

Arecont Vision Update

March Customer Update



Leading the Way in Megapixel Video





- Important field changes in North America.
- New products are coming and will be on display at ISC West!
- Continued Progress with VMS/NVR Partner sales opportunities, business alignment, integration, projects/orders, events, training and execution
- Project Registration highlighted by Top Distributors at their global meetings.
- Quality and Service continue strong improvement in RMA reductions and solid call rates. Averaging less than 2 voice messages per day! So far only 1.1 messages per day this month!
- Operations, Assembly, Distribution working more efficiently in their new areas in our WHQ. Technical Support, Product Management, Quality and Engineering teams moved to new locations in December.
- Customer Satisfaction continued improvement!

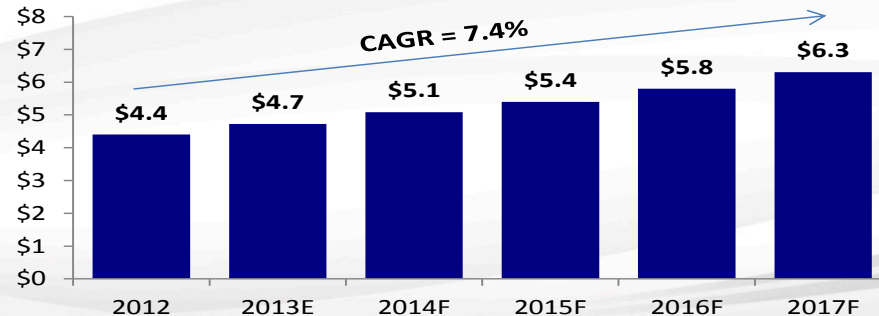
ARECONT VISION MEGAVERTICAL PRESENTATIONS

(Check *arecontvision.com* for other MegaVertical Presentations)

Education

- K-12 public and private schools require security systems that provide a safe learning environment for students, while protecting faculty, staff, visitors, and property
- Violent incidents at schools around the world have created an increased focus on video surveillance to increase safety, situational awareness, and post-incident forensic viewing
- Students, faculty, and parents increasingly see video surveillance as valuable and necessary, rather than an invasion of privacy for schools and school districts
- Arecont Vision IP megapixel cameras are proven in deployments at schools, colleges, universities, and educational institutions worldwide

Global Education Expenditure (\$ in trillions)



Representative K-12 Schools and School Districts



Education: K-12

Leading the Way in Megapixel Video™



- Overview

- Many tragic events have occurred at schools and campuses around the world
 - *School security has grown as a higher priority as a direct result for K-12*
- Megapixel cameras offer benefits to schools by reducing the number of cameras and system cost while maximizing coverage and video quality
- Megapixel technology offers improved situational awareness for proactive campus monitoring and post-incident forensic detail for investigations

- Applications

- Classroom, cafeteria, quad, gym, natatorium, and track/field area situational awareness
- Reception, record management system integration
- Front entrance inside and out, facial recognition integration
- Parking lot for situational awareness and license plate (LP) recognition/capture
- General surveillance of hallways and classrooms

CAMPUS OBJECTIVES



84%

Video surveillance for crime prevention was ranked by 84% as the most important for campus leadership.

THE PRIVACY ISSUE...



9%

of students view video surveillance as
an invasion of privacy but



49%

of students say video surveillance
makes them feel safer.

Source: Anixter & Arecont Vision – Inside the Mind of Campus Security Professional Survey, 2015.

