / BW : 0 Lux (F2.6)	Color : 0.25Lux / BW : 0 Lux (F2.0)	Color : 0.08Lux / 0 Lux (F1.4)	Color : 0.02Lux / BW : 0 Lux (F1.4)	Color : 0.25Lux / BW : 0 Lux (F2.0)	Color : 0.09Lux (F2.6)
<b>Horizontal Angle</b>	86°	84°	96° (W) ~ 31° (T)	96° (W) ~ 35° (T)	84°	-
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR	H 2 IR	8 IR	-
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True day & Night)	TDN (True Day & Night)
<b>WDR</b>	WDR (DOL)	Digital-WDR	WDR (DOL)	WDR (DOL)	Digital-WDR	WDR (DOL)
<b>DNR</b>	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR	3D - DNR
<b>Video Compression</b>	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
<b>Audio In / Out</b>	N/A	N/A	1[1.0Vms, 3K ohm] / 1	1[1.0Vms, 3K ohm] / 1	N/A	1[1.0Vms, 3K ohm] / 1
<b>Alarm In / Out</b>	N/A	N/A	1 Input / 1 Output	1 Input / 1 Output	N/A	1 Input / 1 Output
<b>Video Output</b>	N/A	N/A	CVBS 1.0V p-p	CVBS 1.0V p-p	N/A	CVBS 1.0V p-p
<b>Event Notification</b>	FTP, E - mail, SD card	FTP, E - mail	FTP, E - mail, Alarm out, SD card	FTP, E - mail, Alarm out, SD card	FTP, E-mail	FTP, E - mail, Alarm out, SD card
<b>Edge Storage</b>	Micro SD / SDHC / SDXC	N/A	Micro SD / SDHC / SDXC	Micro SD / SDHC / SDXC	N/A	Micro SD / SDHC / SDXC
<b>Power</b>	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class3	DC 12V PoE IEEE 802.3af class2	DC 12V PoE IEEE 802.3af class2
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-40°C ~ 50°C (Cold Start)	-40°C ~ 50°C (Cold Start)	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS	FCC, CE, ROHS	FCC, CE, ROHS	FCC, CE, ROHS
<b>Dimensions (W x H)</b>	161.7 x 67.5mm	161.7 x 67.5mm	120 x 92.4mm	120 x 92.4mm	105 x 74.6 mm	125 x 75 x 60mm
<b>Weight</b>	0.5kg	0.5kg	0.3kg	0.3kg	0.21kg	0.45kg
<b>Material</b>	Aluminum	Aluminum	Plastic	Plastic	Plastic	Aluminum

## HD ANALOG



	8M HD Analog AF IR Dome <b>CVD2-28-RS</b>	5M HD Analog AF IR Dome <b>CVD2-25-R</b>	8M HD Analog IR Dome <b>CVD1-28-RS</b> (2.8   4.0   6.0 mm)	5M HD Analog IR Dome <b>CVD1-25-R</b> (4.0 mm)	8M HD Analog IR Dome <b>CVD5-28-RS</b>	5M HD Analog IR Dome <b>CVD5-25-R</b>
<b>Image Device</b>	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS
<b>Total Pixels</b>	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)
<b>Active Pixels</b>	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)
<b>Focal Length</b>	3.6 ~ 10mm, F1.5 / MFZ, P-IRIS	2.7 ~ 13.5mm, F1.4 / MFZ, P - IRIS	2.8mm   4.0mm   6.0mm, F1.6 / Fixed	4.0mm, F2.0 / Fixed	3.6 ~ 10mm, F1.6 / Vari-Focal	2.7 ~ 13.5mm, F1.4 / Vari-Focal
<b>MIN. Illumination</b>	Color : 0.09Lux / BW : 0 Lux (F1.5)	Color : 0.08Lux / BW : 0 Lux (F1.4)	Color : 0.1Lux / BW : 0 Lux (F1.6)	Color : 0.16Lux / BW : 0 Lux (F2.0)	Color : 0.1Lux / BW : 0 Lux (F1.6)	Color : 0.08Lux / BW : 0 Lux (F1.4)
<b>Horizontal Angle</b>	98.4° (W) ~ 45.7° (T)	85° (W) ~ 32° (T)	106.5° / 85.7° / 54.6°	82°	100.3° (W) ~ 46.4° (T)	122.4° (W) ~ 40.8° (T)
<b>Shutter Speed</b>	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR	H 2 IR	24 IR	24 IR
<b>IR Distance</b>	80ft	80ft	70ft	70ft	100ft	100ft
<b>AGC</b>	Max 60dB	Max 72dB	Max 60dB	Max 72dB	Max 60dB	Max 72dB
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	Line WDR	Double Scan WDR	Line WDR	Double Scan WDR	LineWDR	Double Scan WDR
<b>DNR</b>	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR
<b>Alarm In / Out</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Video Output</b>	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)
<b>Power</b>	DC 12V / AC 24V Dual Voltage	DC 12V / AC 24V Dual Voltage	DC 12V Voltage	DC 12V Voltage	DC 12V / AC 24V Dual Voltage	DC 12V / AC 24V Dual Voltage
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP67	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	125 x 122mm	125 x 122mm	125 x 103mm	125 x 103mm	145 x 108.3mm	145 x 108.3mm
<b>Weight</b>	0.72Kg	0.72Kg	0.42Kg	0.42Kg	0.9Kg	0.9Kg
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

