

Hikvision PanoVu<sup>™</sup> Series Network Cameras

# Panoramic Solutions for Vast Coverage Applications



### PanoVu: One Camera for Panoramic Wide Area Coverage



Effectively monitoring large areas such as public plazas, arenas, stadiums, parking lots, and busy traffic intersections poses various challenges. For large coverage areas, security personnel need to see more with just one camera – not just a panoramic image, but zoomed-in, detailed views as well.

Traditionally, coverage for 360-degree panoramic video application required the installation of four cameras or a fisheye camera. Now, one Hikvision PanoVu flexible camera can replace four standard cameras. In addition, it provides ease of installation and costs savings using a single mounting with one Ethernet cable.



All-in-one solution

While fisheye cameras can cover 360 degrees without dead zones, it is difficult to see details at their edge. Hikvision's PanoVu panoramic solution provides users with a comprehensive 180- or 360-degree coverage, and forensic details.

#### BEFORE









- Low resolution
- · Less detail in the edge
- · Can't zoom in for details

- · Higher resolution
- Detail in the edge
- Image stitching

Hikvision designed the PanoVu 180-degree and the 360-degree Panoramic with PTZ Series all-in-one cameras to capture excellent panorama views and close-up details. Multiple sensors capture panoramic images rendering 180-degree or 360-degree panoramic imaging with real-time ultra-HD resolution. The integrated design and high-speed pan-tilt-zoom action grants the user swift positioning over expansive areas with the power to bring sharp details into focus. At the same time, the PanoVu series cameras utilize Hikvision's ultra-low light DarkFighter technology, for color images in poorly lit environments.

The PanoVu product family features high definition panoramic view cameras up to 32 MP. It also provides supplemental IR and panoramic lighting for clear images in extremely dark environments, and an amazing wide-tilt angle. In addition, because panoramic cameras demand more bandwidth and storage than conventional cameras, Hikvision designed the PanoVu cameras to use H.265+ video compression technology, for efficient video transmission and storage.

The PanoVu Mini Series are compact size cameras with budget-friendly pricing, combined with ease of installation and use. The Mini series includes market-proven features of other PanoVu lines, including high edge definition, low image distortion, and powerful PTZ functions. They are used in a wide range of indoor and outdoor applications.

#### Indoor PanoVu mini



183mm (7.2 inch)



76mm

(3 inch)





243mm (9.5 inch)

(10.6 inch)

#### New PanoVu Additions:

PanoVu Dual-Directional cameras are new to the Hikvision PanoVu product family. They feature two multi-megapixel cameras in a compact housing with budget-friendly pricing. One Hikvision dual-directional camera can replace two standard cameras. Applications include coverage of a hallway or retail application, such as monitoring POS terminals, or use of one lens to monitor the entrance and the other for the exit.

161mm (6.5 inch)



## PanoVu Family

Hikvision's PanoVu panoramic multi-sensor cameras are easy to install, require a single installation using one Ethernet cable, and can provide coverage equal to four standard cameras.

Cameras are available in several options, including 180-degree or 360-degree fields of view in 8 MP, or 32 MP resolution choices, and in flexible, mini, and dual-directional series.



#### Panoramic 180°/360° IR

- Features four sensors running high frame rate
- Full 180-degree view stitched together
- Up to 32 MP resolution, popular uses are parking lots, entrances, or other "no dead zone" applications
- 40x optical zoom PTZ for large PanoVu





#### Flexible Series IR

- Four individual sensors with a motorized 2.8 mm 12 mm auto focus lens
- Track design that allows four individual sensor gimbals to be independently placed
- Popular uses include hallway intersections, providing a 270-degree view at a building corner, or any application that requires 360-degree coverage
- Recess mount and smaller form factor are available





#### PanoVu Mini IR

- Three sensors running high frame rate and one PTZ for detailed views
- Compact sizes and budget-friendly pricing
- Suitable for retail, office, and school applications



#### **Dual-Directional Series IR**

- Dual-lens design to capture two separate wide angle views
- Suitable for hallways, parking lots, and retail applications





## Innovative Technology, Simple Installation

With an all-in-one design, a single product enables front-end splicing, panoramic views, and precise details. Moreover, it delivers both panorama and every detail through full shot (180-degree or 360-degree) and close-up views (no additional server needed).

Our easy-to-install dome camera saves time using one cable and a power supply. Characterized by flexibility and ease of operation, it provides a full range of options in the user interface such as ultra-high resolution panoramic views. It also captures the details dynamically in real-time and zoom in by simply clicking on an image.



