

## AV20175DN 20 megapixel Omni-Directional H.264 Day/Night Camera

This A&E specification is written according to Construction Specifications Institute (CSI) 3-Part Format, based on MasterFormat™ (2009 Edition) and The Project Resource Manual – CSI Manual of Practice. [www.csinet.org/masterformat](http://www.csinet.org/masterformat).  
Manufacturer is responsible for the accuracy of the technical data included in this specification.

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### Division 28 – Electric Safety and Security Section 28.23.29 – Video Surveillance – Remote Devices and Sensors

#### Part 1 General

##### 1.1 General Requirements

The camera shall be of manufacturer's official product line, designed for continuous commercial or industrial use. The camera shall be based on standard parts and components and utilize proven technology using open and published protocols.

All camera installation, configuration, setup, programming and all related work shall be performed by electronic technicians thoroughly trained in the installation and service of the equipment provided and in complete compliance with all local codes and regulations.

All equipment provided shall be backed by a three-year manufacturer warranty.

##### 1.2 Certifications and Standards

- a) European Community Directives:
  - 2004/108/EC (EMC Directive);
  - 2006/95/EC (Low Voltage Directive);
  - 2011/65/EU (RoHS Directive)
  - 1907/2006/EC (REACH Directive)
  - 2002/96/EC (WEEE Directive)
  
- b) European EMC Standards to which conformity is declared:
  - EN 55022:2010 Class A
  - EN 55024:2010
  - EN 61000-3-2:2006+A1:2009+A2:2009
  - EN61000-3-3: 2008
  - EN60950-1:2006+A11:2009+A1:2010+A12:2011



- c) UL Listing
  - CB Test Report (IEC 60950-1 (ed. 2) and IEC 60950-22 (ed. 1))



- d) FCC Standard Compliance:  
Title 47, Part 15 (47 CFR 15) Subpart B Class A
- e) Mechanical Standards:  
ANSI/IEC 60529-2004 - IP66 dust/water Ingress protection rating  
EN62262:2002 – IK-10 impact rating
- f) Video Compression Technology  
H.264 MPEG-4, Part 10 ISO/IEC 14496-10 AVC
- g) Networking Standard:  
IEEE 802.3af-2003 PoE Standard, Class 3  
IPv4
- h) Interoperability Standard  
PSIA compliant
- i) Country of Origin  
FTC “Made in USA” standard compliant

## Part 2 Products

### 2.1 Manufacturer

**Arecont Vision, LLC**  
**425 E. Colorado St. #700**  
**Glendale, CA 91205**  
**Phone: 818-937-0700**  
**877-226-3728**  
**Fax: 818-937-0464**  
**[www.arecontvision.com](http://www.arecontvision.com)**

### 2.2 General

The AV20175DN SurroundVideo<sup>®</sup> series network camera is dual encoder (H.264 & MJPEG), 20 megapixel resolution, Omn-Directional Day/Night IP camera, designed to provide an all-in-one solution with four integrated 5-Megapixel CMOS sensors, IK-10 vandal resistant dome and housing, rated IP66 for water and dust protection, to use camera for indoor and outdoor applications.

The AV20175DN is a PoE (IEEE 802.3af) compliant Day/Night camera, featuring PSIA compliance, privacy masking, extended motion detection and flexible cropping.

Built with Arecont Vision’s proprietary massively-parallel MegaVideo<sup>®</sup> technology, the AV20175DN has the ability to output multiple image formats allowing simultaneous viewing of the full resolution field of view and regions of interest for high definition forensic zooming.

Binning technique improves low-light performance, increases sensitivity and produces better SNR by combining and averaging pixels. This camera offers over ten times the resolution of standard-resolution IP cameras with the ability to output full real time frame rates.

## 2.3 Hardware

- The camera shall have three configurations: AV20175DN-28 (4x 2.8mm M12 lenses), AV20175DN-08 (4x 8.0mm M12 lenses), AV20175DN-NL (no lenses, ordered separately).
- Lens options shall include the following IR corrected, F1.6, M12 lenses : 2.8mm, 4.0mm, 6.0mm, 8.0mm, 12.0mm, 16.0mm.
- The camera shall utilize four high sensitivity 5-Megapixel CMOS sensors with 1/2.5" optical format, progressive scan and Active Pixel Count: 2560(H) x 1920(V) pixel array
- The camera shall integrate four 2.8mm M20 megapixel IR corrected lenses, 1/2.5", F1.6, Horizontal Field of View of 114°. (AV20175DN-28)
- The camera shall integrate four 8.0mm M20 megapixel IR corrected lenses, 1/2.5", F1.6, Horizontal Field of View of 43°. (AV20175DN-08)
- The camera shall have die-cast aluminum chassis with IK-10 vandal resistant dome. Entire enclosure to be rated minimum IP66 for water and dust protection.
- The camera shall have four individually adjustable 2-axis camera gimbals with 360° pan and 90° tilt for easy and accurate positioning.