HD ANALOG



	5M HD Analog IR Mini Dome CVD7-25-R (4.0 mm)	5M HD Analog Indoor Micro IR Dome CVD4-25-R (4.0 mm)	8M HD Analog IR Bullet CBT1-28-RS (2.8   4.0   6.0 mm)	5M HD Analog IR Bullet CBT1-25-R	8M HD Analog IR Bullet CBT3-28-RS	5M HD Analog IR Bullet CBT3-25-Z
<b>Image Device</b>	1/2.8" 5.0M CMOS	1/2.8" 5.0M CMOS	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS
<b>Total Pixels</b>	2704 (H) x 2104 (V)	2704 (H) x 2104 (V)	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)
<b>Active Pixels</b>	2608 (H) x 1960 (V)	2608 (H) x 1960 (V)	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)
<b>Focal Length</b>	4.0mm, F2.0 / Fixed	4.0mm, F2.0 / Fixed	2.8mm   4.0mm   6.0mm, F1.6 / Fixed	2.7 ~ 13.5mm, F1.4 / Vari-Focal	3.6 ~ 10mm, F1.5 / MFZ, P-IRIS	6.0 ~ 50mm, F1.6 / Vari-Focal
<b>MIN. Illumination</b>	Color : 0.16Lux / BW : 0 Lux (F2.0)	Color : 0.16Lux / BW : 0 Lux (F2.0)	Color : 0.1Lux / BW : 0 Lux (F1.6)	Color : 0.08Lux / BW : 0 Lux (F1.4)	Color : 0.09Lux / BW : 0 Lux (F1.5)	Color : 0.1Lux / BW : 0 Lux (F1.6)
<b>Horizontal Angle</b>	82°	82°	106.5° / 85.7° / 54.6°	122.4° (W) ~ 40.8° (T)	98.4° (W) ~ 45.7° (T)	50.6° (W) ~ 6.2° (T)
<b>Shutter Speed</b>	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000
<b>IR</b>	H 2 IR	H 2 IR	20 IR	20 IR	35 IR	35 IR
<b>IR Distance</b>	50ft	50ft	100ft	100ft	150ft	150ft
<b>AGC</b>	Max 72dB	Max 72dB	Max 60dB	Max 72dB	Max 60dB	Max 72dB
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	Double Scan WDR	Double Scan WDR	Line WDR	Double Scan WDR	Line WDR	Double Scan WDR
<b>DNR</b>	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR
<b>Alarm In / Out</b>	N/A	N/A	N/A	1 Input / 1 Output	N/A	1 Input / 1 Output
<b>Video Output</b>	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)
<b>Power</b>	DC12V Voltage	DC12V Voltage	DC 12V Voltage	DC 12V / AC 24V Dual Voltage	DC 12V / AC 24V Dual Voltage	DC 12V / AC 24V Dual Voltage
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66	FCC, CE, ROHS, IP66
<b>Dimensions (W x H)</b>	105 x 60.7mm	80 x 59.5mm	224.5 x 96.7mm	224.5 x 96.7mm	252 x 96.7mm	252 x 96.7mm
<b>Weight</b>	0.35Kg	0.25Kg	0.65Kg	0.65Kg	0.75Kg	0.75Kg
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum



	5M HD Analog IR Mini Bullet CBI2-25-R (4.0 mm)	8M HD Analog AF Indoor IR Dome CNK2-28-RS	5M HD Analog AF Indoor IR Dome CNK2-25-R	8M HD Analog Indoor IR Plastic Mini Dome CVP2-28-RS (2.8   4.0   6.0 mm)	8M HD Analog Indoor IR Plastic Mini Dome CVP2-28-RS	5M HD Analog Indoor IR Plastic Mini Dome CVP2-25-R
<b>Image Device</b>	1/2.8" 5.0M CMOS	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS	1/1.8" 8.0M CMOS	1/1.8" 8.0M CMOS	1/2.8" 5.0M CMOS
<b>Total Pixels</b>	2704 (H) x 2104 (V)	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)	3952 (H) x 2320 (V)	3952 (H) x 2320 (V)	2704 (H) x 2104 (V)
<b>Active Pixels</b>	2608 (H) x 1960 (V)	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)	3864 (H) x 2176 (V)	3864 (H) x 2176 (V)	2608 (H) x 1960 (V)
<b>Focal Length</b>	4.0mm, F2.0 / Fixed	3.6 ~ 10mm, F1.5 / MFZ, P-IRIS	2.7 ~ 13.5mm, F1.4 / MFZ, P - IRIS	2.8mm   4.0mm   6.0mm, F1.6 / Fixed	3.6 ~ 10mm, F1.6 / Vari-Focal	2.7 ~ 13.5mm, F1.4 / P - IRIS
<b>MIN. Illumination</b>	Color : 0.16Lux / BW : 0 Lux (F2.0)	Color : 0.09Lux / BW : 0 Lux (F1.5)	Color : 0.08Lux / BW : 0 Lux (F1.4)	Color : 0.1Lux / BW : 0 Lux (F1.6)	Color : 0.1Lux / BW : 0 Lux (F1.6)	Color : 0.08Lux / BW : 0 Lux (F1.4)
<b>Horizontal Angle</b>	82°	98.4° (W) ~ 45.7° (T)	85° (W) ~ 32° (T)	106.5° / 85.7° / 54.6°	100.3° (W) ~ 46.4° (T)	122.4° (W) ~ 40.8° (T)
<b>Shutter Speed</b>	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000	1 / 30 (25) ~ 1 / 30,000
<b>IR</b>	H 2 IR	H 2 IR	H 2 IR	24 IR	24 IR	24 IR
<b>IR Distance</b>	70ft	70ft	70ft	100ft	100ft	100ft
<b>AGC</b>	Max 72dB	Max 60dB	Max 72dB	Max 60dB	Max 60dB	Max 72dB
<b>Day &amp; Night</b>	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)	TDN (True Day & Night)
<b>WDR</b>	Double Scan WDR	Line WDR	Double Scan WDR	Line WDR	Line WDR	Double Scan WDR
<b>DNR</b>	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR	3D / 2D - DNR
<b>Alarm In / Out</b>	N/A	N/A	1 Input / 1 Output	N/A	N/A	1 Input / 1 Output
<b>Video Output</b>	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI Max 2160p(12.5/15fps)	AHD / TVI / CVI / CVBS Max 1944p(12.5/20fps)
<b>Power</b>	DC 12V Voltage	DC 12V / AC 24V Dual Voltage	DC 12V / AC 24V Dual Voltage	DC 12V Voltage	DC 12V / AC 24V Dual Voltage	DC 12V / AC 24V Dual Voltage
<b>Operating Temp</b>	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
<b>Certification</b>	FCC, CE, ROHS, IP66	FCC, CE, ROHS	FCC, CE, ROHS	FCC, CE, ROHS	FCC, CE, ROHS	FCC, CE, ROHS
<b>Dimensions (W x H)</b>	163 x 67.5mm	107.8 x 99.1mm	107.8 x 99.1mm	120 x 89.4mm	120 x 89.4mm	120 x 89.4mm
<b>Weight</b>	0.44kg	0.3kg	0.3kg	0.65Kg	0.65Kg	0.65Kg
<b>Material</b>	Aluminum	Plastic	Plastic	Plastic	Plastic	Plastic

# Blackjack® X-RACK

Servers Powered by DW Spectrum® IPVMS

- More Camera.
- More Recording.
- Remote Monitoring

By moving local storage to a dedicated NAS unit, the Blackjack® X-Rack™ server can outperform any competing model.



### Connect to up to 4 Blackjack® NAS devices

Blackjack® X-Rack™ servers are designed to connect up to four (4) Blackjack® NAS devices, providing up to 560TB for recording and backup.



### Hot-Swappable SSDs

When a drive needs to be replaced, you can easily hot-swap it with a new one, while the system is still running. There is no need to power down and lose important minutes of data to maintain your system's drives healthy and operating.



### Max throughput and IP camera support

The Blackjack® X-Rack™ records and manages single- and multisensor IP cameras of any resolution up to 200 2.1MP/1080p cameras at 30fps and a maximum of 1200Mbps throughput.



### Dual power supply

Dual power supply provides redundancy for network reliability.



### DW Spectrum® IPVMS

DW Spectrum® IPVMS is an endlessly customizable IP Video Management platform that gives users the ability to create tailored network video solutions for any type of project, from the office or on in the field.



### Remote monitoring via Blackjack® Client™

Combine the Blackjack® X-Rack™ with the Blackjack® Client™ appliance for powerful remote monitoring of your system.

