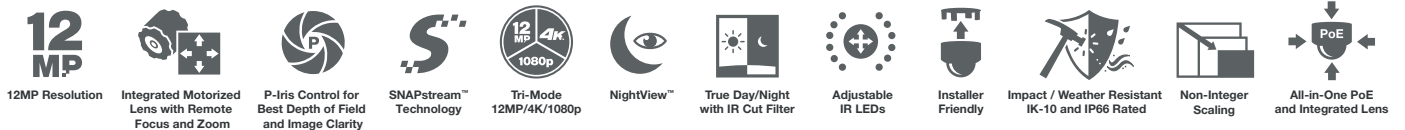# **Mega**Dome® UltraHD IP Megapixel Camera

12 Megapixel (MP) H.264 Motorized P-Iris Lens True Day/Night Indoor/Outdoor Dome IP Camera with SNAPstream™ (Smart Noise Adaptation and Processing), NightView™, WDR (Wide Dynamic Range), and Adjustable IR

The 12MP/4K/1080p MegaDome® UltraHD "tri-mode" network camera is part of the new generation of Arecont Vision's MegaDome cameras. This fully compliant implementation of H.264 (MPEG-4, Part 10) provides full 3968 x 2992 megapixel resolution at video frame rates of 20 frames per second (fps)* at 12MP, 30fps* while in 4K (8.3MP), and 60fps* while in 1080p (2.1MP). The MegaDome UltraHD camera series provides an all-in-one solution with integrated 12MP day/night camera, remote focus, remote zoom, P-Iris, 4.4–10mm lens, in an installer-friendly IP66 water/dust ingress rated housing, and vandal resistant, IK-10 rated dome enclosure.

Features include SNAPstream™ (Smart Noise Adaptation and Processing) to reduce bandwidth without impacting image quality, NightView™ for strong low light performance, non-integer scaling, privacy masking, extended motion detection, flexible cropping, forensic zooming, multicasting and Power over Ethernet (PoE - IEEE 802.3af). Built with Arecont Vision massively-parallel MegaVideo® processing technology, the camera series offers more than 38-times the resolution of standard resolution IP cameras. It offers the ability to output full real-time frame rates and deliver high-quality megapixel imaging for both indoor and outdoor applications.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12MP Resolution | Integrated Motorized Lens with Remote Focus and Zoom | P-Iris Control for Best Depth of Field and Image Clarity | SNAPstream™ Technology | Tri-Mode 12MP/4K/1080p | NightView™ | True Day/Night with IR Cut Filter | Adjustable IR LEDs | Installer Friendly | Impact / Weather Resistant IK-10 and IP66 Rated | Non-Integer Scaling | All-in-One PoE and Integrated Lens |

## Series Features

- 12 Megapixel at 20fps*
- 12MP/4K/1080p Tri-Mode with 4K at 30fps and 1080p at 60fps*
- SNAPstream™ Capability to Reduce Bandwidth without Impacting Image Quality
- Remote Focus/Zoom P-Iris Lens
- P-Iris Control to Get Best Depth of Field and Image Clarity
- WDR: See Clearly in Shaded and Bright Light Conditions Simultaneously
- NightView™ for Strong Low Light Performance
- True Day/Night Functionality with Mechanical IR Cut Filter
- Dual Encoder H.264/MJPEG

- Privacy Mask, Motion Detection, Flexible Cropping, Bit Rate Control, Multi-Streaming, Multicasting, Forensic Zooming, and Non-Integer Scaling
- Network Protocols Include SNMP, SNTP, HTTPS, 802.1x, IPv4, DHCP, and More
- IR LEDs with Adjustable Beam Angle and LED Intensity
- Total PoE Solution (No External Power Required for IR LEDs) with Auxiliary Power: 12–24V DC
- Outdoor Rated IP66 and IK-10 Impact-Resistant Housing
- Easily Adjustable 3-Axis Gimbal