NY Students Protest for More School Security

Students are concerned after racist and homophobic threats were discovered on campus



By CS Staff – December 2, 2015 - SUNY Potsdam students protested what they see as inadequate school security measures on Nov. 30 in light of a threat against a black professor found on campus.

http://www.campussafetymagazine.com/article/n.y._students_protest_for_more_school_security#

Education Areas of Interest



Classroom



Stairways/Hallways



Cafeteria

Entrances/Exits



Walkways

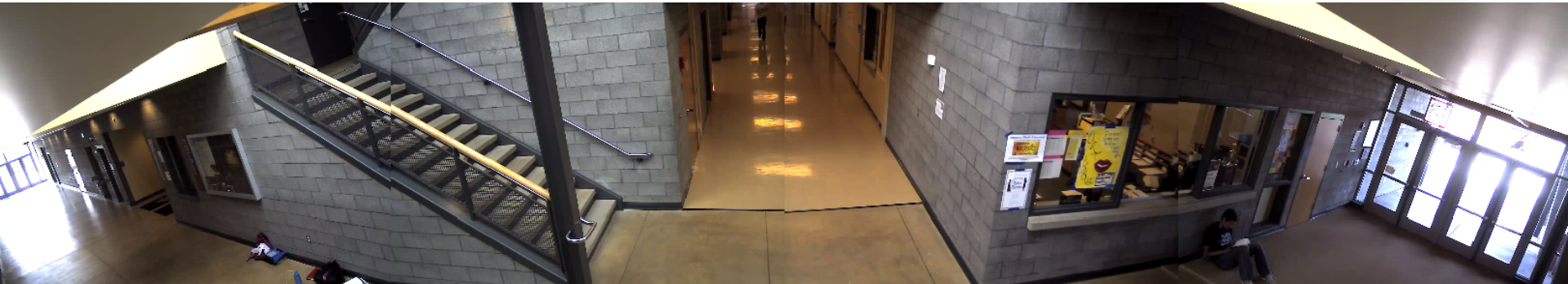


Situational Awareness



Leading the Way in Megapixel Video™







Campus Area Example: Fewer cameras with improved coverage

Analog

24 cameras cover this public area with about 8,000,000 pixels



Megapixel

8 panoramic cameras deliver better coverage with 96,000,000 pixels



Reduction in Number of Cameras

For about the same price as an analog system, 5x the storage

Analog				IP VGA				Megapixel			
	Qty	Cost	Extended		Qty	Cost	Extended		Qty	Cost	Extended
Dome 768 x 494	24	\$250	\$6,000	Dome 640 x 480	24	\$400	\$9,600	Panoramic 8,192 x 1,536	8	\$1,300	\$10,400
16 Channel DVR	2	\$2,785	\$5,570	Server	1	\$3,000	\$3,000	Server	1	\$3,000	\$3,000
DVR Lics	Incl.	Incl.	Incl.	Lics & Server	24	\$120	\$2,880	Lics & Server	8	\$120	\$960
Cables	24	\$150	\$3,600	Cables	24	\$100	\$2,400	Cables	8	\$100	\$800
Power Supplies	24	\$20	\$480	Switch	1	\$500	\$500	Switch	1	\$500	\$500
Labor (2hr/cam)	48	\$95	\$4,560	Labor (3hr/cam)	72	\$95	\$6,840	Labor (3hr/cam)	24	\$95	\$2,280
30 Days Storage (2TB drives)	Incl.	Incl.	Incl.	30 Days Storage (2TB drives)	1	\$200	\$200	30 Days Storage (2TB drives)	15	\$200	\$3,000
Total System	10 MP		\$20,210	Total System	8 MP		\$25,420	Total System	96 MP		\$20,940

Cost based on web search, Integrator average value

- Forest Lake High School
 - <http://goo.gl/NyQWkp>
- Harligen Consolidated Independent School District
 - <http://goo.gl/YglRQh>
- Jonathan Adler High School (video case study)
 - <http://goo.gl/fDHRP4>
- Flour Bluff Independent School District
 - <http://goo.gl/MtLFBY>
- Mission Consolidated Independent School District
 - <http://goo.gl/3hLG7d>
- SAR Academy
 - <http://goo.gl/Tj0YdY>
- Northern California High Schools (news video)
 - <http://goo.gl/JcYO6Y>
- Skyline Elementary (news video)
 - <http://goo.gl/KLhd7P>
- Indianapolis Middle Schools (news video)
 - <http://goo.gl/L5XeTD>

- Programs released:
 - Trade UP Program
 - Try&Buy Program
 - Extended for Multi-Sensor Products
 - Expanded for MicroDome Duo, 4K and Flex
 - Special Pricing Program on GEN1 via Project Registrations
- SI/dealers should sign up for service parts/demo agreements.
 - Immediate shipment without a credit card.
 - It is fast and simple to do.
- Our new products are shipping now!