## Panoramic Views and Detailed Images

Combining several built-in horizontal cameras with PTZ, one PanoVu camera captures 360-degree or 180-degree panoramic views and detailed, high resolution close-up images with up to 36x optical zoom.

Hikvision employs front-end image stitching technology in its unique, all-in-one PanoVu Series Cameras to deliver 180- and 360-degree panoramas without additional servers. The rendered panorama has no visible edges between the stitched images. Images maintain brightness and white balance, perfectly blended for a great user experience—so no graphical flaws hinder detailed imaging in the video.



### DarkFighter Ultra-Low Light Technology and Supplemental Lighting

Certain Hikvision PanoVu camera models use DarkFighter ultra-low light technology to render color images in low light environments down to 0.005 lux, in 180- or 360-degree panoramic mode or PTZ.

Supplemental lighting significantly enhances image quality in extremely dark environments. Traditional panoramic cameras have difficulty merging supplemental light with lens angle. Hikvision's advanced PanoVu cameras overcome this challenge using wide-angle supplemental lighting to perfectly matching the lens angle and display vivid images.



## Smart Codec – H.265+ Optimized Compression

PanoVu Series Cameras also feature Hikvision's H.265+ video compression technology, reducing bandwidth and storage requirements by an average of 70 percent or more while maintaining consistent resolution, frame rates, and detail. It's an efficient way to manage super high resolution video footage.



### **Smart Features**

With smart event and multi-target tracking algorithms, select PanoVu Cameras feature a wide range of smart functions in panoramic mode, including intrusion detection, line crossing detection, and region entrance and exit detection. Hikvision PanoVu cameras can send alarm signals linked to the PTZ for tracking, greatly improving security efficiency.



# Applications

With intelligent and powerful features, the PanoVu Series Cameras can be used for vast coverage areas.

The PanoVu Panoramic 180 or 360 series are ideal for monitoring large areas that typically would require multiple cameras such as airports, transit stations, gymnasiums, scenic ports, and public squares. Fixed lens cameras cover narrow fields of view with great details, but don't take in the whole scene. Single-sensor fisheye cameras provide panoramic views at affordable prices, but are unable to get more detail at greater distances.

Traditional multi-sensor panoramic cameras cover a wide field of view, but users need to manually arrange the images from different sensors in order to see a panorama. The overall user experience suffers from overlaps that duplicate images, gaps where coverage is missing, and tilted imaging that looks unrealistic to the human eye. Panoramic cameras with image stitching capability help to avoid dead zones and provide a panoramic full view of the scene. With the added PTZ, areas of interest can be focused and zoomed on to see important details.



The PanoVu Flexible series cameras give you the ability to monitor from four independent views for up to 270-degrees of the scene. Without the need for multiple cameras, network connection requirements and installation costs are reduced. With zoom in capability and ability to monitor 270-degrees, this series is great for monitoring intersections, parking lots, lobbies, and building corners.



PanoVu Mini series feature a compact design that fits well in public areas and is cost-effective. This series works well for offices, classrooms, lobbies, and retail stores. The mini series provides a 270-degree view with fully adjustable settings to get just the view desired.



The PanoVu Dual-Directional sensor series delivers two views from a single camera and fits perfectly for hallways, walkways, a wide range of businesses. It also supports monitoring of cashier stations for retailers of all sizes to monitor the POS terminal and the customer simultaneously.



## Specifications

### Panoramic 180° Series

	Outdoor 8MP 180° Panoramic camera DARKFIGHTER	Outdoor 32MP 180° Panoramic camera
Model	DS-2CD6924F-IS	DS-2CD6984G0-IHS
Megapixels	8 MP (4×2 MP Stitched or Separate)	32 MP (4×8 MP Stitched or Separate)
Min. Illumination (lux)	Color: 0.007 @ f/1.8 B/W:0 with IR	Color: 0.012 @ f/1.4 B/W:0 with IR
Lens	4mm	2.8mm
Field of View (Horizontal/Vertical)	180° / 86.7°	180° / 95°
Pan/Tilt/Rotation	0° to 355°/0° to 90°/-	0° to 355°/0° to 90°
Day/Night, BLC, WDR	True, Yes, Digital	True, Yes, Digital
IR Range Max. (meters)	20	20
Video Compression	H.265+/H.265/H.264+/H.264/MJPEG	H.265+/H.264/MJPEG
Maximum Image Resolution (pixels)	Stitched Panoramic: 4096×1800	Stitched Panoramic; 8160×3616
Frame Rate	30 fps	30 fps
Image Stitching	Yes	Yes
Record Channel	1	1
<b>Motion Detection</b>	Yes	Yes
Smart VCA	Yes	
Audio Input/Output	IN: 1 line OUT: 1 line	IN: 1 line OUT: 1 line
Alarm Input/Output	2/2	2/2
Local Storage	Support Micro SD/SDHC/SDXC card (128G), local storage and NAS (NFS,SMB/CIFS), ANR	Support Micro SD/SDHC/SDXC card (128G), local storage and NAS (NFS,SMB/CIFS), ANR
Ratings	IP67, IK10, UL/cUL Listed	IP67, IK10, UL/cUL Listed
Operating Temperature Range	-40 to 60 °C (-40 to 140 °F)	-40 °C to +60 °C (-40 °F to +140 °F)
Power Requirements (max.)	12 VDC, 1.5A, max. 18 W PoE (802.3at, 42.5V to 57V), 0.6A to 0.4A, max. 25 W	12 VDC, 1.5A, max. 18 W PoE (802.3at, 42.5V to 57V), 0.6A to 0.4A, max. 25 W

