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Package Contents

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MegaPixel Camera</td>
<td>SurroundVideo® Omni</td>
</tr>
</tbody>
</table>
| Mounting Kit      | Ceiling template  
3x Mounting Screws (#6x1” for wood or sheet metal)  
3x Drywall/Masonry Mounting Anchors  
Ceiling Gasket  
Network Patch Cable  
Security Torx Tool  
Adapter plate (for drop ceiling)  
3x Mounting Screws (#6x2” for adapter plate) |
| Power Cable       | Aux Power Cord                                                              |
| I/O Cable         | Digital Input and Output Adapter                                             |
| Arecont Vision CD | Manual, Warranty, Installation Software                                      |

Notes:

1. Camera Operating Temperature : -40°C (-40°F) to +50°C (122°F)
2. Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application.
3. Always use hardware e.g. screws, anchors, bolts, locking nuts etc. which are compatible with mounting surface and of sufficient length and construction to insure a secure mount.
4. For use in ducts, plenums and other air-handling areas, replace Auxiliary Cable provided with CMP, CL2P or CL3P type wires.
Warranty Information

3 Year Limited Warranty

ARECONT VISION warrants to Purchaser (and only Purchaser) (the “Limited Warranty”), that: (a) each Product shall be free from material defects in material and workmanship for a period of thirty-six (36) months from the date of shipment (the “Warranty Period”); (b) during the Warranty Period, the Products will materially conform with the specification in the applicable documentation; (c) all licensed programs accompanying the Product (the “Licensed Programs”) will materially conform with applicable specifications. Notwithstanding the preceding provisions, ARECONT VISION shall have no obligation or responsibility with respect to any Product that (i) has been modified or altered without ARECONT VISION’s written authorization; (ii) has not been used in accordance with applicable documentation; (iii) has been subjected to unusual stress, neglect, misuse, abuse, improper storage, testing or connection; or unauthorized repair; or (iv) is no longer covered under the Warranty Period. ARECONT VISION MAKE NO WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, OTHER THAN THE EXPRESS LIMITED WARRANTIES MADE BY ARECONT VISION ABOVE, AND ARECONT VISION HEREBY SPECIFICALLY DISCLAIMS ALL OTHER EXPRESS, STATUTORY AND IMPLIED WARRANTIES AND CONDITIONS, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT AND THE IMPLIED CONDITION OF SATISFACTORY QUALITY. ALL LICENSED PROGRAMS ARE LICENSED ON AN “AS IS” BASIS WITHOUT WARRANTY. ARECONT VISION DOES NOT WARRANT THAT (I) THE OPERATION OF THE PRODUCTS OR PARTS WILL BE UNINTERRUPTED OR ERROR FREE; (II) THE PRODUCTS OR PARTS AND DOCUMENTATION WILL MEET THE END USERS’ REQUIREMENTS; (III) THE PRODUCTS OR PARTS WILL OPERATE IN COMBINATIONS AND CONFIGURATIONS SELECTED BY THE END USER; OTHER THAN COMBINATIONS AND CONFIGURATIONS WITH PARTS OR OTHER PRODUCTS AUTHORIZED BY ARECONT VISION OR (IV) THAT ALL LICENSED PROGRAM ERRORS WILL BE CORRECTED.

For RMA and Advance Replacement information visit ArecontVision.com
Installation Overview

Ceiling

Gasket
(Not required for indoor)

NPT Port

Camera Housing

Camera Gimbals (4X)

Mounting Screws

Captive Fasteners

Dome Cover

Gasket
**Installation Overview (with Adapter Plate)**

- **Tethering Eyelet**
  - (Bend by hand)

- **Adapter Plate***

- **Drop Ceiling**

- **Gasket**
  - (Not required for indoor)

- **NPT Port**

- **Camera Housing**

- **Camera Gimbals (4X)**

- **Mounting Screws**

- **Captive Fasteners**

- **Dome Cover**

* Need to bend tethering eyelet before using
Camera Setup

The SurroundVideo® Omni is user configurable. Each individual sensor can be positioned in a variety of ways. Below are some example configurations (top left to bottom right) 1. 270°  2. Straight Line  3. 360° or Hallway  4. 180° or Panoramic  5. Random Example  6. Random Example.