Product Development Update


A major advantage and unique differentiator of Arecont Vision cameras is the ability to upgrade the core functionality of our design, both to new cameras and cameras already deployed.

The Arecont Vision architecture allows us to reprogram our main processing chip, allowing customers who purchased Arecont Vision cameras in the past to upgrade to our newest technology simply by updating to new firmware.

This is a feature unique to Arecont Vision. Other manufacturers who use off the shelf chips require customers to purchase new cameras to take advantage of new technology.

Our Newest Firmware

Highlights:

-  **SNAPstream**® Smart Noise Adaptation & Processing
- Improved Image Quality and White Balance
- New Lighting Compensation Features
- 802.1x
- Bug Fixes and VMS Integration Improvements



Which Products Can I Upgrade?

Phase 1 (Now)

- **140 active single sensor camera models**
 - All MicroDome Gen 1 & 2
 - All MegaVideo Compact Models
 - Some MegaDome 2 models (excludes –S models)
 - Some MegaView 2 models (excludes –S models)
 - All MegaBall Gen 1 models
 - Some MegaBall Gen 2 models (excludes –S models)

Phase 2 (Q2 This Year)

- **All active single sensor cameras**



Which Products Already Have These New Features?

- **140 active single sensor camera models shipped after 3/6/17**

- All MicroDome Gen 1 & 2
- All MegaVideo Compact Models
- Some MegaDome 2 models (excludes –S models)
- Some MegaView 2 models (excludes –S models)
- All MegaBall Gen 1 models
- Some MegaBall Gen 2 models (excludes –S models)

- **MegaDome®** 4K
- **MegaVideo®** Flex
- **MicroDome®** Duo



How Do I Upgrade?

If you would like to update installed cameras, please contact Arecont Vision tech support and they will provide the necessary files and instructions for upgrading.

Visit arecontvision.com and click on support for information on contacting our support team.

Support

Do you have questions or need help solving technical issues?

Arecont Vision has resources at your fingertips and a staff of trained experts ready for all of your questions and needs.



How I Shot The Bear:

Hacienda La Puente Unified School District



The **Hacienda La Puente Unified School District (HLPUSD)**, is a school district located in [Southern California](#). It is the largest school district in the [San Gabriel Valley](#), serving 74,000 students who reside within the district's boundaries-that include the cities of Industry and La Puente, Hacienda Heights and Valinda. The School District has twenty three elementary schools, four middle schools, five high schools, an orthopedic unit for the physically handicapped and an extensive child development and adult education program.



In 2015, HLPUSD, was awarded funds through a bond measure to improve the school facilities including the installation of a new video surveillance system at all of their 34 school locations. This would equate to approximately 800 cameras needing installation.

We had been working with local system integrator, ICS Services from Riverside. Among the many services that ICS offers, working with school districts has proven a successful vertical for owner Jon Largent. ICS Services also has had experience working with our product line and knew it well. Jon brought me into an initial meeting during the summer of 2015 where I got to meet school representatives to explain our video solutions and product line. Soon after, a pilot site would be conducted at one of the schools to evaluate our cameras.

A few weeks went by and after a successful pilot, the school district decides to select Arecont Vision as a camera vendor finalists along with Sony. A meeting took place in late September to understand the challenges and objectives the school desired to finalize their final choice of camera. I listened to determine how I was going to build a winning strategy.

Problem 1: HLPUSD needed CMAS or other government scheduling contract to avoid having the project going out to bid. Unfortunately, ICS did not have such contracting and we were in jeopardy of losing our position.



Problem 2: In addition, Graybar approached Arecont Vision about this project but did not have a system integrator as we require for all project registrations. However, we soon discover that Graybar does have a government scheduled contract arrangement through U.S. Communities where Arecont Vision is listed as a qualifying vendor to meet the school district's requirement.