## Server



Blackjack X-Rack 2U  
DW-BJX2U

Maximum IP Cameras		200
Included IP Licences		8
Operating System	Windows Server 2016	BW-BJX2U
	OS on SSD	2x SSD (RAID1 mirrored), hot-swappable bays with lock
CPU		Intel Xeon® Processor with 8 Cores
Memory		32GB DDR4 ECC
Ethernet Port		Option: DW-MEM32GX - 32GB (2x 16GB) memory upgrade Kit*
		2 x 10Gigabit Ethernet (RJ45)**
		Option: DW-R10NIC - secondary 10Gbps RJ45 port*
System	Max video storage rate (Mbps)	1200 Mbps
Storage	Max DW-BJNAS rack connections	4 (up to 560TB)
Video-Out	Outputs	True HD and DVI output (for initial configuration and server management)
Pre-loaded VMS Software		DW Spectrum® IPVMS
Remote Clients		Cross Platform - Windows®, Linux Ubuntu® and Mac®
Mobile Apps		iOS® and Android®
Keyboard & Mouse & Rail Kit		Included
Power Supply		Dual 380W***, redundant power supply
Operating Temperature		50°F~80°F (10°C~27°C)
Dimension (WxDxH)		17.29" x 21.93" x 3.46"

# Blackjack® k^p

NAS storage solutions for Blackjack® server or MEGApix® CaaS server systems\*

Blackjack® NAS™ are high-reliability network attached storage devices for Blackjack® Cube™ and Bolt™ servers or MEGApix® CaaS™ edge cameras. The devices act as recording backup for existing DW Spectrum® IPVMS systems. Models offer 4-20TB storage and optional RAID1. The desktop models can be integrated into a Blackjack® system with up to 120Mbps throughput, or a MEGApix® CaaS™ system with up to 12 edge camera servers.

Blackjack® NAS™ 8 and 16-bay rack mount devices integrate easily into a Blackjack® system with a total of up to 600Mbps throughput, the equivalent of up to 128 2.1MP single-sensor IP cameras. The 2U and 3U rack mount models offer up to 160TB storage and RAID, allowing you to record and backup more days of video without the need for additional video recorders.

The Blackjack® NAS™ integrates seamlessly into a DW Spectrum® IPVMS system, allowing for an instant search and data management and is backed by Digital Watchdog's unbeatable 5 year warranty.



### Centralize your file storage, sharing and backup with excellent performance.

Blackjack® NAS products offer the ideal supplement for existing systems with optimized network load and continuous archiving. Critical video and audio can be stored for a longer time.



### Add and manage recording from DW Spectrum® IPVMS client software

Blackjack® NAS storage devices easily integrate into DW Spectrum® IPVMS software, allowing for simple addition, removal and recording setup all done from the same user-friendly UX of the DW Spectrum® IPVMS client.



### Easily Add Storage Capacity

The Blackjack® NAS devices can be implemented into a MEGApix® CaaS™ network with up to 12 cameras, or a Blackjack® Cube™ or Blackjack® Bolt™ network with up to 160Mbps throughput (the equivalent of 32 2.1MP cameras). The Blackjack® NAS offers lower cost and greater flexibility than adding additional servers to an existing system.



### Expandable storage with RAID 1 and RAID 5 options

RAID Add extra security to your video surveillance system by protecting recording data and overcoming data loss in the case of a hard drive failure. Easily activate RAID 5 striping with a single click of the mouse.

## Server



	Blackjack® NAS 16-Bay DW-BJ16NASxTR	Blackjack® NAS 8-Bay DW-BJ8NASxTR	Blackjack® NAS DW-BJNASxT / DW-BJNASxTR
Operating system	Proprietary Linux® embedded	Proprietary Linux® embedded	Linux® embedded
Form factor	19" Rack Mount (3U)	19" Rack Mount (2U)	Desktop
Maximum hard drives	16x 3.5" hot swappable HDDs	8x 3.5" hot swappable HDDs	2 x SATA HDD
Maximum storage capacity	140TB (16 x 10TB, RAID)	70TB (8 x 10TB, RAID)	DW-BJNASxT: 20TB (2x 10TB) DW-BJNASxTR: 10TB (2x 10TB, RAID1)
RAID	RAID 5	RAID 5	RAID1 (DW-BJNASxTR)
Max. recording channel	Max 128 2.1MP cameras with Blackjack® E-Rack™/Blackjack® P-Rack™	Max 128 2.1MP cameras with Blackjack® E-Rack™/Blackjack® P-Rack™	Max 24 2.1MP/1080p IP cameras
Max. recording bandwidth	Max. 600Mbps throughput	Max. 600Mbps throughput	Max. 120Mbps throughput
LED indicators	Power, activity and status (error)	Power, activity and status (error)	HDD status, power
LCD	RAID status, HDD status, network status (IP info), model info (model name and serial number), firmware info	RAID status, HDD status, network status (IP info), model info (model name and serial number), firmware info	---
Audible alert	RAID error	RAID error	---
E-mail notifications (optional)	HDD status	HDD status	---
Remote configuration	Blackjack® NAS web management console, DW IP Finder™	Blackjack® NAS web management console, DW IP Finder™	Blackjack® NAS web management console, DW IP Finder™
Supported IPVMS	DW Spectrum® IPVMS	DW Spectrum® IPVMS	DW Spectrum® IPVMS
Operating temperature	41°F~104°F (5°C~40°C)	41°F~104°F (5°C~40°C)	41°F~104°F (5°C~40°C)
Power supply	Single SMPS 250W 100 ~ 240 VAC, 50/60 Hz, 4.0~1.5A at 100/240VAC	Single SMPS 250W 100 ~ 240 VAC, 50/60 Hz, 4.0~1.5A at 100/240VAC	DC 12V 36W, 3A
Power consumption			
Dimensions (WxDxH)	17.4" x 5.2" x 23.4"	17.4" x 3.5" x 18.0"	9.84" x 10.74" x 1.96"
Weight	35.3lbs	19.4lbs	3.3lbs



