

Security: IP Cameras vs. Analog Cameras



Zoom in ... to the future!

Have you ever seen a crime drama movie or TV show where a bunch of police are gathered around surveillance footage and suddenly one of them says: "Wait! Zoom in on that guy! Enhance the image!" and then suddenly, miraculously, the grainy and blurry footage of what might be vaguely a human becomes a precise, crystal clear vision of the culprit? They identify the perp, bring him in, and case closed. Well, that's total fiction. In reality, that grainy footage from that analog security camera is only going to get blurrier and grainier when you zoom in for a closer look. But all is not lost! We are indeed living in the future, and IP cameras are the wave of it. No longer does security camera footage have to consist of the poor quality, narrowly focused images we're used to seeing on analog CCTV.

However, it comes at a cost. Not some metaphorical cost, like "your soul" or something, but an actual monetary cost. So you have to ask yourself...Should you hop on the IP train? Well, that's why we're here: to give you the run down so you can decide for yourself if the upgrade is worth it.

What's an IP Camera and how is it Different from Analog?

IP stands for Internet Protocol, and basically refers to a digital video camera that can send and receive data via a computer network, as opposed to sending a feed to a Digital Video Recorder (DVR). This is advantageous for a lot of reasons:

Picture Quality: The best analog surveillance camera still can't hold a candle to the worst IP camera when it comes to the resolution of the image it captures. At best, an analog camera can

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manage the equivalent of less than half a megapixel, whereas a Megapixel camera wouldn't be much good if it didn't produce an image of at least ONE of the things it's named after. Many of the Everfocus cameras we stock are available in 1.3, 2, or 3mp configurations, which is far better quality than you could hope to achieve with a traditional CCTV camera. Additionally, IP cameras capture a much wider field of view than comparable analog cameras, meaning a single IP camera is potentially able to do the job of three to four of the old school cams.

Video Analytics: This is a fancy term that basically means you can set your network to flag “events” that occur in the cameras' field of vision. This could be anything from motion detection to missing objects to tampering with the camera itself. Instead of poring over hours of footage, your network can tell you exactly when these events occurred and point you right to them.

Flexibility and Scalability: In a traditional analog DVR set-up, each camera must be connected directly to the DVR. IP cameras can circumvent this through the use of switches, which allow cameras in close proximity to each other to be connected to a single switch, which then runs a single wire to the NVR (Network Video Recorder). This reduces the amount of cabling runs, which makes it ultimately less labor intensive, and also allows you to connect more cameras because you're no longer limited by the number of ports on your DVR. On top of that, using a PoE (Power over Ethernet) switch allows your Cat 5e or Cat 6 cable to run the signal AND provide power to your camera, eliminating the need for a separate power supply.

Wait, What's PoE?

Edgar Allen Poe was a 19th century writer generally known for his macabre short stories – just kidding, that's obviously not the right Poe. The PoE we're concerned with is an acronym for “Power over Ethernet” and refers to a system that passes electrical power along with data on an Ethernet cable. As we mentioned, this bundles power and data together and removes the necessity of a separate power source, which just adds more cables. A POE switch also allows you to rig more cameras together to the same NVR. These switches can provide several ports for connecting cameras, and then those PoEs in turn can be connected to a single NVR in a “tree” style configuration, provided your switch is able to handle the power and network traffic. A similar amount of cameras would require additional DVRs in an analog set-up, and that means

more cables, and more work.

We stock a wide variety of Megapixel IP surveillance cameras from many vendors. Let's take a moment to explore the different types available:

1) Plus (Box Camera): a box camera is optimal for when you need a small, specific area that you may want to zoom in close on, since its aim is fixed in a single direction. No lens is included, so you'll need to separately purchase a C/CS mount lens.

2) (Outdoor) & EDN (Indoor) Dome Cameras: this camera's lens can be manually pointed in the desired direction, and features true day/night capabilities, with infra-red that kicks in in low-light situations. It also features a P-Iris Lens that ensures a wide depth of field that allows the foreground, background and everything in between to be in focus. The outdoor model features the highest ratings in vandal proofing (IK-10) and weatherproofing (IP 68), so it can take a beating AND be submerged up to two meters in water.

3) Bullet Camera: like dome cameras, bullet cameras can be adjusted to point at a specific desired location, but they usually have a better range and zoom capabilities than most dome cameras. However, they are far less discreet – while a dome camera is small and unobtrusive, pretty much everything about a bullet screams “HEY! CAMERA OVER HERE!” So, your choice may depend on whether or not you WANT your cameras to be noticed. The housing on many domes also helps disguise the exact area the lens is oriented toward, whereas a bullet makes it abundantly clear what is being filmed. Also, while bullet cameras are typically rated highly in weatherproofing and are often used outdoors (some models are rated IP 66 which is nothing to sneeze at), their design makes them more susceptible to damaged or tampering, as they lack the compact enclosure design of domes.

4) PTZ Camera: PTZ stands for Point-Tilt-Zoom, and they're pretty much the be-all end-all of surveillance cameras. Box cameras can only be pointed at one location, and even domes and bullets have to be manually adjusted to look at a different area. PTZ cameras can be remotely controlled to look at what you want, when you want. The EPN features 20x Optical Zoom and 10x Digital Zoom, and an auto pan feature that allows you to program it to scan a specific area.

Bottom Line: Is It All Worth It?

So after all this you may be wondering if it's even worth your while to make the switch from analog to IP Cameras. Well, there are a few things to consider. The initial cost is certainly substantial, but it's important to remember that a single IP camera can take the place of three or four comparable analog cameras due to the increased coverage area, so while a single unit may cost more, you're ultimately buying less cameras. Additionally, switches allow you to connect more cameras per NVR than you'd be able to connect to a DVR. So depending on the size of your set-up, you're buying less recorders as well, provided you keep an eye on the throughput and make sure your NVR can handle it. Also important to remember: separate power sources aren't necessary for IP cameras if you use a POE switch, so you can save money on power supplies.

So if you're looking into setting up a new surveillance and security system, IP cameras may be the way to go for you. If you already have a system in place that you're happy with, you might want to refrain from installing an entirely new system, at least at this point. However, "analog" is quickly becoming synonymous with "outdated" so it's certainly something to think about: maybe it's time to step into the future.