Solution: Have ICS and Graybar partner up together to register this project together and meet our criteria as well as HLPUSD.



Deadline Concern: HLPUSD had to meet fiscal year objectives and have possession of equipment by year end. Our competition promised early January but Arecont Vision promises 14 days from purchase order date.

Solution: We control manufacturing and production control



Logistical concerns:

- Sorting of BOM per site: MAC ID, S/N and Asset tagging brought on additional concerns to the school district.
- School district had limited storage space to house all inventory, estimated to be approximately 15 pallets of equipment.

My Suggestion:

- Allow Arecont Vision to physically tag all 800 cameras with asset tags provided by the school district.
- Allow Arecont Vision to sort each school by BOM. To be included with each drop shipment would be a spread sheet to include model number, MAC ID, S/N, and corresponding asset tag number per school site.
- Arecont Vision to drop ship per BOM to each school to eliminate storage concerns.

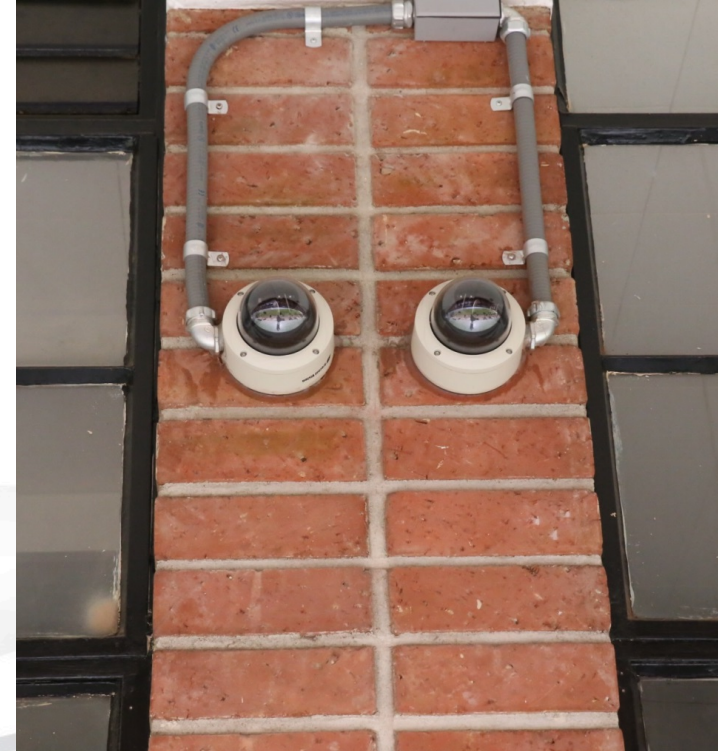




**AND THE
WINNER IS...**

The decision was obvious





Due to an incredible team effort that comprised of lots of key communication with our production, manufacturing and sales support team leaders a little creative sales pitching, Arecont Vision was awarded the project that amounted to over 800 cameras.

Cameras selected were our AV20185DN, AV20365DN and lots of Megadome 2's. Total production was completed in 10 days, meeting and satisfying all promises met. Project totaled over \$900,000 in purchase orders from Graybar.

And that's how I shot the bear!



Tips and Tricks: IP/IK Rated Products

What the Ratings Mean & Installation Tips

IP66:

- First digit = 6, means protected from entry of dust, specifically: No ingress of dust; complete protection against contact
- Second digit = 6, means protected against jets of water from all directions; **limited to ingress** specifically a water jet is defined as a duration of at least 3 minutes at a volume of 100 liters per minute and pressure no more than 100 kN/m² at distance of 3m, **the ingress refers to the opening for wire entry in the housing**

You must protect the “**ingress**” to the housing to maintain IP66 protection for the camera.

IK10:

- Protected against 20 joules impact.