## Plug and Play IP NVRs, Managed from Anywhere.

The VMAX® IP Plus™ is an easy to use PoE NVR that allows you to go from power up to monitoring in less than three minutes!

The VMAX® IP Plus™ can record up to 5MP IP cameras and 2.1MP/1080p cameras at real-time 30fps. The NVRs are available in 4-, 8- and 16-channel models with bonus local PoE management for up to five additional channels.



### PathFinder™

Easy and secure peer-to-peer remote connection without opening ports.



### Status Monitoring

A real-time graphical representation of all system connections. Receive connection alerts via email or text.



### Megapixel resolution

DW's technology delivers crystal-clear images in resolutions up to 5MP. Higher resolution delivers forensic details when zooming into the camera's field of view.



### Camera Group Recording

Designate a group of cameras to respond to an alert from one camera.



### CCIP™

CCIP™ (Closed Circuit Internet Protocol) system encryption protects your surveillance system from out of network attacks.



### DW Witness™

The DW® Witness™ app instantly turns your smartphone or tablet into a video surveillance camera. With the press of a button, start transmitting live video to your VMAX® IP Plus™. It's a "black box" for personnel on patrol.

## NVR



	VMAX IP Plus VP16xT16P	VMAX IP Plus VP12xT8P	VMAX IP Plus VP9xT4P	
<b>Operating system</b>	Embedded Linux®	Embedded Linux®	Embedded Linux®	
<b>System</b>	<b>Channel</b>	16 channels PoE	8 channels PoE + 4 bonus channels	4 Channels PoE + 5 bonus channels
	<b>No. of PoE</b>	16-PoE channels	8-PoE channels	4-PoE channels
<b>Display</b>	<b>Speed</b>	Total 480fps	Total 360fps	Total 270fps
	<b>Screen mode</b>	1, 4, 9, 12 and 16	1, 4, 9 and 12	1, 4 and 9
<b>Max. HDD bay</b>	4 x SATA HDD	2 x SATA HDD	1 x SATA HDD	
<b>Video-in</b>	IP cameras, max 5MP (2592x1920) resolution	IP cameras, max 5MP (2592x1920) resolution	IP cameras, max 5MP (2592x1920) resolution	
<b>Video-out</b>	True HD output, VGA	True HD output, VGA	True HD output, VGA	
<b>Recording speed</b>	960x480/576 (960H): 480fps	960x480/576 (960H): 240fps	960x480/576 (960H): 120fps	
	1280x720 (HD): 480fps	1280x720 (HD): 240fps	1280x720 (HD): 120fps	
	1920x1080 (HD): 480fps	1920x1080 (HD): 240fps	1920x1080 (HD): 120fps	
	2560x1600 (4MP): 240fps	2560x1600 (4MP): 120fps	2560x1600 (4MP): 60fps	
	2560x1944 (5MP): 160fps	2560x1944 (5MP): 80fps	2560x1944 (5MP): 40fps	
<b>Recording resolution</b>	Simultaneous dual stream recording	Simultaneous dual stream recording	Simultaneous dual stream recording	
<b>Audio output</b>	1 output	1 output	1 output	
<b>Alarm input / Relay output</b>	4 inputs / 1 output	4 inputs / 1 output	4 inputs / 1 output	
<b>PTZ control</b>	RS-485, ONVIF	RS-485, ONVIF	RS-485, ONVIF	
<b>LAN</b>	1 x Gigabit ethernet port	1 x Gigabit ethernet port	1 x Gigabit ethernet port	
<b>Power requirements</b>	110~240V AC	48V DC	48V DC	
<b>Power consumption</b>	200W total power budget, 15.4W per PoE port	158.4W total power budget, 15.4W per PoE port	90.24W total power budget, 15.4W per PoE port	
<b>Operating temperature</b>	41~104°F (5~40°C)	41~104°F (5~40°C)	41~104°F (5~40°C)	
<b>Dimension (WxDxH)</b>	16.53" x 15.75" x 3.46"	14.17" x 14.96" x 2.6"	10.39" x 9.65" x 1.73"	



## Unlike Any Other™

VMAX® A1 Plus™ DVRs support HD-Analog and HD-TVI signals up to 5MP, and analog up to 960H.

