# H.264 Color or Day/Night
# SurroundVideo®
# Installation Manual



**Arecont Vision**

megapixel technology...
**beyond imagination**

### H.264 Color or Day/Night SurroundVideo® Installation Manual

## Inside the box:

A. Arecont Vision SurroundVideo® camera
B. Mounting template
C. RJ45 female to female coupler
D. Hex key
E. Security L-key
F. Pack of four (4) wood screws and four (4) dry wall anchors

## Not included but needed:

- #1 Phillips head screwdriver
- #2 Phillips head screwdriver
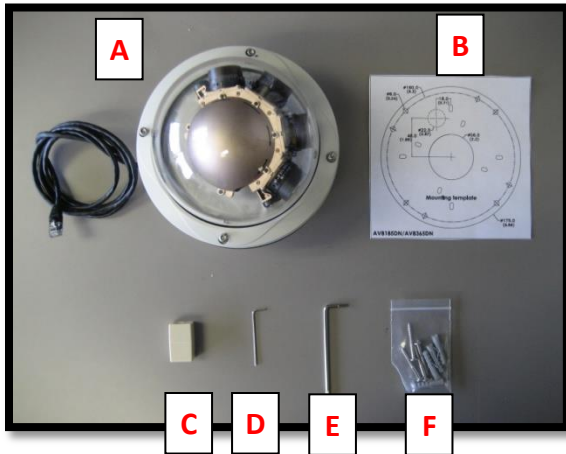- Flat head screwdriver ( for side conduit opening)



**Image 1**

## Mounting the Camera:

1. Remove camera and hardware from the box.

2. Using the mounting template, prepare the mounting provisions for camera installation.

   *NOTE: Since SurroundVideo® series ship with both surface mount and in-ceiling mount, the mounting template takes both into consideration.*

3. Using security L-key, loosen the four (4) screws securing the dome cover **(Image 2)**. Remove vandal resistant dome cover.

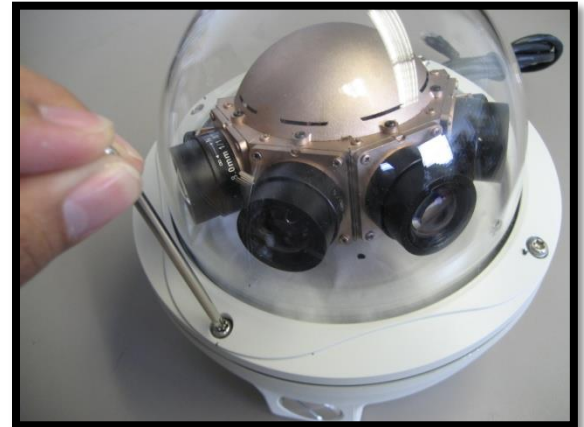   *NOTE: Do not remove screws from the dome cover.*



**Image 2**

4.  If using in-ceiling mount, please use #2 Phillips head screwdriver to loosen the four (4) machine screws (**Image 3**) and remove in-ceiling mount housing from surface mount housing. (**Image 4**)

    *NOTE 1: The above removed screws are also used to attach the camera with in-ceiling mount housing to the pendant mount (**Image 5**) and wall mount (**Image 6**). Do not disregard.*

    *NOTE 2: The in-ceiling mount only can be attached on hard ceilings including wood, plastic, metal and concrete.*

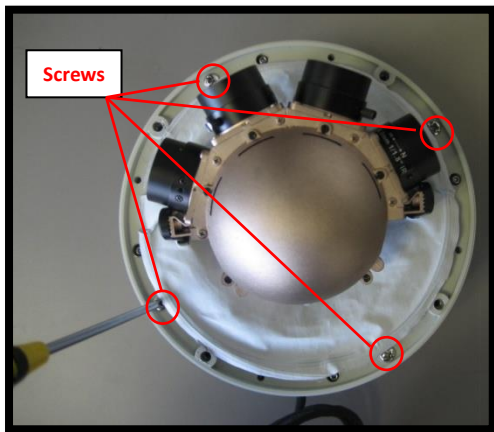    *NOTE 3: For use in a false ceiling, a flush mount adapter kit must be used.*
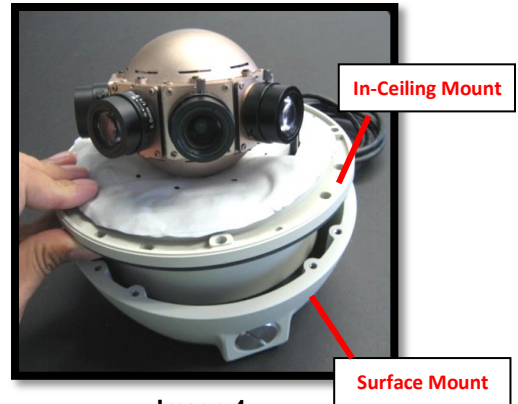


