

IP Camera Tutorial

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What is a Network Camera?

A network camera is a video camera that can be accessed and controlled over any IP network such as a LAN, Intranet, or Internet. By simply using a standard web browser over a high speed Internet connection, users are able to conveniently view a camera's live video and sometimes audio, from any local or remote location. From individuals who want to keep an eye on their home and the people in it, to businesses looking for surveillance capabilities over offices and warehouse floors, there is a network camera to suit almost any need. Available in Ethernet and Wi-Fi compatible models, network cameras come in a wide variety of categories such as Pan/Tilt/Zoom which enables users to move and change the cameras view, audio enabled units capable of recording sound, to infrared cameras for night use, to name a few.

How Does It Work?

Equipped with a built-in web server and on board processing, the devices, also referred to as IP cameras, combine the capabilities of a video camera with the power of a computer. Unlike web and standard CCTV units, network cameras do not require additional software or a direct PC connection to operate, making it easily placed anywhere along a network. With its own IP address, network cameras connect directly to wired or wireless networks and can be accessed remotely over the internet 24 hours a day. The cameras are easily integrated into existing networks through Universal Plug and Play (UPnP) compatibility.

Web and Security Management Software

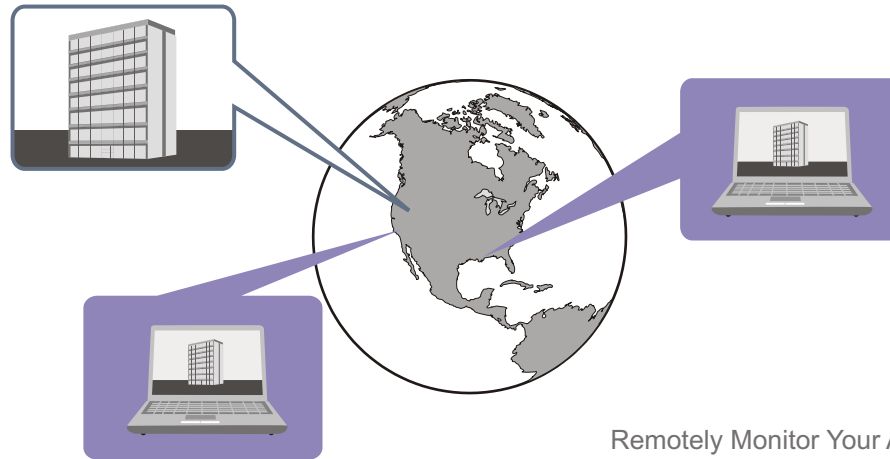
The camera's images are viewed using a standard web browser such as Internet Explorer and Netscape Navigator or the camera's included video management software. Typically, when using a web browser, users only have basic control over the camera's functions such as zoom, image capture and recording. Access to the camera can be limited to authorized users, through the use of password protected accounts, or be left open for public viewing. For quick access to the camera, users can assign an easy-to-remember domain name through Dynamic DNS services. This eliminates having to keep track of a camera's cumbersome and ever-changing IP address.

For advanced viewing and management features, most TRENDnet IP cameras come with IPView Pro, powerful video surveillance software. Some common functions include:



- Monitor up to 16 cameras on a single screen
- Set motion detection windows to trigger just-in-time snapshot images
- Enable automatic email notifications
- Conduct manual and scheduled recordings
- Create password protected accounts for authorized viewing
- Designate automatic archiving to a dedicated hard drive or server

Benefits



Remotely Monitor Your Assets Anywhere

Security Features - Network cameras can also be used in conjunction with a separate alarm system via integrated digital input/output ports. Using the digital input, connected alarm devices or sensors can act as a trigger for the camera to begin recording or to send email alerts at the sign of an intrusion or activity. Using the digital output, the camera can serve as a trigger to an external system, activating it to send an alarm, close or open doors, or control other devices.

Convenient Access - Unlike web and CCTV cameras which can only be accessed locally from a host computer, network cameras can be monitored from anywhere using a standard web browser. Users can view and control a camera's images from any computer on an IP network, regardless of whether they are in the same vicinity as the camera or on the other side of the world.