The DVRs offer a seamless upgrade to HD resolution for new ROI from existing coaxial infrastructure. The VMAX® A1 Plus™ can record 1080p video at real-time 30fps. Up the Coax (UTC) remote configuration is available with all compatible cameras. The VMAX® A1 Plus™ DVRs are available in 4-, 8- and 16-channel models with up to 20TB of storage.



### PathFinder™ auto port-forwarding

Easy and secure peer-to-peer remote connection without opening ports.



### C3™ CMS

C3™ CMS takes video management to the next level. You are in complete command to control all your video surveillance systems in one intuitive interface. Easy-to-program alerts let you take action in real-time and manage the health of your devices.



### Camera Group Recording

Designate a group of cameras to respond to an alert from one camera.



### Channel Swap

Swap a camera's channel assignment without changing the cable connections.



### Mobile Apps and Apple TV

View your system from anywhere with a smartphone or tablet, even on an Apple TV!



### Up the Coax(UTC) Communications

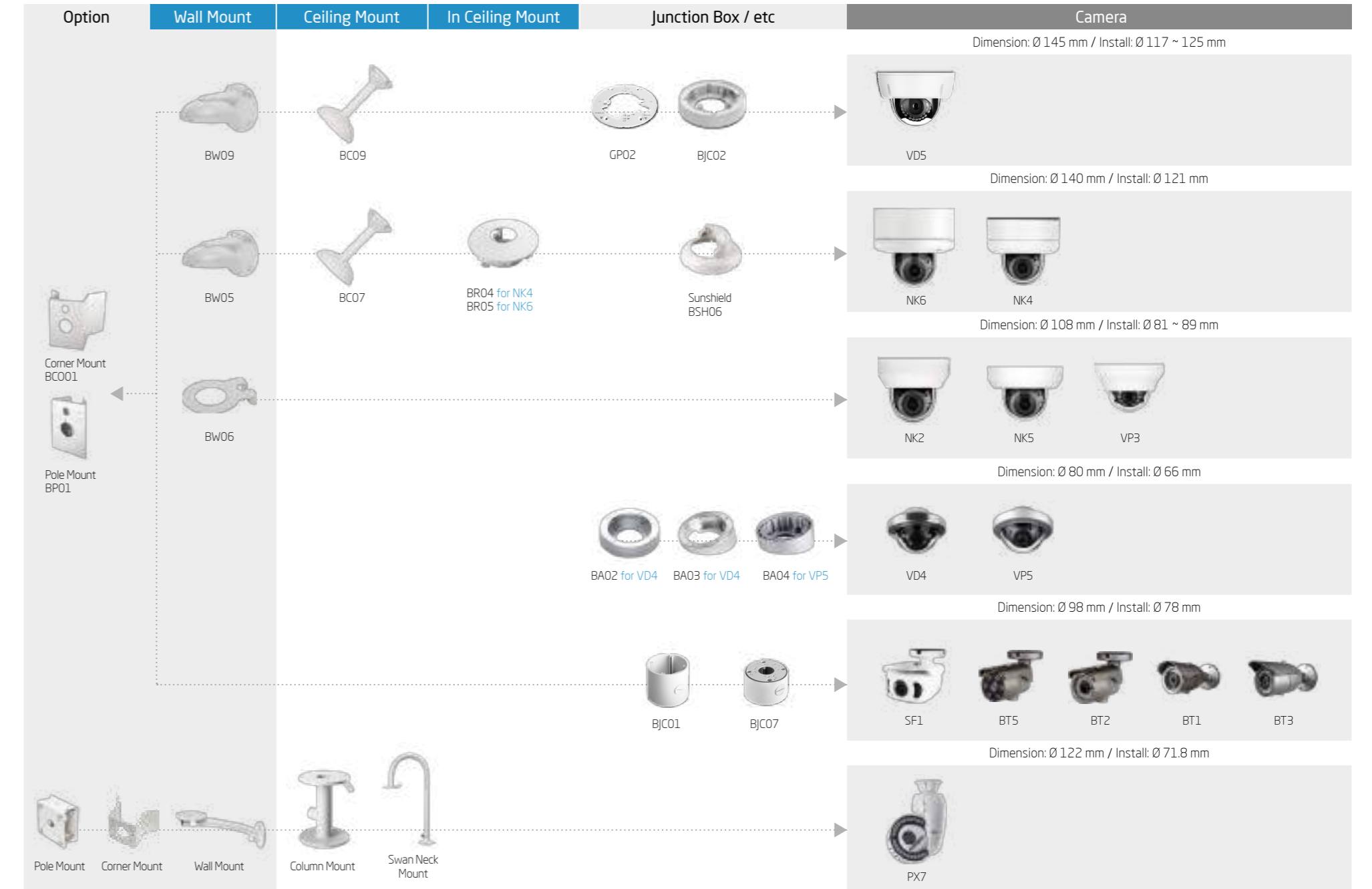
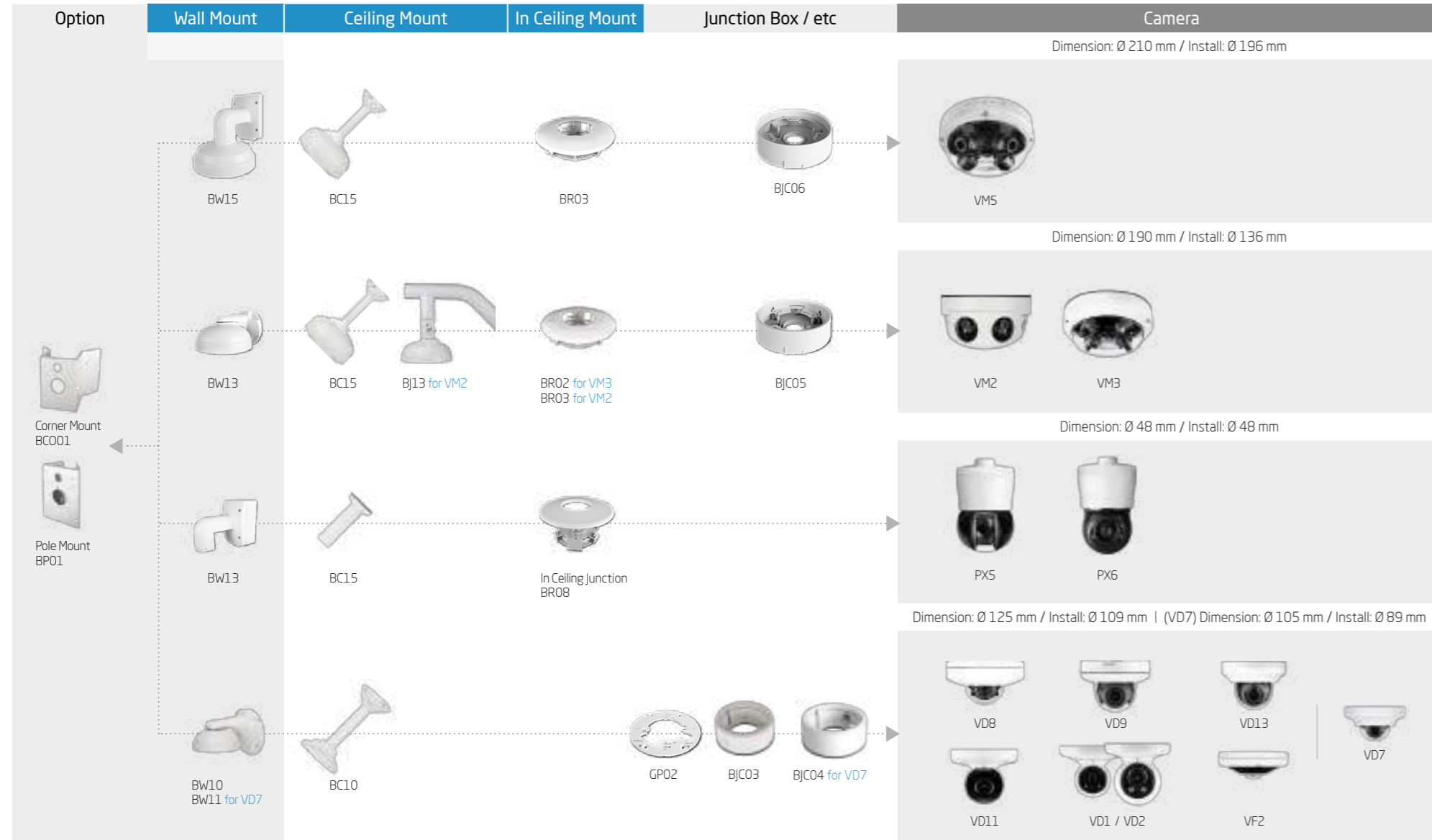
Get off the ladder. Make adjustments to your camera from the DVR.