**In-Ceiling Mount**

**Surface Mount**

**Image 4**



**Pendant Mount**

**Image 5**



**Screws**

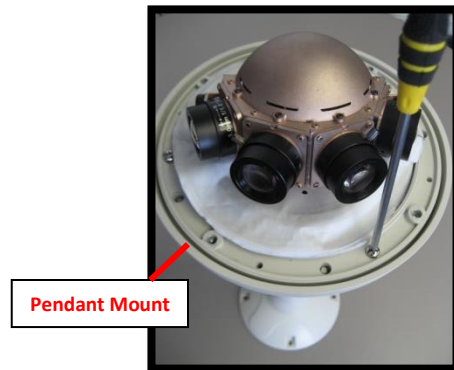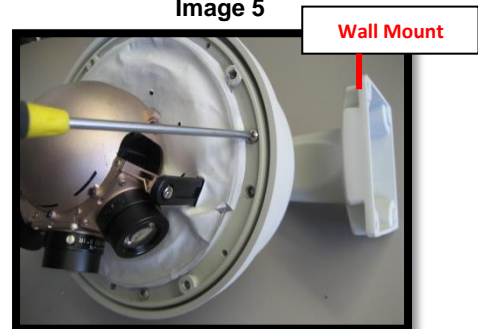**Image 3**



**Wall Mount**

**Image 6**

**Connecting External Power: (Optional)**

*5.* If you are using the side conduit opening on the surface mount, remove the conduit plug by first removing the socket set screw using the provided Allen key **(Image 7)** and remove the conduit plug using a flat screwdriver.

*Note: the conduit fits ¾" NPT standard*

6. If the camera is powered by an outside power supply, 12~48VDC or 24VAC, connect the power cable shown in **Image 8**.

| Red | + |
|-------|---|
| Black | − |

**Table 1**

*NOTE: Make sure that your installation of wires complies with Electrical Code of the local government where the camera is installed and no bare wires are exposed.*
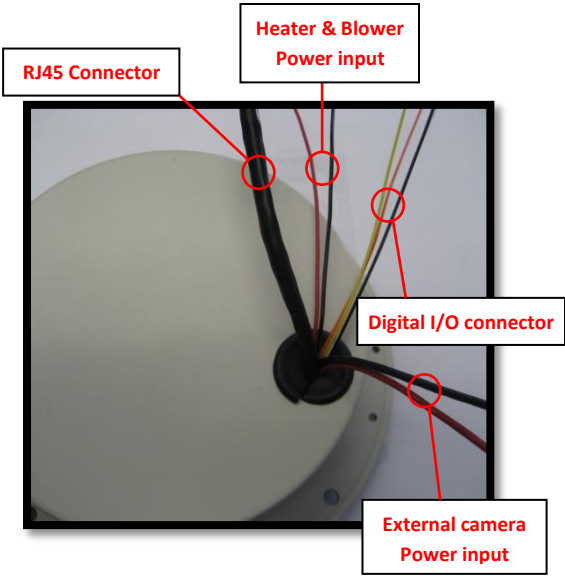
**Image 7**

**Conduit Plug**

**Heater & Blower Power input**

**RJ45 Connector**

**Digital I/O connector**

**External camera Power input**

**Image 8**

## Connecting Digital I/O: (Optional)

*7.* To use digital I/O, connect the I/O cable shown in **image 8**.

| Electrical Characteristics: | | Min | Max |
|---|---|---|---|
| Input voltage (V) | ON | 2.9 | 6.3 |
| (measured between + and – terminals) | OFF | 0 | 1.3 |
| Output current (mA) | ON | - | 50 |
| (measured between + and – terminals) Applied Voltage Rage: 0 - 80V | OFF | - | 0.1 |

**Table 2**

*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 5 ms to comply with the requirements of the debouncing circuit.*

| Orange | OUT + |
|---|---|
| Yellow | OUT – |
| White | IN + |
| Black | IN - |

**Table 3**

| | On | Off |
|---|---|---|
| Heater | 17C° (62.6 °F) | 30 °C (86 °F) |
| Blower | 10C° (50°F) | 15 °C (59 °F) |
| Blower | 50C° (122 °F) | 45 °C (113°F) |

**Table 6**

## Connecting Heater and Blower : (-HB Version only)

8. To run the heater and blower shown in **Image 8**, connect heater & blower power input to 12V to 20V DC or 24VAC power supply. **(Image 9)**.

| Power input | Power consumption |
|---|---|
| DC12V to 20V | 11 Watts |
| AV24V | 13 Watts |

**Table 4**
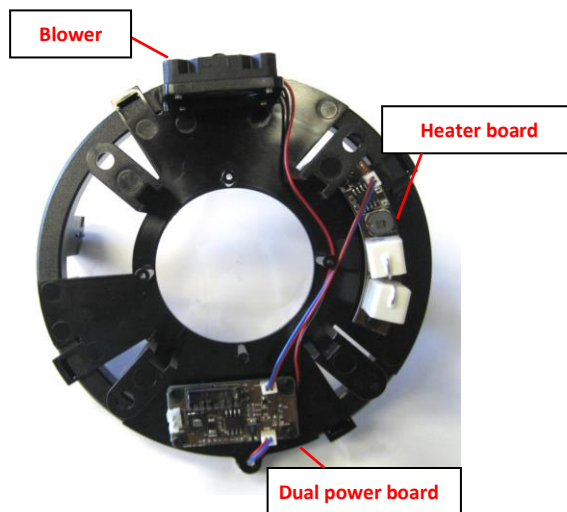
| Red | + |
|---|---|
| Black | – |

**Table 5**



**Image 9**

9. Align the holes in the camera with the prepared holes on the mounting surface. Attach the camera with in-ceiling mount housing to the surface mounting housing shown in **Image 4**.