\* Maximum with H.264 compression

## Camera Imaging Specifications

| Model | | AV12ZMD-401 |
|---|---|---|
| **Image Sensor (CMOS)** | | 12MP |
| **Optical Format** | | 1/1.7" |
| **Pixel Pitch** | | 1.85µm |
| **Minimum Illumination** | Color (Day Mode) | 0.03 Lux |
| | Color Binning (Day Mode) | 0.015 Lux |
| | B/W (Night Mode) | 0.003 Lux, IR sensitive |
| **Full FOV Resolution** | | 3968 H x 2992 V |
| **1/4 Resolution (Half Resolution)** | | 1984 H x 1496 V |
| **Scaling** (See Scaling Resolution Chart Below) | | Yes |
| **Dynamic Range** | | 70.7dB (WDR) |
| **Maximum SNR** | | 40.1dB |
| **Frame Rates*** | Maximum Resolution | 20fps (3968 x 2992) |
| | 4K Resolution (8.3MP) | 30fps (3840 x 2160) |
| | Half Resolution | 20fps (1984 x 1496) |
| | 1080p Resolution (2.1MP or 4K Binning Mode) | 60fps (1920 x 1080) |
| **Lens** | | 4.4–10mm Integrated, 1/1.7", F/1.2, H-FOV = 99°–45° (H-FOV = 96°–43° at 4K or 1080p Resolution) |

## Scaling Resolution Chart**

| Scaled Resolution | Horizontal | Vertical | Pixel Count |
|---|---|---|---|
| **720p** | 1280 | 720 | 921600 |
| **XVGA** | 1024 | 768 | 786432 |
| **DVGA (16:9)** | 1136 | 640 | 727040 |
| **DVGA (3:2)** | 960 | 640 | 614400 |
| **SVGA** | 800 | 600 | 480000 |
| **D1 (PAL)** | 720 | 576 | 414720 |
| **4CIF (PAL)** | 704 | 576 | 405504 |
| **D1 (NTSC)** | 720 | 480 | 345600 |
| **4CIF (NTSC)** | 704 | 480 | 337920 |
| **VGA** | 640 | 480 | 307200 |
| **2CIF (PAL)** | 704 | 288 | 202752 |
| **HVGA (4:3)** | 480 | 360 | 172800 |
| **2CIF (NTSC)** | 704 | 240 | 168960 |
| **HVGA (8:3)** | 640 | 240 | 153600 |
| **HVGA (3:2)** | 480 | 320 | 153600 |
| **HVGA (16:9)** | 480 | 272 | 130560 |
| **CIF (PAL)** | 352 | 288 | 101376 |
| **CIF (NTSC)** | 352 | 240 | 84480 |
| **QVGA (SIF)** | 320 | 240 | 76800 |
| **QCIF (PAL)** | 176 | 144 | 25344 |
| **QCIF (NTSC)** | 176 | 120 | 21120 |
| **SQCIF** | 128 | 96 | 12288 |

## Programmability

| | |
|---|---|
| **Optics** | Remote focus, remote zoom, P-iris |
| **Low Light Performance** | NightView™ technology |
| | Pixel binning in 4K mode |
| **Picture-in-Picture** | Simultaneous delivery of full field-of-view and zoomed images |
| **Programmable Shutter Speed** | Controls motion blur, 1ms–500ms |
| **Motion Detection** | Real-time, 1024 detection zones |
| **Privacy Masking** | Unlimited |
| **Scaling** | Non-integer scaling down to 128x96 |
| **Casino Mode™** | Maintains 30fps or higher (4K and 1080p modes only) |
| **Flexible Cropping** | Resolution windowing down to 1x1 pixel for JPEG and 2x2 pixels for H.264 |
| **Backlight Compensation** | Multi-matrix white balance |
| **Flicker Control** | 5Hz–255Hz adjustable |
| **Image Rotation** | 180° image flip |
| **Efficiency** | SNAPstream™ (Smart Noise Adaptation and Processing) |
| | Bit rate and bandwidth limitation control |
| | Bandwidth and storage savings by running at 1/4 resolution |
| **Sharpness** | Selectable enhancement level |
| **Miscellaneous** | Programmable resolution, brightness, saturation, gamma, tint |
| | Electronic pan, tilt, zoom (PTZ) |

* Maximum with H.264 compression
** All scaled resolutions are available on all cameras that support scaling

+1.818.937.0700 | www.arecontvision.com | avsales@arecontvision.com

## Data Transmission

| | |
|---|---|
| **Compression Type** | H.264 MPEG-4, Part 10 ISO/IEC 14496-10 AVC |
| | 21 levels of quality |
| **Network Protocols** | SNMP, SNTP, HTTP1.0, HTTP1.1, HTTPS, IPv4, 802.1x, RTSP, RTP/TCP, RTP/UDP, TFTP, DHCP |
| **Network Interface** | 100/1000 Base-T Ethernet |
| **Multi-Streaming** | 4 non-identical streams |