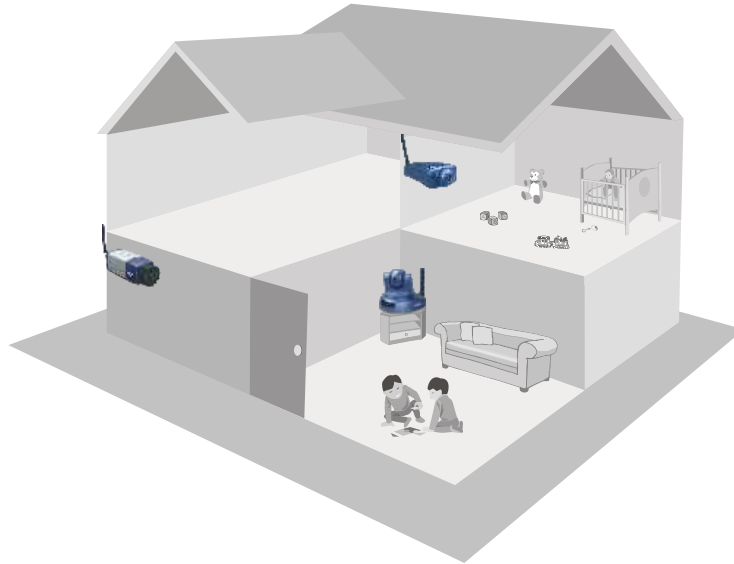
- Users can view and manage the camera from virtually any location with high speed Internet access
- A network camera can be viewed by multiple users at the same time. Using a password protection feature, access to the camera can be limited to authorized users
- The cameras are easily managed using a standard web browser
- Not requiring a direct PC connection to operate, network cameras can be flexibly placed anywhere along a network, on top of buildings or mounted on high walls and ceilings

Cost Effective - Requiring no additional hardware, software, or infrastructure support aside from a direct network connection, IP cameras provide a cost effective yet comprehensive means to achieving safety and security surveillance. Through 24 hour remote monitoring, events such as theft, intruders, or production line and equipment malfunctions can be quickly detected and thwarted, potentially saving resources and most importantly lives in the process.

- Network cameras seamlessly integrate into existing wired or wireless networks eliminating the need to create a separate infrastructure
- As a stand alone unit with a built-in web server, no additional software or hardware investments are required
- With email alerts, motion detection windows, and remote monitoring, users can determine false alarms from actual intrusions before traveling to the site or dispatching security personnel
- Lessen potential damages and liabilities in the event of a break-in or onsite accident through the cameras live video and recording of actual events
- A network camera coupled with a separate security system can serve as a viable alternative to staffing onsite personnel

Where are network cameras used?

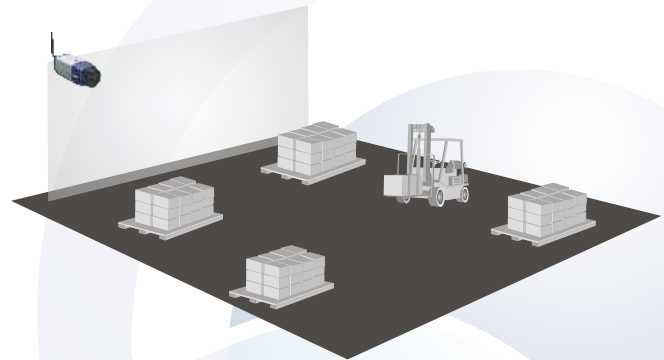
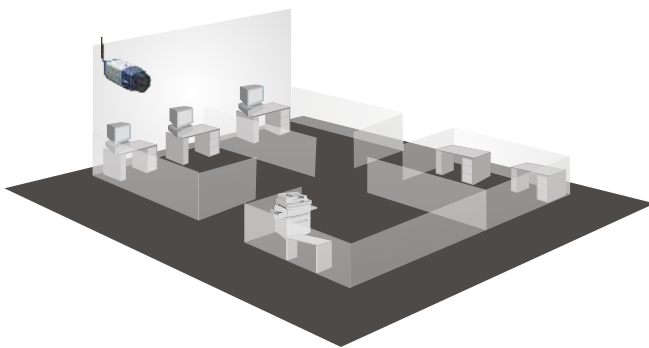
Home Safety



Personal or Home Users can conveniently watch over children or pets, and monitor areas such as the front and backyard, side entrance ways, to driveways/ car ports or remote properties. Network accessible, parents and residential owners can view camera images from home, work, or on the road using high speed Internet access.

Small Businesses with in store ATM machines, high value merchandise, and late night hours, would benefit from video and audio surveillance with remote viewing capabilities. Business owners can easily monitor productivity, prevent shrinkage, or check for false alarms all without having to be on the premises.

Business Security



Offices are easily monitored from any local or remote PC on a network. Keep track of reception areas, office floors, to inventory and equipment rooms, or warehouses. Whether all your facilities are in one place or spread throughout the globe, security and operation managers can see it all using a standard web browser.

Outdoor and Public Areas such as hospitals, parks, public transit, and school campuses can effectively be secured by network cameras. With pan/tilt/zoom and infrared models, the cameras have the capacity to watch over a large number of people and vast locations in both day and night time lighting conditions. Network accessible, the cameras images can be conveniently accessed online by authorized users and content management is a breeze with auto archiving capabilities.