10. To insert camera with in-ceiling mount into hard ceiling with the wood screws or any optional hardware suitable for the mounting surface shown in **Image 10**
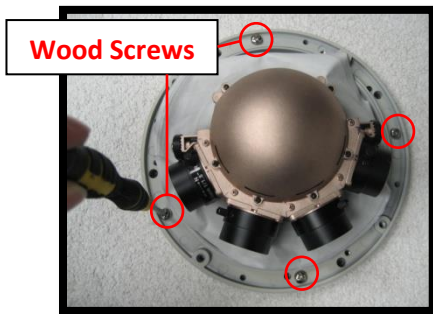


**Wood Screws**

.                    **Image 10**

*Note: Use Flush Mount Adapter for false ceiling tile installation. (Image 11) Please refer to Flush Mount Adapter Installation Instructions on page10.*



**Flush Mount Adapter**

**Image 11**

## Adjusting Tilt, Pan and Focus:

10. Power on camera to adjust tilt, pan and focus.

11. To adjust the pan, use a #2 Phillips screwdriver to loosen both screws on the sides of the plastic gimbal bracket as shown in **Image 12** and **Image 13**.

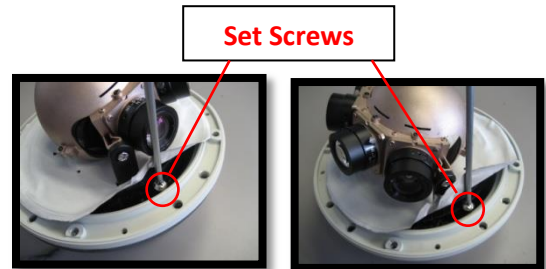12. Adjust the pan as required and tighten the screw from **step 11** shown in **image 14.**

**Set Screws**



**Image 12**          **Image 13**



**360**

**Image 14**

13. To adjust the tilt, use a #2 Phillips screwdriver to loosen both screws on the sides of the plastic gimbal bracket 1/4 turn **(Image 15 and 16)**. *CAUTION: Do not remove the screws!*

14. Adjust lens tilt as required and tighten the screws from **step 13** shown in **image 17.**

    *NOTE: the camera has 2-Axis gimbal with 360° pan and 100° tilt for easy and accurate positioning.*
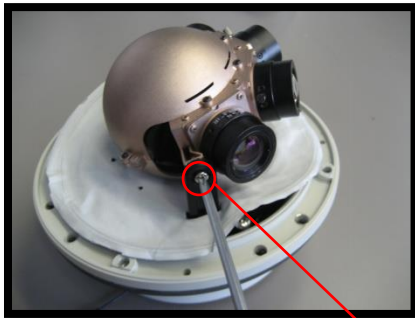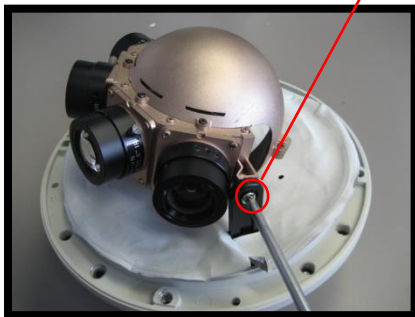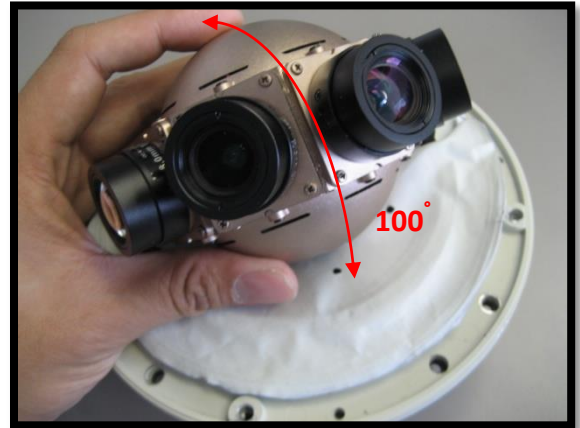


**Image 17**

15. To adjust focus, loosen set screw on each lens as shown in **Image 18**.

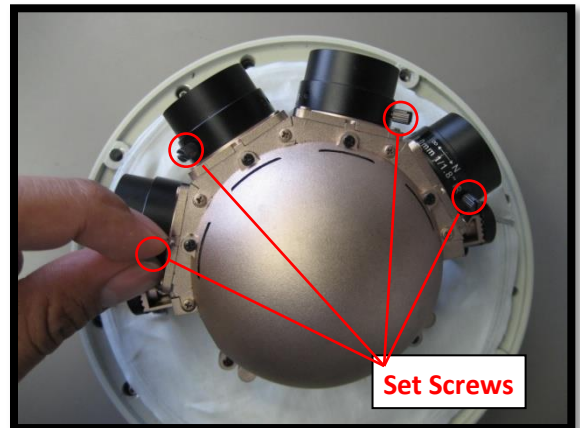16. Adjust lens focus as required and tighten the screws from **step 15**.



**Image 15**

**Set Screws**



**Image 16**



**Set Screws**

**Image 18**

**Adjusting Each Sensor Tilt : ( 360° Version only)**

*NOTE: Each sensor tilt angle can be adjusted by +/- 10° to remove the dead spot at dome bottom or at the horizon.*

15. To adjust each sensor tilt angle, use a #1 Philips screwdriver to turn set screws, shown in **Image 19** and **Image 20**.