Prior to installing the camera, thought should be given to the sensor positions. It is always easier to make adjustments before the camera is installed.
Camera Adjustment

To position a sensor simply loosen the captive fastener to release the camera assembly from the track plate.

Next, position the camera in the desired location on the track plate. Screw holes around the circumference are spaced in 5 degree increments. Note the arrows marked at 45 degrees as reference points.
Sensor numbering is indicated on the track plate. The number on the track plate corresponds to the sensor number in the camera software.

Sensor positioning and alignment should be considered before camera installation. It is easier to adjust the individual camera positions before the camera is installed into a ceiling. The three slots in the track plate provide additional adjustment of the camera after installation. Simply loosen the three screws to rotate the plate then tighten the three screws after alignment. This feature is most useful for repositioning the cameras mounted to the center locations after camera installation.
Camera Alignment

Alignment of the individual cameras is critical to setup. The individual cameras when placed on the circumference of the track must be in a counterclockwise sequence to create proper alignment when viewing the camera.
Installation

1. Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application.
2. Operating Temperature -40°C (-40°F) to +50°C (122°F)
3. Always use hardware e.g. screws, anchors, bolts, locking nuts etc. which are compatible with mounting surface and of sufficient length and construction to insure a secure mount
4. Visit http://www.arecontvision.com/ and check to ensure your camera has the most current firmware.
5. If using the NPT port always use Teflon tape around threads to ensure proper sealing.
6. If using adapter plate, bend tethering eyelet up 90° by hand.
7. After plugging in the network cable check that the indicator LED’s are indicating the desired conditions (see LED Indicator table).
8. Use Arecont Vision software AV200 located on the CD or available for download at our website (www.arecontvision.com) for camera discovery and setup (see Instruction Manual located on CD or available on our website).
9. Adjust the individual cameras to obtain the desired fields of view (see Focusing Instructions).
10. Lens may be further secured by tightening the lens lock screw using Phillips head screwdriver.
11. Install the Dome Cover by aligning the captive fasteners with the mating threaded holes on the camera housing.
12. When mounting the Dome Cover to the Camera Housing ensure that the gasket is properly seating and not folded. Failure to do so may result in water and dust ingress.

Best Practice Tips

- When mounting to vertical surface it is best to use the Wall Mount Accessory which includes a Junction Box.
- For outdoor use it is always best to properly seal the product using caulk around the edges to prevent water ingress from mounting to porous or uneven surfaces.
- Use Teflon tape on threaded interfaces.
Focusing the Cameras

1. Open a live view of the camera from your web browser or the AV Software provided (AV200).
2. Loosen the lens lock screw using a phillips head screwdriver (if necessary). Only do so if lens seems very tight when turning. Lock screw should be tightened enough to provide some friction against the lens to avoid focusing problems.
3. Manually rotate the lens to adjust the focus until the desired image is obtained.
4. For some lenses a focus shift will occur once the bubble is in place. Hold the bubble up to the lens when focusing to account for the focus shift or see the “Focusing Alternate Lenses” section below for further instruction.
5. Retighten the lock screw if necessary.
6. Install the Dome Cover by aligning the captive fasteners with the mating threaded holes on the camera housing.
7. When mounting the Dome Cover to the Camera Housing ensure that the gasket is properly seating and not folded. Failure to do so may result in water and dust ingress.