## 2.4 Imaging

- The camera shall combine four image sensors for a user configurable field of view.
- The camera shall allow for multiple lens options for a user configurable field of view.
- The camera shall have dual standard compression support with simultaneous streaming of both H.264 and MJPEG formats.
- Each sensor of the camera shall feature automatic exposure, automatic multi-matrix white balance, shutter speed control to minimize motion blur, programmable resolution, brightness, saturation, gamma, sharpness and tint.
- The camera's shutter speed shall be 1ms - 500ms.
- The camera shall feature selectable 50/60 Hz flicker control, windowing, simultaneous delivery of full-field view and zoomed images at video frame rate, instantaneous electronic zoom, pan and tilt, and electronic image rotation by 180 degrees
- The camera shall have multi-streaming support of up to 8 non-identical concurrent streams (different frame rate, bit rate, resolution, quality, and compression format).
- The camera shall have wide dynamic range up to 100 dB and a maximum SNR of 51 dB
- The camera shall have privacy masking, the ability to select multiple regions of an arbitrary shape to block the video. The camera shall have extended motion detection grid, a higher granularity grid of 1024 distinct motion detection zones. User can select between 64 zone based motion detection and extended motion detection to provide backward compatibility with the existing Video Management System (VMS) integration. This feature shall support RTP, HTTP and TFTP protocols, as well as the on-camera web interface.
- The camera shall feature streaming of the full field of view (FOV) and simultaneous multiple regions of interest (ROI) for forensic zooming.
- The camera shall provide 21 levels of compression quality for optimal viewing and archiving.
- It shall be possible to program the camera in binning mode to output lower resolution images: i.e. 5120(H) x 960(V) pixels (1/4 full resolution) at 13 FPS.
- The camera shall provide flexible cropping (Resolution windowing down to 1x1 pixels for JPEG and 2x2 pixels for H.264)
- The camera shall be able to save bandwidth & storage by running at 1/4 full resolution
- The camera shall feature MoonLight™ mode - extended exposure and noise cancellation

- The camera shall be able to support Picture-in-Picture: simultaneous delivery of full field of view and zoomed images

## 2.5 Video

Video frame rate (up to):

3.5FPS @ 10240x1920

11 FPS @ 2560x1920

Video frame rate in binning mode up to:

13 FPS @ 5120x960

## 2.6 Protocols

- The camera shall have Real Time Streaming Protocol (RTSP) support allowing for compatibility with media players such as Apple QuickTime, VLC Player and others.
- The camera shall support both unicast and multicast communication protocol.
- The camera shall support RTSP, RTP over TCP, RTP over UDP (Unicast/Multicast), HTTP1.0, HTTP1.1, TFTP
- 100 Base-T Ethernet Network Interface
- Multi-streaming: 8 non-identical streams (2 active connections to each sensor)

## 2.7 Electrical

General purpose opto-coupled input and output

Power over Ethernet (PoE): PoE 802.3af

Auxiliary Power 12-48V DC, 24VAC

Power consumption: PoE – Class 3; auxiliary- 14W max

## 2.8 Networking

The camera shall be equipped with a 100 Mbps LAN connector

## 2.9 Environmental

Operating temperature -40°C (-40 °F) to +50°C (122 °F)

Stable image temperature 0°C (32 °F) to +50°C (122 °F)

Storage temperature -40°C (-40 °F) to +60°C (140 °F)

Humidity 0% to 90% (non-condensing)

## 2.10 Illumination

Color (non-binning): 0.5 Lux @ F2.0

Color (binning): 0.25 Lux @ F2.0

B/W: 0 Lux, IR sensitive (with additional IR light source)

## 2.11 Packaging

Unit Dimensions (H x Dia) 3.1”H (78.5 mm) x 7.7” dia. (196 mm) Weight: 2.8 lbs (1.27kg)

Packaged Dimensions (H x W x L) 4” (100mm) x 8” (200mm) x 8” (200mm) Weight: 3.4 lbs (1.54kg)

## **2.12 Compatible Accessories**

AV-WMJB – Wall Mount w/ Junction Box  
AV-PMJB – Pendant Mount w/ Junction Box  
AV-CRMA – Corner Mount Adapter  
AV-PMA – Pole Mount Adapter  
SO-CAP – Mount Cap  
SV-EBA – Electrical Box Adapter  
SV-JBA – Junction Box

## **2.13 Related Documents**

AV20175DN Datasheet  
AV20175DN Installation Manual