16. Remove the protective film from the camera dome.

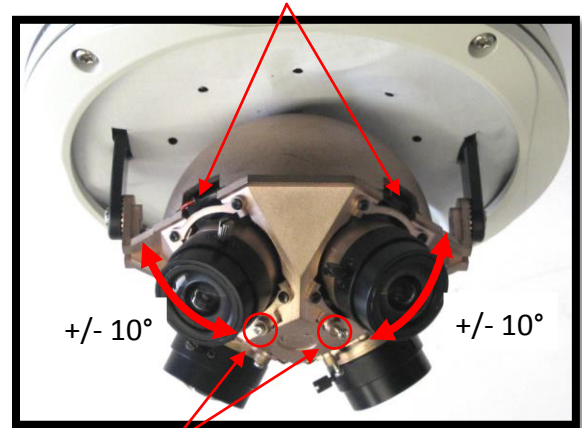    *NOTE: be careful not to scratch the vandal dome cover.*

17. Secure the vandal dome cover to the camera.

    *NOTE 1: Day/Night switcher per sensor in DN versions shown in Image 19. (DN version only)*

    *NOTE 2: IR cut plug per sensor in color versions shown in Image 19. (Color version only)*

    *NOTE 3: All Day/Night switchers simultaneous switchover, based on the least (or greatest) illuminated sensor. (DN Version Only)*

**Day/Night Switcher ( DN version) or IR Cut Plug ( Color version)**



+/- 10°          +/- 10°

Set Screws          **Image 19**



**Image 20**

## H.264 SurroundVideo® Pendant Mount SV-CMT Installation Instructions

**Inside the box:**

- A. Pendant pole
- B. Top shield
- C. Pendant Mount*
- D. One double sided hex key
- E. Pack of four (4) wood screws and four (4) dry wall anchors
- F. Mounting template

**Not included but needed:**
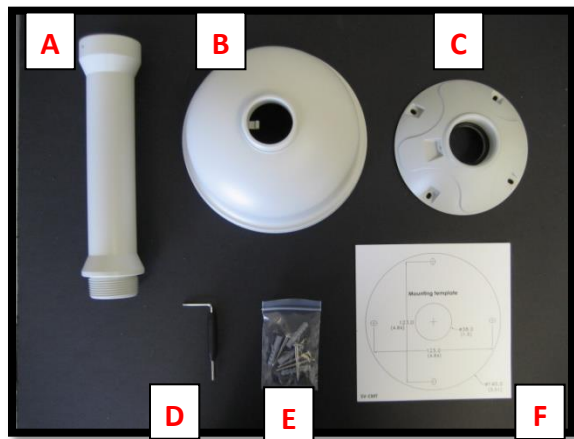
- #2 Phillips head screw driver



**Image 21**

*\*Pendant Mount SV-CMT fit with 4" square electrical box*



**Image 22**          **Image 23**

1. Remove Pendant Mount and hardware from the box.

2. Using the Mounting template, prepare the mounting provisions for camera installation.

3. Connect top shield, pendant pole and mount together as shown in **Image 22.**

   *NOTE: The thread size of top shield, pendant pole and mount is 1.5" NPT.*

4. Attach pendant mount to the ceiling using the four wood screws provided or any optional hardware suitable for the mounting surface.

5. Run Ethernet Cable and outside power cable (if necessary) through the Pendant.

6. For installation of the camera shown in **Image 23**, please reference "**Mounting the Camera**".

**H.264 SurroundVideo® Wall Mount SV-WMT Installation Instructions**

**Inside the box:**

- A. Top shield
- B. Wall mount
- C. One double sided hex key
- D. Pack of four (4) wood screws and four (4) dry wall anchors
- E. Mounting template

**Not included but needed:**
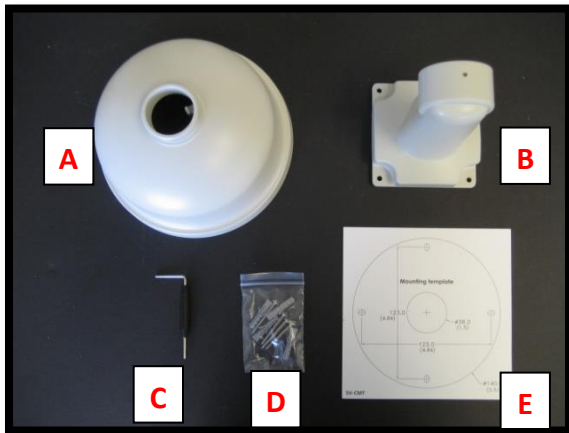
- #2 Phillips head screw driver



**Image 24**



**Image 25**



**Image 26**

1. Remove Wall Mount and hardware from the box.

2. Using the Mounting template, prepare the mounting surface.

3. Connect top shield and wall mount as shown in **Image 25.**

   *NOTE: The thread size for Top shield, pendant pole and mount is 1.5" NPT.*

4. Run Ethernet Cable and outside power cable (if necessary) through the Wall Mount.

5. Attach Wall Mount to the wall using drywall screws or any optional hardware suitable for the mounting surface.

6. For installation of the camera shown in **image 26**, please reference "**Mounting the Camera**".

### H.264 SurroundVideo® Flush Mount Adapter Installation Instructions

**Inside the box:**

A. White Trim Ring
B. Flange Plate
C. Top Plate
D. Mounting template
E. Pack of six (6) set screws, three (3) support arms , three (3) lever screws, three (3) screw nuts and caps and one (1) I-Blot