## Compliance

| | |
|---|---|
| **Listings** | **UL CB Scheme**: IEC 60950-1(Ed.2), IEC 60950-1(Ed.2); Am.1, IEC 60950-1(Ed.2); Am.2, IEC 60950-22(Ed.1) |
| **FCC Compliance** | Title 47, Part 15 (47 CFR 15) Subpart B Class A |
| **Environmental** | REACH 1907/2006/EC, WEEE 2012/19/EU |
| **Markings** | **CE:** 2014/30/EU (EMC Directive), 2014/35/EU (Low Voltage Directive), 2011/65/EU (RoHS Directive) EN 55022:2010 Class A, EN 55024:2010, EN 61000-3-2:2006+A1:2009+A2:2009, EN61000-3-3: 2008 EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 |
| **Networking Standard** | IEEE 802.3af-2003 PoE Standard, Class 3 |
| **Mechanical** | IK-10 (EN62262), IP66 (EN60529) |
| **CoO** | Made in the USA |

## Environmental

| | |
|---|---|
| **Operating Temperature** | -40°C (-40°F) to +50°C (122°F) |
| **Humidity** | 0% to 90% (non-condensing) |
| **Storage Temperature** | -40°C (-40°F) to +60°C (140°F) |

## Electrical

| | |
|---|---|
| **Alarm Input/Output** | General purpose opto-coupled, 1 input/1 output |
| **Power Over Ethernet** | PoE 802.3af, Class 3 |
| **Auxiliary Power** | 12–24V DC |
| **Power Consumption** | 12.4W / 14.1W (IR on) |

## Mechanical

| | | |
|---|---|---|
| **Casing** | | Die-cast aluminum chassis with 4" polycarbonate dome bubble |
| | | IP66 weather proof standard |
| | | Impact resistant, IK-10 rated |
| **Gimbal** | | Easily adjustable 3-axis camera gimbal w/360° pan, 77° tilt (w/ full field of view from mounting surface), and 180° z-axis |
| **Dimensions** *(See Dimensions)* | **Unit** | Ø 5.77" (146.7mm) x 5" H (128mm) |
| | **Packaged** | 6" H (150mm) x 7.5" W (190mm) x 8" L (200mm) |
| **Weight** | **Unit** | 2.25lbs (1.02kg) |
| | **Packaged** | 2.8lbs (1.27kg) |

## IR Illuminator

| |
|---|
| 12 pcs 850nm LEDs with Adjustable IR / 50ft (15m) IR distance (max) / 60° and 80° IR angle |
| Total PoE solution (no external power requirement) |

## Dimensions
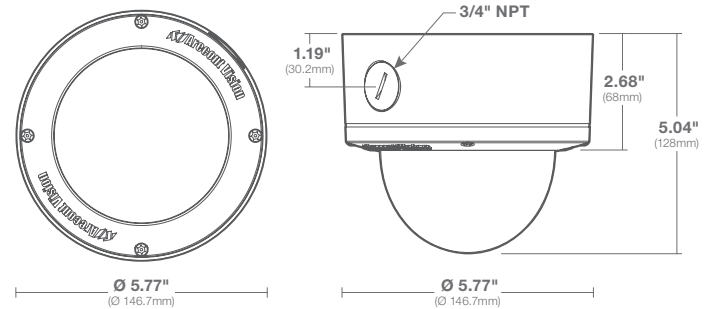


*See Next Page for Ordering Information*

## Accessories

| | |
|---|---|
| **AV-CRMA** | Corner Mount Adapter |
| **AV-FMA** | Flush Mount Adapter |
| **AV-JBA**[1] | Standard Junction Box |
| **AV-PMA** | Pole Mount Adapter |
| **AV-PMJB** | Pendant Mount Bracket with Standard Junction Box *(Fits Cap 1.5" NPT, Box Fits 3/4" NPT)* |
| **AV-WMJB** | Wall Mount Bracket with Standard Junction Box *(Fits Cap 1.5" NPT, Box Fits 3/4" NPT)* |
| **MD-CAP** | Mounting Cap for MegaDome® Series and SurroundVideo® G5 Mini |
| **MD-JBA** | Round Junction Box for MegaDome Series and SurroundVideo G5 Mini |

[1] Replacement part for AV-PMJB and AV-WMJB

## Model Numbers

| 12MP | AV12ZMD-401 |
|---|---|

## Create Your Model  (Example: AV12ZMD-401)

| | Megapixel Resolution | Generation | Body Type | Compression |
|---|---|---|---|---|
| **AV** ➡ | **12** ➡ | **Z**[2] ➡ | **MD**[3] ➡ | **401** |

[2] "Z" represents the platform
[3] "MD" represents MegaDome product line

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