### Panoramic 180°/360° with PTZ Series

	Outdoor 32MP 360° Panoramic with PTZ camera	Outdoor 16MP 180° Panoramic with PTZ camera
Model	DS-2DP3236ZIXS-D/440/T2	DS-2DP1618ZIXS-DE/440/T2
Megapixels	32 MP (8x4MP)	16 MP (4x4MP)
Min. Illumination (lux)	Color: 0.0005 Lux @(F1.6, AGC ON) B/W: 0.0001 Lux @(F1.6, AGC ON)	Color: 0.0005 Lux @(F1.6, AGC ON) B/W: 0.0001 Lux @(F1.6, AGC ON)
Lens	Panoramic:2.8mm PTZ:6.0 to 240 mm(40X)	Panoramic:2.8mm PTZ:6.0 to 240 mm(40X)
Field of View (Horizontal/Vertical)	Horizontal field of view: 2 × 180° Vertical field of view: 85°	Horizontal field of view: 180° Vertical field of view: 85°
Pan/Tilt/Rotation	Panoramic:NA PTZ:Pan: 360° endless, Tilt: -15° to 90° (Auto Flip)	Panoramic:NA PTZ:Pan: 360° endless, Tilt: -15° to 90° (Auto Flip)
Day/Night, BLC, WDR	Yes,Yes,TWDR	Yes,Yes,TWDR
IR Range Max. (meters)	250M	250M
Video Compression	H.265, H.264	H.265, H.264
Maximum Image Resolution (pixels)	Panoramic:2 × 5520 × 2400 PTZ:2560 × 1440" Stitched Panoramic: 4096×1800	Panoramic: 5520 × 2400 PTZ:2560 × 1440
Frame Rate	Panoramic:30fps PTZ:30fps	Panoramic:30fps PTZ:30fps
Image Stitching	Yes	Yes
Record Channel	2	
Motion Detection	Yes	Yes
Smart VCA	Yes	Yes
PTZ Pan, Tilt, Speed	Pan Manual Speed: 0.1°/s to 210°/s (Con- figurable), Pan Preset Speed: 240°/s Tilt Manual Speed: 0.1°/s to 150°/s (Config- urable), Tilt Preset Speed: 200°/s	Pan Manual Speed: 0.1°/s to 210°/s (Configurable), Pan Preset Speed: 240°/s Tilt Manual Speed: 0.1°/s to 150°/s (Configurable), Tilt Preset Speed: 200°/s
Audio Input/Output	Input:1 Output: 1	Input:1 Output: 1
Alarm Input/Output	Input:7 Output: 2	Input:7 Output:2
Ratings	IP66,UL/cUL Listed	IP66,UL/cUL Listed
Operating Temperature Range	-40°C to 60°C (-40°F to 140°F)	-40°C to 60°C (-40°F to 140°F)
Power Requirements (max.)	36 VDC, max. 150 W	36 VDC, max. 150 W; Hi-POE, max. 75 W