Equivalent to impact of 5 kg mass dropped from 400 mm above impacted surface

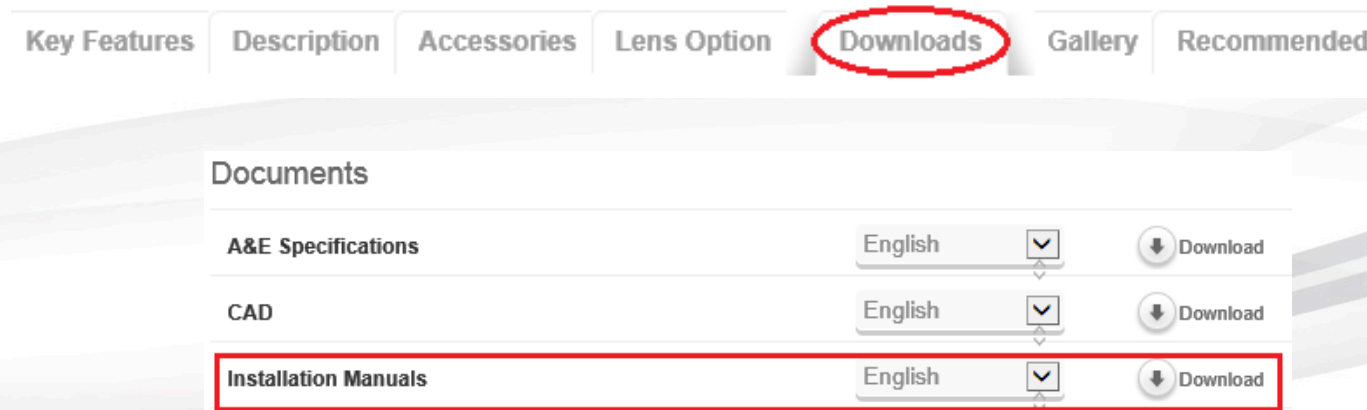
- Challenges can occur onsite when it comes time to actually install the product with IP and IK rated products
- Most common are related to water damage resulting from:
 - Missing or improperly combined accessories
 - Failure to consider wire path to camera where camera is lowest point for water to collect
 - Assuming that IP66 means water proof

- If cameras are going to be installed outside its essential that the right accessories be used and that recommended installation practice be used
- Arecont Vision has installation manuals available on our website that outline what accessories are available, when they should be used, and best install practice for our cameras it is recommended that you download and review these manuals in advance of going onsite to install our cameras from:

<http://www.arecontvision.com>

Where to get the install manual?

- On the Arecont Vision web page
 - Go to “products” choose the product family you are installing then select the model you are installing from the list
 - On the individual product page select “downloads” tab and then go to the “documents” section to find and download the installations manual for the product