## DVR



	VMAX A1 Plus VA1P16xT	VMAX A1 Plus VA1P8xT	VMAX A1 Plus VA1P4xT	
<b>Signals supported</b>	Analog signal up to 960H, HD-Analog and HD-TVI up to 5MP			
<b>Input video</b>	16 channels	8 channels	4 channels	
<b>Video live</b>	<b>Frame rate</b>	1-30fps, max 480fps total	1-30fps, max 240fps total	1-30fps, max 120fps total
<b>Video output</b>	HDMI: up to 3840x2160 (4K), VGA: up to 1920x1080, Spot: D1			
<b>Audio</b>	4 input / 1 output	4 input / 1 output	4 input / 1 output	
<b>Alarm</b>	4 input / 1 output	4 input / 1 output	4 input / 1 output	
<b>Operating system</b>	Embedded Linux®			
<b>Recording</b>	<b>Recording frame rate</b>	960x480/576 (960H): 480fps	960x480/576 (960H): 240fps	960x480/576 (960H): 120fps
		1280x720 (HD): 480fps	1280x720 (HD): 240fps	1280x720 (HD): 120fps
		1920x1080 (HD): 480fps	1920x1080 (HD): 240fps	1920x1080 (HD): 120fps
		2560x1600 (4MP): 240fps	2560x1600 (4MP): 120fps	2560x1600 (4MP): 60fps
		2560x1944 (5MP): 160fps	2560x1944 (5MP): 80fps	2560x1944 (5MP): 40fps
<b>Recording resolutions</b>	HD-analog and HD-TVI up to 5MP cameras and all analog resolutions up to 960H			
<b>Storage</b>	2x SATA HDD / Up to 20TB	1x SATA HDD / Up to 10TB	1x SATA HDD / Up to 10TB	
<b>Access</b>	<b>Web viewer</b>	Live, playback and configuration up to 10 multiple connections		
	<b>Mobile client</b>	Mobile app for Apple® and Android® smart phones and tablets		
	<b>Client monitoring software</b>	Mac® (Apple® S/W), C3™ (CMS S/W)		
<b>Operating temperature</b>	41°F ~ 104°F (5°C ~ 40°C)			
<b>Electrical</b>	<b>Power</b>	DC12V / 60W, 5A	DC12V / 39.6W, 3.3A	DC12V / 18W, 1.5A
<b>Dimensions</b>		15.15" x 12.4" x 1.88" (385 x 315 x 48 mm) (LU)	12.4" x 9.52" x 1.77" (315 x 242 x 45 mm) (LU)	12.4" x 9.52" x 1.77" (315 x 242 x 45 mm) (LU)

# ACCESSORIES





# VERTICAL SOLUTIONS



## Hilton Hotels | Hotel

\* Model name : CPRO DW

### Customer

Hilton Hotels, an American hotel company founded by Conrad Hilton in 1919, has more than 4,600 hotel branches in 100 countries around the world and has partnerships with several airlines and car rental companies.  
[www.hilton.com](http://www.hilton.com)

### Solution | IP Camera

NVD8-22-R MF21M4TIR

## Mercedes Benz | Automotive

### Customer

Mercedes-Benz is an automobile manufacturer based in Germany. Its parent company is Daimler AG, and subsidiaries include high-performance division Mercedes-AMG and luxury division Mercedes-Maybach.  
[www.mercedes-benz.com](http://www.mercedes-benz.com)

### Solution | IP Camera

NVD8-22-R MF21M4TIR | CBT4-12-RL LPR650U

## National Park Service | Government

### Customer

The National Park Service, one of the U.S. federal government agencies, preserves the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations.  
[www.nps.gov](http://www.nps.gov)

### Solution | IP Camera

NNK6-22-R MV421TIR | MV421TIB  
NBT5-45-R MB44W650



<<< Learn more about our Success Stories.

## End-to-End Solutions provider

We are a reliable security solution partner for a wide variety of customers worldwide.

## McDonalds | F&B

### Customer

McDonald's, a global fast food chain based in the U.S., one of the world's leading food service brands with more than 36,000 restaurants in more than 100 countries.  
[www.mcdonalds.com](http://www.mcdonalds.com)

### Solution | IP Camera

NVD9-22-R MV82WIA | NVD7-22-R MV72Wi28A  
NVD9-45-R MV85DIA | NNK6-22-R MV421TIR  
NVP3-12-R MD72i4V | NVD7-22-R MV72Wi28  
NVD8-22-R MF21M4TIR

### | Analog Camera

CVD1-12-R D3263WTIR | CBT4-12-RL LPR650U  
CVD2-12-R V6263WTIR | NVF2-45-R PVF5M1TIR  
CBT1-12-R B6263WTIR



## Puma | Fashion

### Customer

Puma, a German clothing brand selling sporting goods. With the phrases "Forever Fast" and "World's Fastest Sports Brand", it focuses on sports categories such as golf, motor sports and soccer. Exporting to more than 80 countries around the world.  
[www.us.puma.com](http://www.us.puma.com)

### Solution | IP Camera

CBT5-45-RL MB44iALPR | NVD9-45-R MV84WIA  
NVF2-58-R PVF9M2TIR | NVM2-A21 PZ21M69T



## T-Mobile | Telecommunications

### Customer

T-Mobile, a German wireless service provider providing mobile services in Europe and North America is headquartered in Germany. Founded in 1990, it is a subsidiary of Deutsche Telekom, now has about 110 million subscribers.  
[www.t-mobile.com](http://www.t-mobile.com)

### Solution | IP Camera

MF10M36TIR