**Not included but needed:**
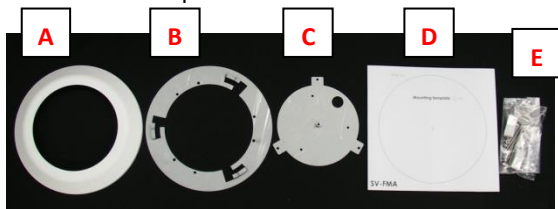
- #2 Phillips head screw driver

**Image 27**

1. Remove White Trim Ring, Flange Plate, Top Plate and hardware from the box

2. Attach Flange Plate to in-ceiling mount with 3 set screws as shown in **Image 28**.

3. Attach Top Plate to in-ceiling mount with other 3 set screws as shown in **Image 29**.

4. Insert each lever screw into Flange Plate, support arm, Top Plate, screw nuts and caps as shown in **Image 30.**
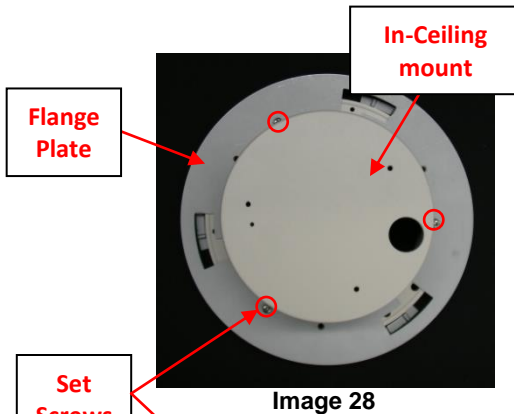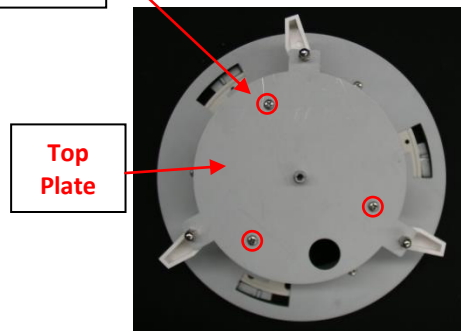
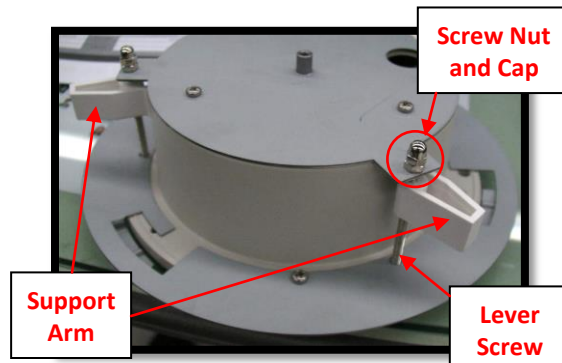**Image 28**

**Image 29**

**Image 30**

5.  Using the Mounting template, cut a hole in surface for mounting.

6.  Insert Flush Mount Adapter into the hole.

7.  Screw the "lever screws" until the flush mount is snuggly installed, as shown in **Image 31**. The "Support Arm" will ride down the screw to compress the mounting surface**.  (Image 32)**

    *NOTE: Do not over-torque the lever screws*

8.  For installation of the camera shown in **image 33**, please reference "**Mounting the Camera**".

9.  Attach the Trim Ring to the Flush Mount Adapter by rotating clockwise as show in **Image 34.**
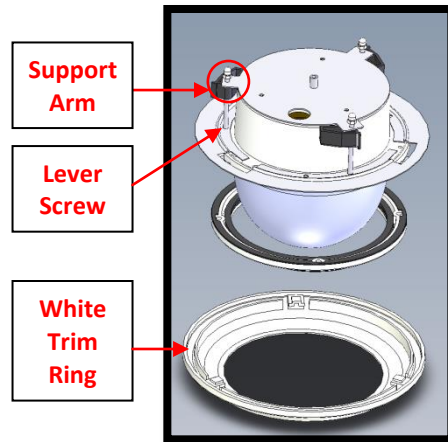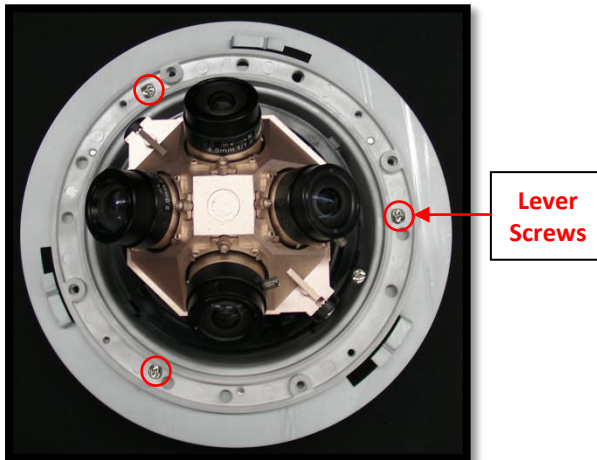