INSTALLATION MANUAL

AV12176DN-NL

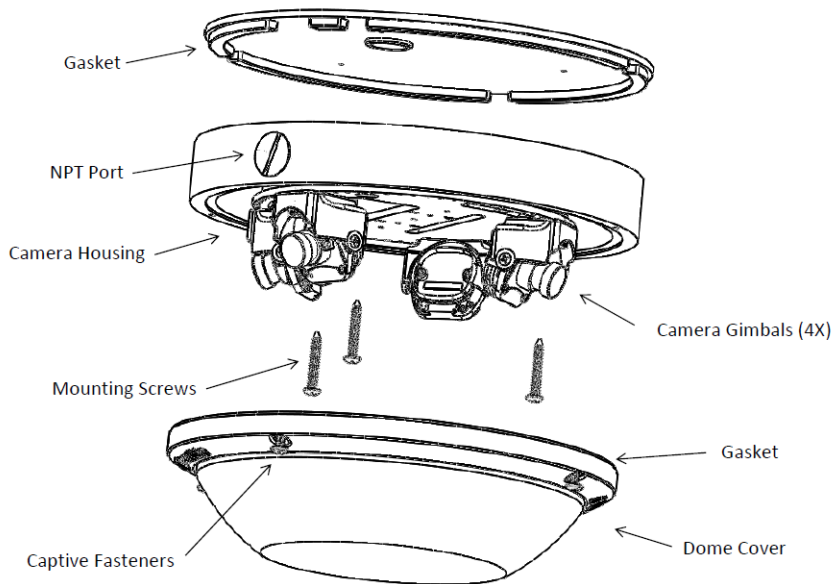
AV12176DN-28

AV12176DN-08

AV20175DN-NL

AV20175DN-28

AV20175DN-08

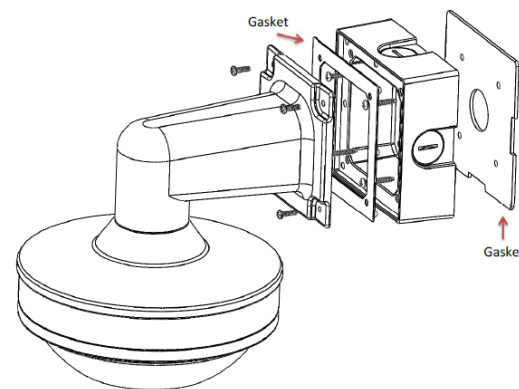


Focusing the Cameras

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.



Wall Mount Accessory (AV-WMJB)