**Tech Tip**
Changing the Lens

1. Remove the Dome Cover by loosening the captive fasteners as shown in Image 1.
2. Loosen the lens lock screw using a phillips head screwdriver (if necessary) as shown in Image 2. Only do so if lens seems very tight when turning.
3. Manually unscrew the lens, this may take several seconds as shown in Image 3.
4. Replace lens as shown in Image 4.
5. Retighten the lock screw if necessary as shown in Image 5.
6. Reinstall Dome Cover per instructions outlined above as shown in Image 6.
**Focusing Alternate Lenses**

When focusing the 6mm, 8mm, 12mm or 16mm lens options you will encounter a focus shift when using the bubble. To account for this follow these steps:

1. Focus the camera without the bubble.
2. Rotate the lens per the chart below. The rotation will account for most of the focus shift.
3. Put cover with bubble on. You should be close to being focused.
4. Remove cover and rotate a couple degrees at a time in either direction until you gain the desired image.

<table>
<thead>
<tr>
<th>Lens</th>
<th>Rotation</th>
<th>Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPM16.0</td>
<td>16mm</td>
<td>&lt;3/4 CCW</td>
</tr>
<tr>
<td>MPM12.0</td>
<td>12mm</td>
<td>1/4 CCW</td>
</tr>
<tr>
<td>MPM8.0</td>
<td>8mm</td>
<td>&gt;1/8 CCW</td>
</tr>
<tr>
<td>MPM6.0</td>
<td>6mm</td>
<td>1/8 CCW</td>
</tr>
</tbody>
</table>

**Example:** Using a 16mm lens you will focus the lens without the bubble until you get the desired image. Rotate the lens almost ¾ of a turn (250°). Put the bubble on and view the image. It should be almost in focus. Remove the bubble and rotate a degree or two in one direction and view the image with the bubble on. Depending on the image you may need to adjust in the opposite direction or continue in the same direction until the desired image is obtained.

**Accessing the Digital Input and Output Connector**

The 4 position connector inside camera housing located on the main circuit board used for I/O can be accessed by removing the track plate. Simply loosen the three screws indicated in the image below, lift the track plate and find the connector. The approximate connector position is indicated by the red circle below.
Digital Input and Output

Use 4 position connector inside camera housing to interface with Digital I/O.

### DIGITAL I/O

<table>
<thead>
<tr>
<th></th>
<th>BLACK IN -</th>
<th>WHITE IN +</th>
<th>YELLOW OUT -</th>
<th>ORANGE OUT +</th>
</tr>
</thead>
</table>

### Electrical Characteristics

<table>
<thead>
<tr>
<th></th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage (V) (Measured between + and – terminals)</td>
<td>ON</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>0</td>
</tr>
<tr>
<td>Output Current (mA) (Measured between + and – terminals)</td>
<td>ON</td>
<td>–</td>
</tr>
<tr>
<td>Applied Voltage Range : 0-80V</td>
<td>OFF</td>
<td>–</td>
</tr>
</tbody>
</table>

**NOTE:** Both the input and the output are electrically isolated from the rest of the camera’s electrical circuitry via general-purpose photo couplers. The input is additionally protected with a serial 250 Ohm resistor and a debouncing circuit. Duration of any input signal should be at least 5ms to comply with the requirements of the debouncing circuit.
Auxiliary Power

If the camera is powered by a separate outside AC or DC power source, run the supplied power cable through the access hole on the camera housing and connect the power cable to the 2-position connector on the main camera board. The approximate location of the 2-position connector is circled in red below.

**NOTE:** Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application.

For use in ducts, plenums and other air-handling areas, replace Auxiliary Cable provided with CMP, CL2P or CL3P type wires.
### LED Indicators

<table>
<thead>
<tr>
<th>LED</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>Flashing</td>
<td>Link has been established.</td>
</tr>
<tr>
<td></td>
<td>Solid</td>
<td>Normal Operation.</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>No connection.</td>
</tr>
<tr>
<td>Green</td>
<td>Flashing</td>
<td>Camera has been accessed. Normal operation.</td>
</tr>
<tr>
<td></td>
<td>Solid</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>No Connection.</td>
</tr>
</tbody>
</table>
Support

Arecont Vision FAQ Page Located at ArecontVision.com

Check the following before you call:

Restore camera to factory default with AV100, AV200 or the camera webpage.