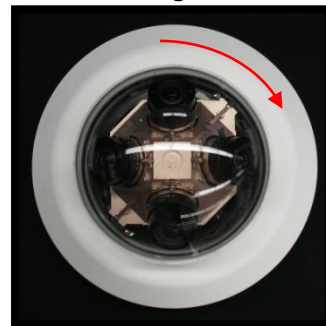**Image 32**



**Image 33**



**Image 31**



**Image 34**

## H.264 SurroundVideo® Pole Mount Adapter AV-PMA Installation Instructions

**Inside the box:**

- A. Pole Mount Adapter
- B. 2x Small Steel Straps
- C. 2x Large Steel Straps
- D. Pack of four (4) machine screws (#8-32 5/8")

**Not included but needed:**

- #2 Phillips head screw driver
- SV-WMT, Wall Mount Adapter
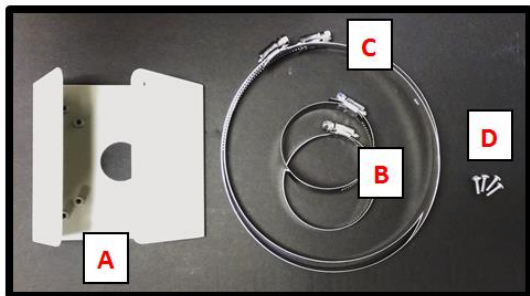- SV-JBA , Junction box adapter



**Image 35**

1. Remove Pole Mount Adapter, steel Straps and hardware from the box.

2. Attach SV-JBA (Junction Box Adapter) to Pole Mount Adapter as shown in **Image 36**.

3. Remove the conduit plug on Junction box adapter and connect ¾" NPT Conduit to Junction Box Adapter shown in **Image 36-1**.

*NOTE: Use silicon or water pipe seal tape to make sure no water leakage between conduit pipe and junction box adapter.*

4. Run the Ethernet cable and outside power cable (if necessary) through the Junction Box Adapter and SV-WMT, Wall Mount Adapter.

5. Attach SV-WMT, Wall Mount Adapter, to Pole Mount Adapter as shown in **Image 37**.

6. Use the supplied two Steel Straps to attach the Pole Mount Adapter to the pole and tighten the compression screws as shown in **Image 37**

7. Attach camera with in-ceiling mount to Wall Mount Adapter. Please reference "**Mounting the Camera**", if needed.



**Image 36**



**Image 36-1**



**Image 37**

**H.264 SurroundVideo® Corner Mount Adapter AV-CRMA Installation Instructions**

**Inside the box:**

A.  Corner Mount Adapter
B.  Pack of four (4) machine screws (#8-32 5/8"), twelve (12) screws, twelve (12) anchors, and twelve (12) washers

**Not included but needed:**

- #2 Phillips head screw driver
- SV-WMT,  Wall Mount Adapter
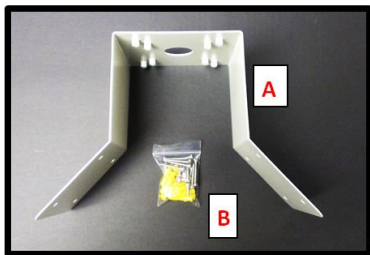- SV-JBA (Junction box adapter)



**Image 38**

1.  Remove Corner Mount Adapter and hardware from the box.

2.  Attach SV-JBA (Junction Box Adapter) to Corner Mount Adapter as shown in **Image 39**.

3.  Remove the conduit plug on Junction box adapter and connect ¾" NPT Conduit to Junction Box Adapter shown in **Image 40**.

    *NOTE: Use silicon or water pipe seal tape to make sure no water leakage between conduit pipe and junction box adapter.*

4.  Run the Ethernet cable and outside power cable (if necessary) through the Junction Box Adapter and SV-WMT, Wall Mount Adapter.

5.  Attach SV-WMT, Wall Mount Adapter, to Corner Mount Adapter as shown in **Image 40**.

6.  Using the screws provided (or other hardware) to attach the Corner Mount Adapter to an exterior 90° corner wall.

7.  Attach camera with in-ceiling mount to Wall Mount Adapter. Please reference "**Mounting the Camera**", if needed.



**Image 39**



**Image 39-1**



**Image 40**

## H.264 SurroundVideo® Electrical Box Adapter MV-EBA Installation Instructions

**Inside the box:**

- A.   Electrical Box Adapter
- B.   Pack of four (4) machine screws

**Not included but needed:**

- #2 Phillips head screw driver
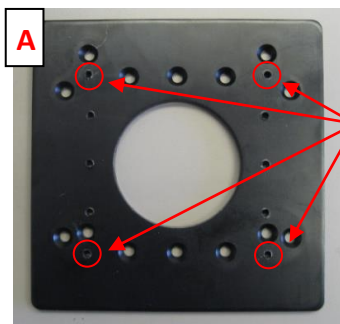- Common Electrical Box, such as single gang box, double gang box, or square electrical boxes shown in **Image 42-1~4**.