#### Panoramic 180° Series

	Outdoor 8MP 360° Panoramic with PTZ mini camera	Indoor 8MP 360° Panoramic with PTZ mini camera
Model	DS-2PT5326IZ-DE	DS-2PT3326IZ-DE3
Megapixels	8 MP (4×2 MP)	8 MP (4×2 MP)
Min. Illumination (lux)	Fixed Sensors: Color: 0.005 @ ƒ/1.6 PTZ: Color: 0.005 @ ƒ/1.6	Fixed Sensors: Color: 0.05 @ ƒ/2.0 PTZ: Color: 0.05 @ ƒ/2.0
Lens	Fixed: 4 mm PTZ: 5 to 50 mm (10x)	Fixed: 2 mm PTZ: 2.8 to 12 mm (4x)
Field of View (Horizontal/Vertical)	80.7°×3 / 43.5°	128.5°×3 / 75.7°
Pan/Tilt/Rotation	0° to 340°/0° to 90°/-	0° to 350°/0° to 90°/-
Day/Night, BLC, WDR	True, Yes, Digital	True, Yes, Digital
IR Range Max. (meters)	Fixed: 30 PTZ: 50	10
Video Compression	H.265/H.264/MJPEG	H.265/H.264/MJPEG
Maximum Image Resolution (pixels)	Fixed: 3x 1920×1080 PTZ: 1x 1920×1080	Fixed: 3x 1920×1080 PTZ: 1x 1920×1080
Frame Rate	Fixed: 20 fps PTZ: 30 fps	Fixed: 30 fps PTZ: 30 fps
Image Stitching	-	-
Recorded Channel	4	
Motion Detection	Yes	Yes
Audio Input/Output	IN: 1 line OUT: 1 line	IN: 1 line OUT: 1 line
Alarm Input/Output	1/1	-
Local Storage	Built-in memory card slot, support MicroSD/ SDHC/SDXC, up to 256 GB	Built-in memory card slot, support Micro SD/SDHC/ SDXC, up to 256 GB
Ratings	IP66, UL/cUL Listed	UL/cUL Listed
Operating Temperature Range	-30 to 65 °C (-22 to 149°F)	-10 to 50 °C (14 to 122 °F)
Power Requirements (max.)	12 VDC & PoE+ (802.3 at, class 4) Max. 27 W (Max. 9 W for IR)	12 VDC & PoE+ (802.3 at, class 4), Max. 24 W (Max. 6 W for IR)

#### **Flexible Series**

	Outdoor 8MP 360° PanoVu Flexible Dome	Outdoor 20MP 360° PanoVu with Flexible Dome
Model	DS-2CD6D24FWD-IZHS	DS-2CD6D54FWD-IZHS
Megapixels	8 MP (4×2 MP)	20 MP (4×5MP)
Min. Illumination (lux)	Color: 0.01 @ f/1.6, AGC on B/W: 0.003 @ f/1.6, AGC on -I: B/W: 0 with IR	Color: 0.01 @ f/1.6, AGC on B/W: 0.003 @ f/1.6, AGC on -I: B/W: 0 with IR
Lens	2.8 to 12 mm	2.8 to 12 mm
Field of View (Horizontal/Vertical)	30° to 96.3° / 17° to 54°	30° to 101° / 17° to 54°
Pan/Tilt/Rotation	-180° to 180°/0° to 135°/0° to 355°	-180° to 180°/0° to 135°/0° to 355°
Day/Night, BLC, WDR	True, Yes, 120 dB	True, Yes, 120 dB
IR Range Max. (meters)	30	30
Video Compression	H.265+/H.264/MJPEG	H.265+/H.264/MJPEG
Maximum Image Resolution (pixels)	Fixed: 4x 1980×1080	Fixed: 4x 2560×1920
Frame Rate	30 fps	24 fps
Image Stitching		
Record Channel	4	4
Motion Detection	Yes	Yes
Smart VCA	Yes 2 channels only	Yes 2 channels only
Audio Input/Output	IN: 1 line OUT: 1 line	IN: 1 line OUT: 1 line
Alarm Input/Output	2/2	2/2
Local Storage	Built-in MicroSD/SDHC/SDXC slot, up to 128 GB	Built-in MicroSD/SDHC/SDXC slot, up to 128 GB
Ratings	IP67, IK10 UL/cUL Listed	IP67, IK10 UL/cUL Listed
Operating Temperature Range	-40 to 60 °C (-40 to 140 °F)	-40 to 60 °C (-40 to 140 °F)
Power Requirements (max.)	12 VDC ±25%, 28 W Hi-PoE 34 W (PoE injector included)	12 VDC ±25%, 28 W Hi-PoE 34 W (PoE injector included)