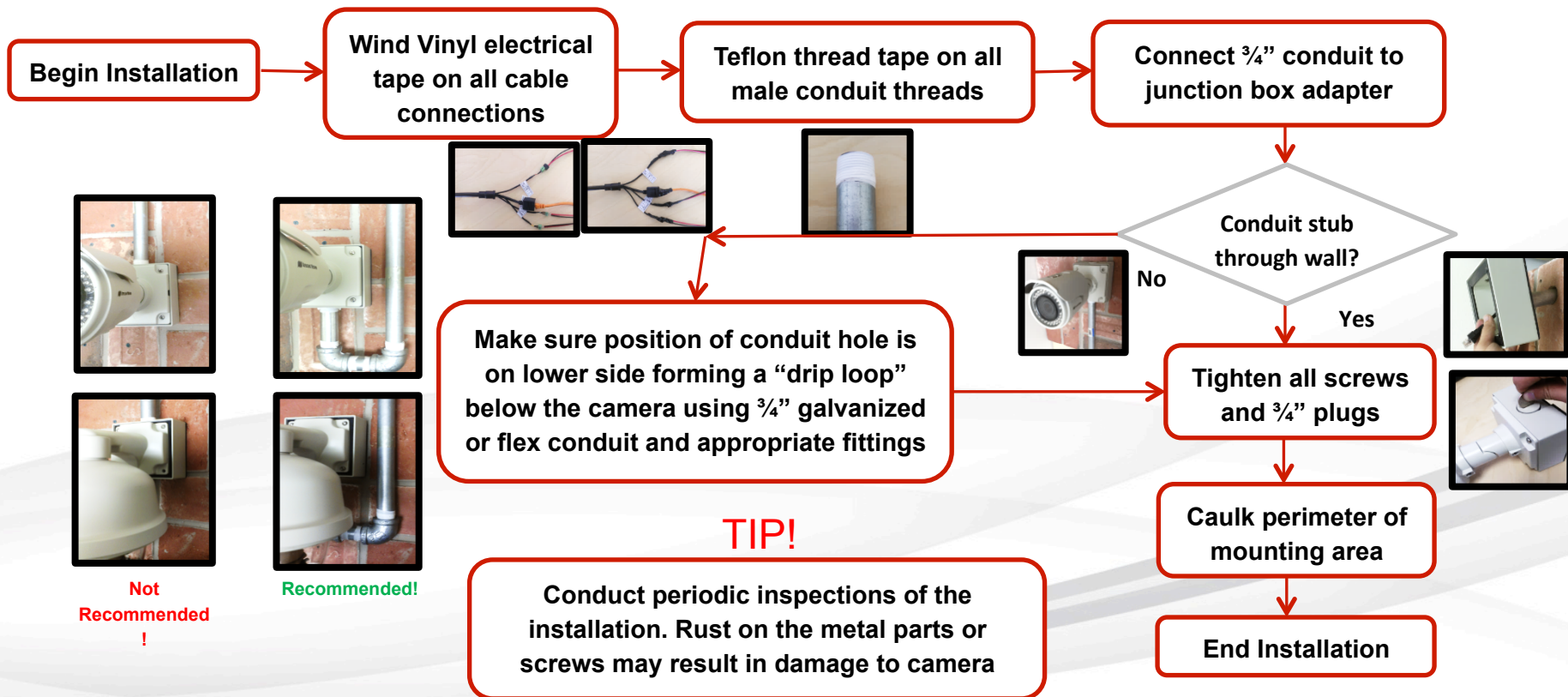


Oops! Why is the camera full of water?

More examples

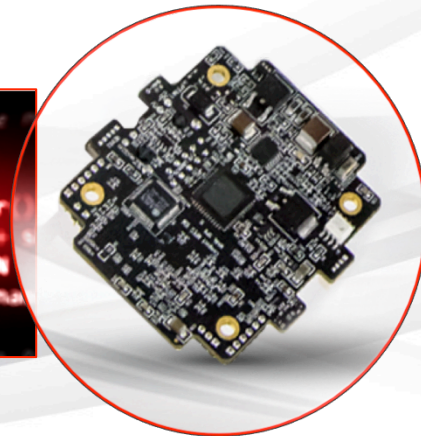
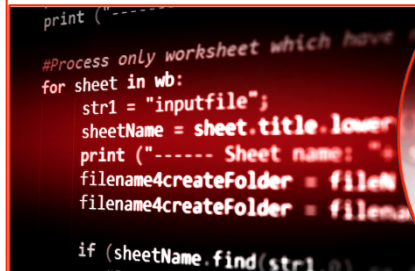


Steps for proper installation



- When wall mounting dome cameras outdoors on a wall you should **always** use a wall mount bracket and junction box to protect this “ingress” opening to the camera
- The wall mount and junction box combined will prevent water running down the wall and into the camera housing, and help prevent condensation pooling inside the camera
- Use of a camera heater will also help prevent condensing of humidity in the air inside the camera by preventing a temperature difference between the inside and outside of the camera housing

- New Arecont Vision white paper available
 - Explains how Arecont Vision cameras differ from the competition with our in house developed, 5th generation *Massively Parallel Image Processing* (MPIP) architecture that runs on the Field Programmable Gate Array (FPGA) at the core of every AV camera... and why that matters
 - Enables the updates like the one Brad just discussed and also cyber-hardens our cameras
- Download the white paper from the **AV NEWS** section at <https://www.arecontvision.com/whitepapers/>



- 2 new Arecont Vision Technical Updates released in March
 - AV Cybersecurity Positioning
 - Adding new Features & Capabilities to AV Cameras
- Available from the **Resource Center** online at
<https://www.arecontvision.com/bulletins/Technical>



Leading the Way in Megapixel Video™

ARECONT VISION TECHNICAL UPDATE

Issued 14 March 2017

Number: TU-3/14/17 CyberPositioning

Arecont Vision Cybersecurity Positioning

Arecont Vision is uniquely positioned for continued cybersecurity protection of our customers.

- We design and manufacture Arecont Vision cameras in the United States. This ensures top quality, industry-leading megapixel cameras at a competitive price.
- At the heart of each of our cameras is an Arecont Vision-designed circuit board, on which we mount a Field Programmable Gate Array (FPGA) Integrated circuit. We operate the 5th generation of the Arecont Vision-developed Massively Parallel Image Processing (MPIP) architecture on that circuitry.

We do not use Linux or other common operating systems (OS) which are typically found in competitor cameras. These OS systems present a cybersecurity risk to the devices that rely on them.

Due to the in house developed MPIP architecture, Arecont Vision cameras cannot be repurposed for use in cybersecurity attacks as other vendor's cameras have been.

