

TRENDNET® IP Cameras

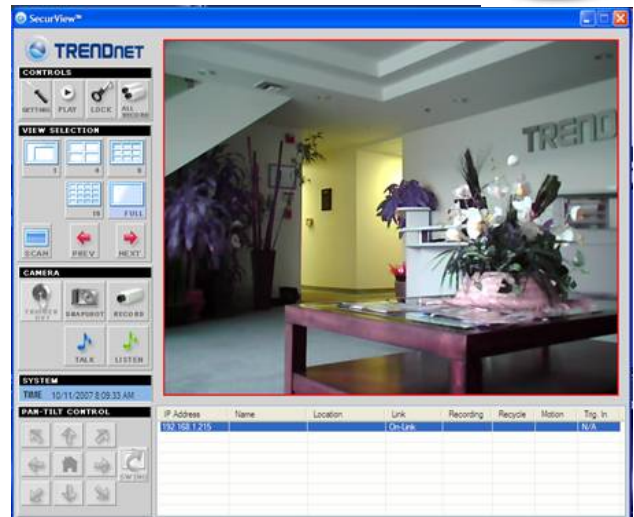
For those of you who are unfamiliar with IP cameras, unlike CCTV (closed circuit televisions) that require cameras, coax cabling, monitors and video recorder of some sort, IP cameras connect to your LAN (wired or wirelessly) as a standalone device. Viewing and or recording is done through a computer (it's best if the computer were dedicated to just the IP cameras especially if you'll be recording).

Since the camera is considered a "network" device, not only can you view from your computer but, you can actually set it up so the images/video stream can be viewed via the internet, meaning, anywhere in the world. You simply log into the camera and you're in. The admin will determine how much control a login will be allowed. With our bundled software, IPView Pro and SecurView, you can monitor up to sixteen different cameras. Our newest IPView Pro 2, monitors up to 32! The software will look like the following: (IPView Pro is left, SecurView is right, IPView Pro 2 below).

IPView Pro



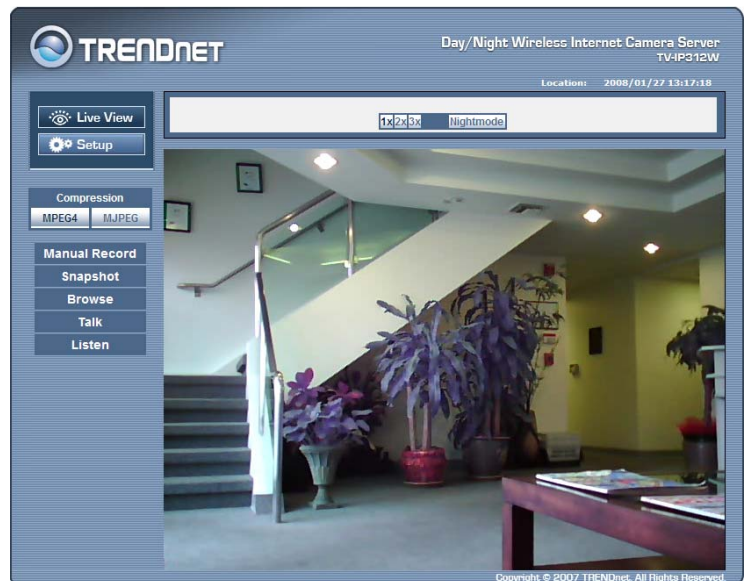
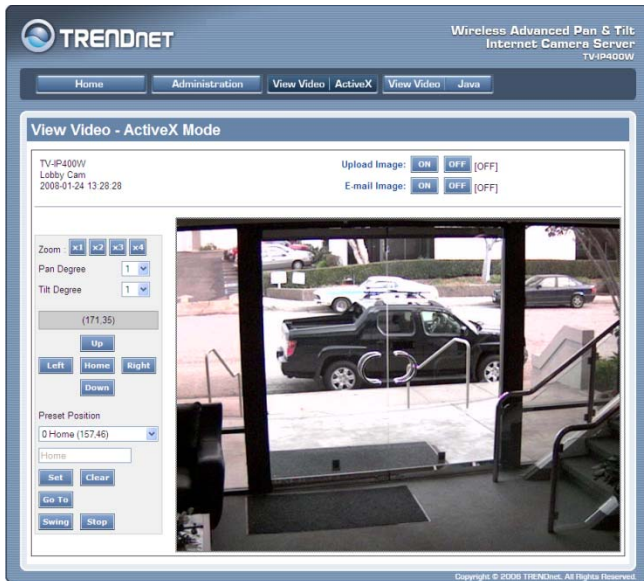
SecurView



IPView Pro 2.0



For those logging in remotely, you would expect to see the following through your Internet Explorer browser window:



When talking about TRENDnet IP cameras, there are several things to keep in mind as each will help determine which camera will be the best fit:

- Will this be for indoor use or outdoor?
- Will it be difficult to run Cat5 (Ethernet) cables to the camera, or do I need wireless?
- Will the camera need to have PT (pan and tilt), or will it be stationary?
- Will the camera need to have day/night capability?
- Will it be difficult to run power up to the camera? And finally....
- Can the viewing angle be changed to have a wide angle view? (aka, lens interchangeability).