**Image 42-1 Single gang box**



Attach to surface mount, wall mount or pendant mount

**Image 41**

*NOTE: H.264 SurroundVideo® and MegaView™ share same Electrical Box Adapter, MV-EBA.*

1.   Remove Electrical Box Adapter and hardware from the box.

2.   Attach H.264 SurroundVideo® surface mount, wall mount or pendant mount to Electrical Box Adapter. (**Image 41**)

3.   Attach Electrical Box Adapter to Electrical Box as shown in **Image 42-1~4**.
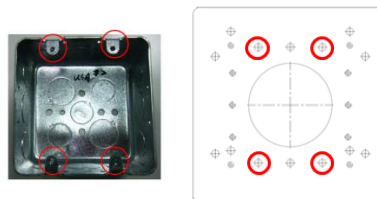


**Image 42-2 Double gang box**



**Image 42-3 Square box**
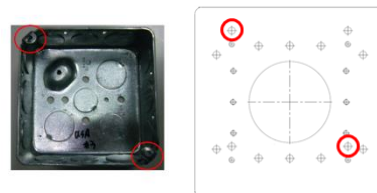


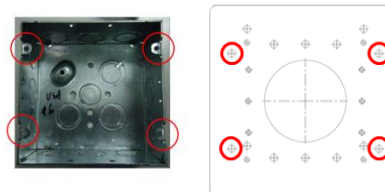**Image 42-4 Square box**

## H.264 SurroundVideo®  Junction Box Adapter SV-JBA Installation Instructions

### Inside the box:

A. Junction Box Adapter
B. Pack of four (4) machine screws
C. One double sided hex key
D. Pack of four (4) wood screws and four (4) dry wall anchors
E. Large round rubber gasket

### Not included but needed:

- #2 Phillips head screw driver
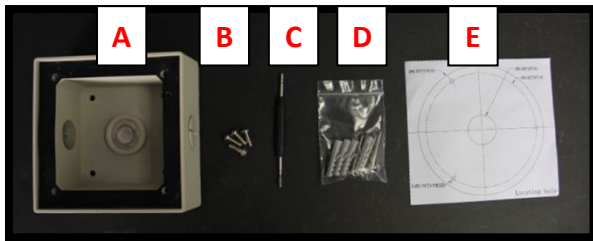-  Wall Mount, SV-MWT
- ¾" NPT Conduit (if necessary)



A  B  C  D  E

**Image 43**

1. Remove Junction Box and hardware from the box



**Image 44**

2. Remove the conduit plug by first removing the socket set screw using one of provided Allen keys.

3. Attach Junction Box Adapter to the wall using drywall screws or any optional hardware suitable for the mounting surface.

4. Attach Wall Mount, SV-MWT, to Junction Box Adapter as shown in **Image 44.**

5. Connect ¾" NPT Conduit to Junction Box Adapter.

6. Run Ethernet Cable and outside power cable (if necessary) through the Junction Box Adapter and Wall Mount.

7.  For installation of the camera, please reference  "Mounting the Camera".

**H.264 SurroundVideo® Electrical Box Adapter SV-EBA Installation Instructions**

**Inside the box:**

A. Electrical Box Adapter
B. Pack of four (4) machine screws

**Not included but needed:**

- #2 Phillips head screw driver
- Wall Mount, SV-MWT
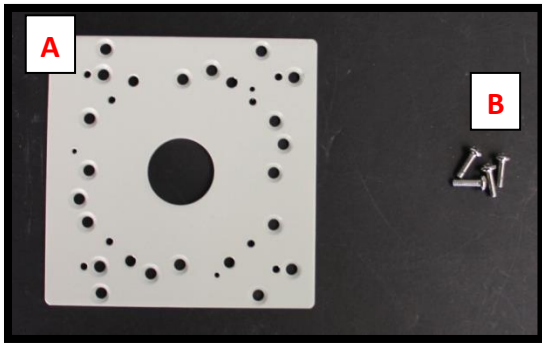- Common Electrical Box, such as single gang box, double gang box or square electrical box.



**Image 45**

1. Remove Electrical Box Adapter and hardware from the box.

2. Match mounting holes on adapter with thread holes on the electrical box, make sure every threaded hole is matched with mounting hole.

3. Attach Electrical Box Adapter to Electrical Box.

4. Attach Dome to Electrical Box Adapter as shown in **Image 46** . Please reference "**Mounting the Camera**", if needed.



**Image 46**

# Important Note

**How to correctly install SurroundVideo®  on a ROUGH surface wall**

**Correct Installation:**

Please connect ¾" NPT conduit pipe to junction box adapter as shown in Image 47 and install the SurroundVideo® camera with wall mount (SV-WMT) and junction box adapter (SV-JBA) to avoid water leakage on ROUGH surface wall as shown in Image 48.

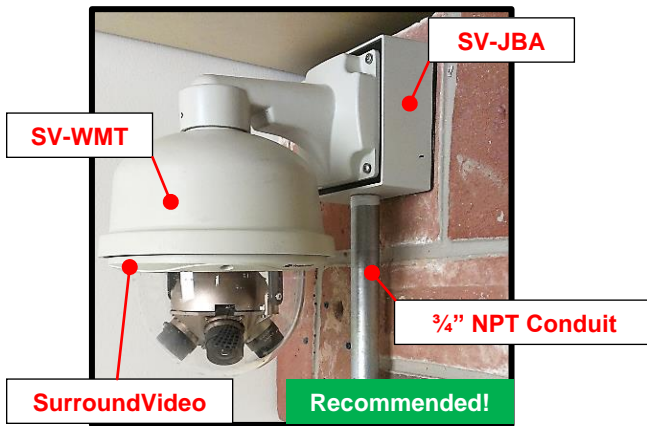*NOTE: Adding water seal tape on the thread of ¾" NPT pipe to avoid water leakage.*
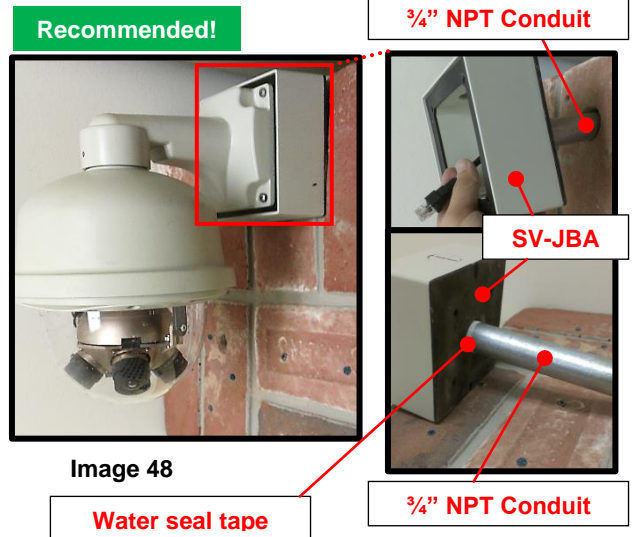