TRENDnet Model Overview

TRENDnet's full line of IP Cameras provides the convenience of 24 hour remote monitoring backed by full-featured cameras capable of capturing every sound and motion. Available in 10/100 Fast Ethernet and 802.11g wireless compatible models the cameras are easily integrated into existing networks. Look to TRENDnet for all your security and surveillance network camera needs.

TV-IP100/100W



- Lightweight
- Plug-n-Play
- 4x digital zoom
- Monitor 16 cameras simultaneously

TV-IP201/201W



- 4x digital zoom
- Monitor 16 cameras simultaneously
- Microphone for Audio Support
- Built-in support for separate Pan/Tilt device

TV-IP301/301W



- Monitor 16 cameras simultaneously
- Microphone for Audio Support
- Multiple Motion Detection Windows
- Infrared Lens for Day and Night Viewing

TV-IP400/400W



- 4x Digital Zoom
- Monitor 16 cameras simultaneously
- Image Uploading via FTP server or Email
- Pan and Tilt capabilities

Camera Enclosures

To prevent damage and theft, most IP cameras like TRENDnet's product line, are compatible for use with protective camera enclosures. The casings are made of durable steel to withstand outdoor elements and increase the cameras use of life. To guard against tampering, housings also protect the cameras cables which are run through an enclosed center bracket. Camera enclosures come in a variety of housing styles from units that support tilt and swivel capability to models designed for use in extreme hot and cold weather conditions.

15-AH25B



- Steel Construction Ensures Durability
- Swivel 360°, Tilt 170 °
- Compatible Cameras: TV-IP100/100W, TV-IP201/201W, and TV-IP301/301W

15-AH28B






























- Heated/Cooled Enclosure For Extreme Climate Conditions
- Steel Construction Ensures Durability
- Swivel Angle: 360°, Tilt Angle: 170 °
- Compatible Cameras: TV-IP100/100W, TV-IP201/201W, and TV-IP301/301W

EL-HS800



- Heated/Cooled Enclosure For Extreme Climate Conditions
- Steel Construction Ensures Durability
- IP66 Rating Ensures Highest Outdoor Weather Protection
- Compatible Cameras: TV-IP400/400W

TRENDnet IP Camera Product Line

Wired	OS Support	Software/ Encryption	IPView OS Compatibility	Wireless Antenna Interface	Supported Resolutions	Audio Support	Video Format	Nightvision	Pan & Tilt	Digital Zoom	User Applications
 TV-IP100	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro	Windows98/SE/ME/2000/XP	X	160x120, 320x240, 640x480	X	JPEG	X	X	✓	Businesses Needing a Camera Monitoring Solution With Audio Support and Advanced Digital Zoom Capabilities
 TV-IP201	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro	Windows98/SE/ME/2000/XP	X	176x144, 320x240, 640x480	Microphone	M-JPEG	X	X	X	Businesses Needing a Camera Monitoring Solution With Audio Support and Advanced
 TV-IP301	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro	Windows98/SE/ME/2000/XP	X	640x480, 320x240, 160x120	Microphone	MPEG4	✓	X	✓	Digital Zoom Capabilities Users Needing a Day and Night Camera With Audio Support For All Types Of Monitoring Scenarios
 TV-IP400	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro	Windows98/SE/ME/2000/XP	X	160x120, 320x240, 640x480	X	JPEG	X	✓	✓	Home and Office Users Needing a Flexible Monitoring Solution Capable Of Pan/Tilt & Digital Zoom
Wireless											
 TV-IP100W	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro WEP, WPA-PSK	Windows98/SE/ME/2000/XP	 Reverse SMA Female	160x120, 320x240, 640x480	X	JPEG	X	X	✓	Basic Home Monitoring and Small Business Surveillance
 TV-IP201W	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro WEP	Windows98/SE/ME/2000/XP	 Reverse SMA Female	176x144, 320x240, 640x480	Microphone	M-JPEG	X	X	X	Businesses Needing a Camera Monitoring Solution With Audio Support and Advanced Digital Zoom Capabilities
 TV-IP301W	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IP Watch WEP, WPA-PSK	Windows98/SE/ME/2000/XP	 Reverse SMA Female	640x480, 320x240, 160x120	Microphone	MPEG4	✓	X	✓	Users Needing a Day and Night Camera With Audio Support For All Types Of Monitoring Scenarios
 TV-IP400W	Windows 98/98SE/ME/2000/XP/2003 Server, Linux, and Mac OS 8	IPView Pro WEP, WPA-PSK	Windows98/SE/ME/2000/XP	 Reverse SMA Female	160x120, 320x240, 640x480	X	JPEG	X	✓	✓	Home and Office Users Needing a Flexible Monitoring Solution Capable Of Pan/Tilt & Digital Zoom
Outdoor Enclosures											
	Heater	Cooler	Works With								
 15-AH25B	X	X									
 15-AH28B	✓	✓									
 EL-HS800	✓	✓	