Let's examine each question and find out why they're relevant to TRENDnet cameras...

Will this be for indoor or outdoor use?

Obviously, we wouldn't venture outdoors without preparing for the environment (especially when it's cold outside!), neither should you send your camera out that way.

There are two "types" of housings that are available for our cameras. Depending on the outside conditions, you will either use a housing that has environmental controls (fan/heater) or one that just protects from less severe environmental conditions.

We currently have the follow housings:



TV-H500 or TV-H510
(note: TV-H510 has environmental controls)
Models: IP100-N, IP201, IP512, IP301



TV-H100 or TV-H110
(TV-H110 has environmental controls)
Models: IP110, IP121, IP212, IP312

Note: Again, the TV-H510 and TV-H110 housings have heater/fan for harsh outdoor environments.



TV-H400 (only available with environmental controls)

The TV-H400 is only for use with the following TRENDnet Pan and Tilt cameras: TV-IP400, TV-IP600 or TV-IP410

Will it be difficult to run Cat5 (Ethernet) cables to the camera, or do I need wireless?

Although the best way to transmit a video stream is using a wired solution, there will be those occasions where running Cat5 is just not feasible. TRENDnet IP cameras usually come in two flavors, wired or wireless (note: Our wireless does in fact also include an Ethernet port). They use 2dBi antennas and 802.11b/g technology. Our new TV-IP512WN, however, is our first wireless camera that uses 802.11n wireless technology.



There are a couple of points to keep in mind when considering a wireless IP camera.

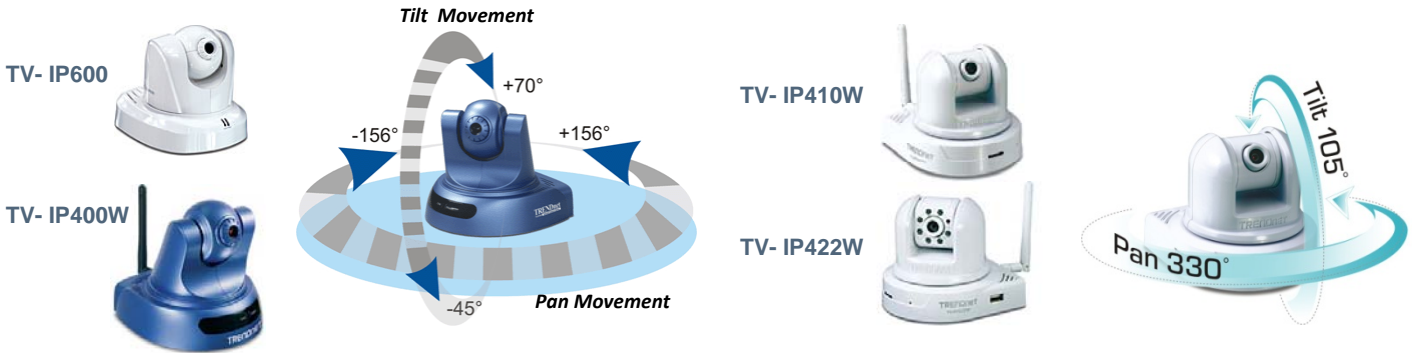


1) As a wireless network device, the same environmental conditions must be considered (distance to access point, obstacles such as walls, doors, floors, etc.).

2) The antennas that come with our wireless cameras are 2dBi antennas designed for indoor use. If the camera were to be mounted outdoors (in a housing), then outdoor antennas must be paired with the cameras both for their higher gain, and resistance to the elements.

Will the camera need to have PTZ (pan, tilt and zoom)?

If your customer does require pan and tilt, this will make the choices easier. We have two series (two versions each) with pan and tilt:



The **TV-IP400**, **TV-IP600** and **TV-IP410** cameras are known as our “Advanced Pan & Tilt Camera Servers” which brings up an interesting point. All TRENDnet IP cameras are known as “servers” because as previously mentioned, they are standalone devices and have a built in web server. They do not need to be attached to a computer to function. The only time a computer is needed is for configuration and viewing/recording.

TRENDnet also has the **TV-IP422** series which also features day/night capabilities (via infrared LEDs) as well as 2-way audio.

Note: Although similar in size and shape to our other pan and tilt cameras, there is no enclosure for the TV-IP422 (has to do with IR lighting bouncing back to the camera because of the reflective nature of the dome enclosure).