**Image 47**



**Image 48**

**Inappropriate Installation:**

Attaching the SurroundVideo® directly onto a ROUGH wall surface or without connecting ¾" NPT Conduit to Junction Box Adapter may result in water leakage as shown on Image 49 and Image 50!

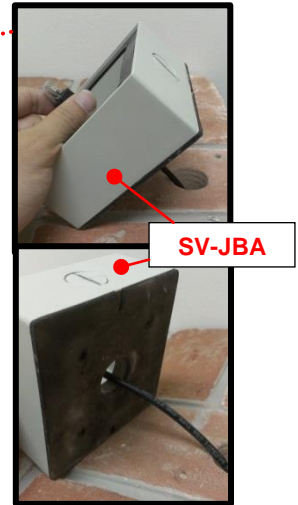*NOTE: Water damage from improper installation is not covered by the warranty!*



**Image 49**



**Image 50**



SV-JBA
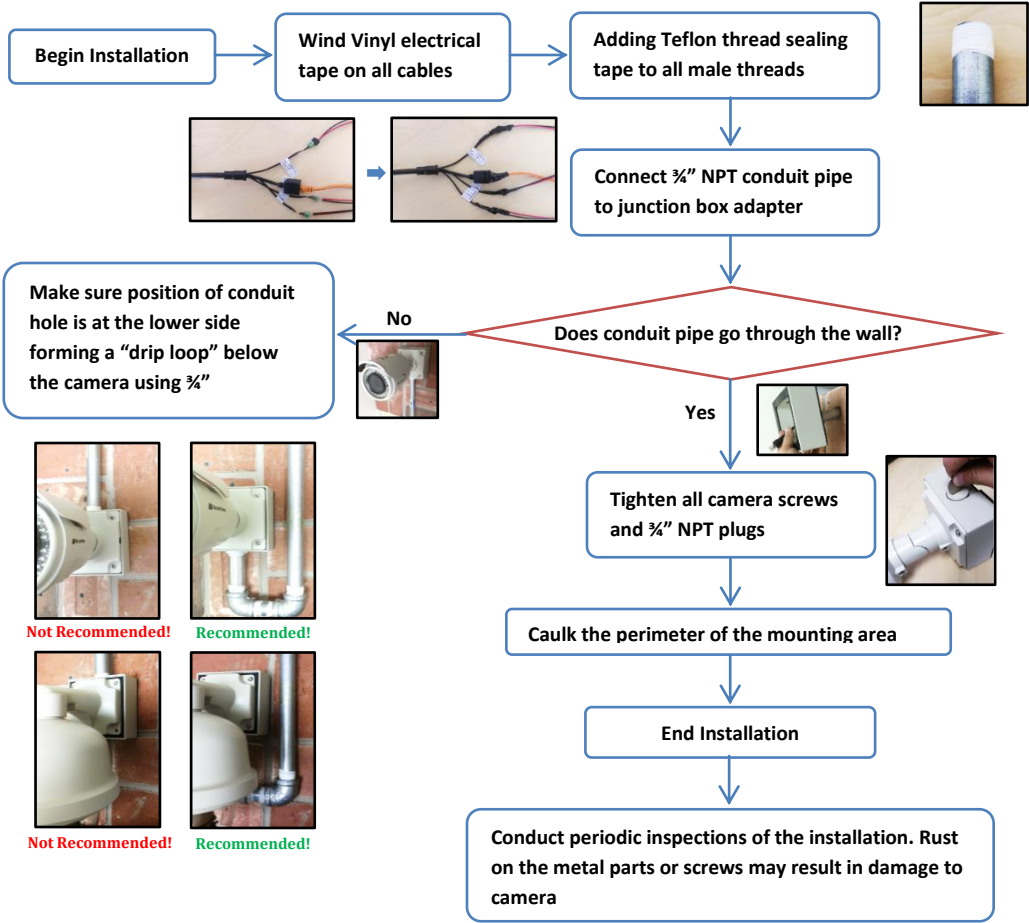
Without connecting ¾" NPT Conduit

# Installation Best Practices



| 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

**Does conduit pipe go through the wall?**

**No** → Make sure position of conduit hole is at the lower side forming a "drip loop" below the camera using ¾"

**Yes**

Tighten all camera screws and ¾" NPT plugs

Caulk the perimeter of the mounting area

End Installation

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!

# Leading
## the **way** in
# <span style="color:red">Mega</span>pixel
## video

**Arecont Vision**
megapixel technology...
**beyond imagination**