Press coverage of cyberattacks involving video surveillance devices continues. Examples include:

- 4/14: Hackers turn security camera DVRs into Bitcoin miners <https://goo.gl/yrvstv> & Hikvision devices open to hackers <https://goo.gl/PtHq7r>
- 2/16: Cameras reported to "phone home to China" with your video <https://goo.gl/MWJ35T>
- 9/16: DDoS on Krebssecurity.com & QHV DNS service uses 140,000+ network cameras & DVRs <https://goo.gl/DH4Mkr>
- 10/16: DDoS on 85 web services including Amazon, Financial Times, Netflix, PayPal, Spotify, & Twitter suspected to have included many IoT (Internet of Things) devices from cameras to appliances for loss of \$100M <https://goo.gl/P7nW46>
- 11/16: Hikvision cameras reported to send their data to China after being plugged in, Chinese government can access installed cameras when they want <https://goo.gl/QAzl04>
- 11/16: Security camera infected by malware 98 seconds after plugged in <https://goo.gl/pu8fAO>
- 1/17: 70% of Washington, DC police video cameras & 123 of 187 NVRs hijacked by ransomware attack, days before Trump Presidential Inauguration <https://goo.gl/NkuKGW>, and DC and South Dallas cyberattacks <https://goo.gl/Xmhltr>
- 3/17: Rac3 speaks out on why Genetec sees Hikvision products as security risks; Hikvision to Genetec: "Vague accusations and outrageous claims" <https://goo.gl/xH8Vzj>
- 3/10: Dahua, Hikvision IoT Devices Under Siege <https://goo.gl/sO8nHt>

Arecont Vision | 425 E Colorado Street, 7th Floor, Glendale, California 91205 USA | +1.818.938.0700 | www.arecontvision.com



Leading the Way in Megapixel Video™

ARECONT VISION TECHNICAL UPDATE

Issued 13 March 2017

Number: TU-3/13/17 FeatureUpdates

Adding New Features and Capabilities to Arecont Vision Cameras

Arecont Vision megapixel cameras can be remotely enhanced with new features and capabilities that offer improved performance and extend the product's useful life. This is common in other industries, such as adding new capabilities to existing Tesla electric automobiles (for more on Tesla upgrades see: <https://goo.gl/kVmZfN>). This is not common for video surveillance camera manufacturers.

Surveillance cameras from Arecont Vision competitors typically can only have security updates or other minor items applied. To obtain the new features or capabilities from the manufacturer, an entirely new camera must be purchased to replace the existing one.

At the core of all Arecont Vision cameras is an FPGA (Field Programmable Gate Array) integrated circuit. When combined with the in house developed, 5th generation Massively Parallel Image Processing (MPIP) architecture, new capabilities can be added to Arecont Vision cameras as they become available from our R&D teams. This is a major differentiator and a huge value to customers.

For example, many camera models now ship from Arecont Vision with SNAPstream (Smart Noise Adaption and Processing) technology included. SNAPstream can greatly reduce camera bandwidth without impacting video quality. This technology was not yet developed when many existing Arecont Vision cameras were manufactured, but a new firmware and hardware file update now allows many of those devices to utilize SNAPstream. A planned update later in 2017 will add additional camera models to the supported list.

Contact the Technical Assistance Center (TAC) at +1.818.937.0700 (select option #1) or email support@arecontvision.com to verify if your Arecont Vision camera can be updated with this latest firmware or for other support issues. You may also visit the TAC Resource Center online at <https://www.arecontvision.com/resources.php>.

Arecont Vision | 425 E Colorado Street, 7th Floor, Glendale, California 91205 USA | +1.818.938.0700 | www.arecontvision.com



Learn More:

www.arecontvision.com

sales@arecontvision.com

+1.818.938.0700

Connect with us



[linkedin.com/company/
arecont-vision](https://www.linkedin.com/company/arecont-vision)



Like us on
[facebook.com/
arecontvision](https://www.facebook.com/arecontvision)



[youtube.com/user/ArecontVision](https://www.youtube.com/user/ArecontVision)



Follow us on
[@arecontvision](https://twitter.com/arecontvision)

Arecont Vision Corporate Blog

<http://blog.arecontvision.com>