Well, since I mentioned day/night capabilities, let’s talk about that next!

Will the camera need to have day/night capability?

In the same way we cannot hear certain frequencies of sound, so can we not see certain levels of light. This is where day/night cameras come in.



Our **TV-IP301** (left) and our newest **TV-IP121**, **TV-IP312** and **TV-IP-422** (right) are TRENDnet’s current models of Day/Night cameras (again, they come either wired or wireless). They are equipped with a ring of LED’s that emit a light which is invisible to our eyes, but can be reflected back and picked up by the camera’s sensor.



Note: If these cameras are to be mounted inside a housing, it is important that the camera lens be right up against the glass of the housing, otherwise, the glass will reflect the light immediately back into the camera obscuring all else with an unusual ring of lights. I mention this because an end-user complained of seeing the ring of lights and asked if the lights can be turned off. We had to inform him that he won’t be able to see anything in low lighting conditions if the lights were off (truly a tech support story to remember).

The LED’s are small, so, don’t expect to see great distances in low lighting conditions (33 feet for the IP301, 16.5 feet for the IP121, 312, 422). An end user can purchase IR illuminators (not a TRENDnet option) that can flood an area with infrared light thus increasing the viewing area of the camera.

Will it be difficult to run power up to the camera?

In a recent installation, the end-user was going to mount an IP camera to a flagpole for monitoring snowmobilers. Unfortunately, this meant having to try to run power up the pole as well which was not an easy task. Enter our **PoE** cameras!



The TV-IP201P, TV-IP501P, TV-IP512P and the TV-IP252P are our PoE (Power over Ethernet) cameras. Simply put, using standard Cat5 cable in conjunction with either a PoE switch (i.e. TPE-S44) or, a standard switch and a

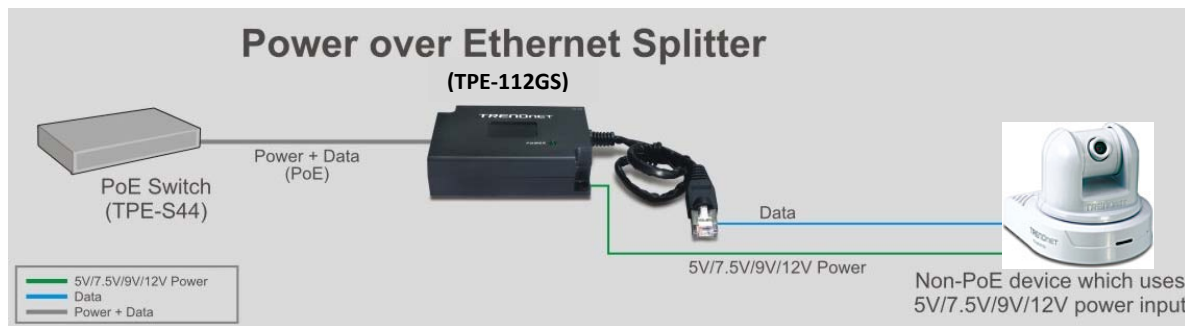


Power over Ethernet Injector (i.e. TPE-111Gi), we can supply these cameras with a LAN connection as well as power. Everything comes over the Cat5 cable.



Note: Standard Ethernet spec's apply, meaning max distances for data and power will be 100 meters (328 feet).

Although the TV-IP201P and TV-IP512P are the only cameras TENDnet has with PoE that is not to say we can't utilize those same PoE switches to power our other cameras. Using a PoE switch and the TRENDnet TPE-112GS Splitter (as in the illustration below), we can provide power to any device (including our cameras) that is not otherwise a PoE capable device.



Can the viewing angle be changed to a wide angle view? Can I get a different lens?

TRENDnet cameras have what are known as fixed lenses. About the only thing we can do is to manually focus, and digitally zoom (which reduces image quality). TRENDnet has two models, however, that have what is known as a "CS Mount" lens. Though **NOT** available through TRENDnet, there are third party manufacturers of different types of CS mount lenses (telephoto, variable zoom, wide angle, etc).

The **TV-IP301**, **TV-IP201** and the new **TV-IP512** are the only cameras that have CS mount lenses. A search on the internet for CS mount lenses will yield a variety of different vendors. TRENDnet offers an IR lens model TV-IR500 (night viewing for the TV-IP512).

Caution: Unless you replace the lens on the TV-IP301 with another infrared lens, you will lose night viewing.



You can read further details about the features of our IP cameras (i.e. GPIO ports for interfacing with security companies or alarm systems, audio, etc.) by visiting our TRENDnet website.

When you examine the features, bundled software, accessories and our price point, you'll be hard pressed to find another IP camera line that is comparable to TRENDnet.