### Flexible Series cont'd

	Outdoor 16MP PanoVu Flexible Dome	Indoor 16MP PanoVu Flexible Dome
	HIRVESON	
Model	DS-2CD6D54G1-IZS	DS-2CD6D54G1-ZS/RC
Megapixels	16 MP (4×4 MP)	16 MP (4×4 MP)
Min. Illumination (lux)	Color: 0.0125 lux @ (F1.9, AGC ON); B/W: 0.0025 lux @ (F1.9, AGC ON) 0 lux with IR	Color: 0.0125 lux @ (F1.9, AGC ON); B/W: 0.0025 lux @ (F1.9, AGC ON)
Lens	Four 2.8 to 8 mm	Four 2.8 to 8 mm
Field of View (Horizontal/Vertical)	49° to 100°, / 36.4° to 72°	49° to 100°, / 36.4° to 72°
Pan/Tilt/Rotation	Pan: -60° to 60°, tilt: 10° to 90°	Pan: -60° to 60°, tilt: 10° to 90°
Day/Night, BLC, WDR	True, Yes, 120 dB	True, Yes, 120 dB
IR Range Max (meters)	30	-
Video Compression	H.265+/H.264/MJPEG	H.265+/H.264/MJPEG
Maximum Image Resolution (pixels)	4x 2560x1920	4x 2560x1920
Frame Rate	24 fps	24 fps
Image Stitching		
Record Channel	4	4
Motion Detection	Yes	Yes
Smart VCA	Yes 2 channels only	Yes 2 channels only
Audio Input/Output	IN: 1 line OUT: 1 line	IN: 1 line OUT: 1 line
Alarm Input/Output	2/2	2/2
Local Storage	Built-in MicroSD/SDHC/SDXC slot, up to 128 GB	Built-in MicroSD/SDHC/SDXC slot, up to 128 GB
Ratings	IP67, IK10 UL/cUL Listed	IP67, IK10 UL/cUL Listed
Operating Temperature Range	-30 to 60 °C (-22 to 140 °F)	-30 to 60 °C (-22 to 140 °F)
Power Requirements (max.)	12 VDC± 20%, reverse polarity protection; three-core terminal block 24 VAC ± 20%; PoE (802.3at, class 4) Hi-PoE 22 W (PoE injector included)	12 VDC± 20%, reverse polarity protection; three-core terminal block 24 VAC ± 20%; PoE (802.3af, class 0) Hi-PoE 22 W (PoE injector included)

	Outdoor 10MP Dual-Directional Dome	Outdoor 16MP Dual-Directional Dome
		Maxistar Maxistar
Model	DS-2CD6D52G0-IHS	DS-2CD6D82G0-IHS
Megapixels	10 MP (2×5 MP)	16 MP (2×8 MP)
Min. Illumination (lux)	Color: 0.009 lux @ (f/1.6, AGC on), 0 lux with IR	Color: 0.056 lux @ (f/2.0, AGC on), 0 lux with IR
Lens	2.8 mm @ f/1.6 4 mm @ f/1.6 6 mm @ f/1.6	2.8 mm @ f/2.0, 4 mm @ f/2.0, 6 mm @ f/2.0
Field of View (Horizontal/Vertical)	H 97°, V 70° H 79°, V 57° H 49°, V 35°	H 103°,V 53°, H 79°, V 41°, H 50°, V 27°
Pan/Tilt/Rotation	Pan: -90° to 90°, tilt: 0° to 60° R: 0° to 355°	Pan: -90° to 90°, tilt: 0° to 60° R: 0° to 355°
Day/Night, BLC, WDR	True, Yes, 120 dB	True, Yes, 120 dB
IR Range Max. (meters)	30	30
Video Compression	H.265+/H.265/H.264+/H.264/MJPEG	H.265+/H.265/H.264+/H.264/MJPEG
Maximum Image Resolution (pixels)	2x 2560x1920	2x 3840x2160
Frame Rate	30 fps	24 fps
Image Stitching	-	-
Recorded Channel	2	2
Motion Detection	Yes	Yes
Smart VCA	-	
Audio Input/Output	IN: 1 line OUT: 1 line 2 built-in microphones	IN: 1 line OUT: 1 line 2 built-in microphones
Alarm Input/Output	1/1	1/1
Local Storage	Built-in MicroSD/SDHC/SDXC slot, up to 128 GB	Built-in MicroSD/SDHC/SDXC slot, up to 128 GB
Ratings	IP67, IK10 UL/cUL Listed	IP67, IK10 UL/cUL Listed
Operating Temperature Range	-40 to 60 °C (-40 to 140 °F)	-40 to 60 °C (-40 to 140 °F)
Power Requirements (max.)	12 VDC, 0.9A, maximum 11 W PoE: (802.3af, 36 V to 57 V), 0.3 A to 0.2 A, maximum 11 W	12 VDC, 0.9A, maximum 11 W PoE: (802.3af, 36 V to 57 V), 0.3 A to 0.2 A, max- imum 11 W

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