Upgrade to the latest firmware by visiting ArecontVision.com.

Isolate the camera on a dedicated network and test with AV100 or AV200.

Swap the “troubled” camera with a known good camera to see if the problem follows the camera or stays at the location.

Contact Arecont Vision Technical Support one of three ways:

Online Portal : Support.ArecontVision.com

Phone : 1.818.937.0700 (option #1)

Email : support@arecontvision.com
Installation Best Practice

Begin Installation

Wind Vinyl electrical tape on all cables

Adding Teflon thread sealing tape to all male threads

Connect ¾” NPT conduit pipe to junction box adapter

Make sure position of conduit hole is at the lower side forming a “drip loop” below the camera using ¾” galvanized or flex conduit and appropriate fittings

Does conduit pipe go through the wall?

Yes

Tighten all camera screws and ¾” NPT plugs

Caulk the perimeter of the mounting area

End Installation

No

Conduct periodic inspections of the installation. Rust on the metal parts or screws may result in damage to camera

Not Recommended!

Recommended!

Not Recommended!

Recommended!
Camera Discovery, Setup, and Configuration

For camera discovery and setup please use Arecont Vision software AV200 which you can find on the CD included with your camera or at:

http://www.arecontvision.com/softwares.php

The user manual for the AV200 software is included on the CD and is also located on our website.

To configure the camera use either the AV200 software or the web interface utility. The web interface can be accessed by typing the camera IP address into your web browser or by clicking on the web interface button in AV200. The user manual for our web interface is included on the CD and is also located on our website.
Wall Mount Accessory (AV-WMJB)

Installation Notes:

1. 4x mounting screws are #10x1” wood or sheet metal screws (4x mount anchors also included).
2. Always ensure gaskets are properly seated.
3. Use Teflon tape on threaded interfaces.
Pendant Mount Accessory (AV-PMJB)

Installation Notes:

1. 4x mounting screws are #10x1” wood or sheet metal screws (4x mount anchors also included).
2. Always ensure gaskets are properly seated.
3. Use Teflon tape on threaded interfaces.
Mount Template

[120] Φ 4.7

[196] Φ 7.7

[21.40] Φ 0.8
# Troubleshooting

Before troubleshooting, please visit [http://www.arecontvision.com/](http://www.arecontvision.com/) and check to ensure your camera has the most current and correct firmware version.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflections on the image</td>
<td>Lenses face the bubble crease, and the angle between Lenses and bubble is not perpendicular.</td>
<td>Make lenses face bubble perpendicularly and avoid facing the bubble crease.</td>
</tr>
<tr>
<td></td>
<td><img src="image1" alt="Image of Lenses facing bubble crease" /></td>
<td><img src="image2" alt="Image of Lenses facing bubble perpendicularly" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lens facing down the bubble is not tilted up 90°.</th>
<th>Ensure lens is tilted up 90° when facing down the bubble.</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Image of Lens facing down, not tilted" /></td>
<td><img src="image4" alt="Image of Lens facing down, tilted up 90°" /></td>
</tr>
</tbody>
</table>
| Image quality problems or Day/Night switch failure | Day/Night switch failure caused by turning lenses backward X: ![Image of lens turned backward]  
Ensure lens is oriented correctly O: ![Image of lens oriented correctly] | Captive Fastener |
|--------------------------------------------------|--------------------------------------------------|------------------|

- Ensure lens is oriented correctly.
Contact Arecont Vision Technical Support one of three ways:

Online Portal : Support.ArecontVision.com

Phone : 1.818.937.0700 (option #1)

Email : support@arecontvision.com