User's Guide

TRENDnet®

Indoor/Outdoor 2MP 1080p PoE+ IR PTZ Speed Dome Network Camera

TV-IP440PI

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Product Overview

TV-IP440PI

Package Contents

- TV-IP440PI
- CD-ROM (Software & User's Guide)
- Quick Installation Guide
- Accessories

If any package contents are missing or damaged, please contact the retail store, online retailer, or reseller/distributor that the item was purchased from.

Features

TRENDnet's Indoor/Outdoor 2MP 1080p PoE+ IR PTZ Speed Dome Network Camera, model TV-IP440PI, provides day and night surveillance with a night vision range of up to 100 meters (328 ft.) This speed dome network camera delivers year-round surveillance with an IP66 weather rated housing to withstand harsh environments. A built-in 20x optical zoom lens allows you to adjust the field of view to meet your installation needs. Record 1080p video (1920 x 1080) at 30 fps in a space saving H.264 compression format. Manage TRENDnet cameras with included complimentary software and mobile apps.

Optical Zoom Lens

A built-in 20x optical zoom lens allows you to manually adjust the field of view from 58.3° – 3.2° to achieve the perfect viewing field for your installation.

2 Megapixel

Record 1080p (1920 x 1080) HD video at 30 fps in the space saving H.264 compression format

Smart IR Night Vision

Smart IR dynamically adjusts the IR LEDs by lowering the IR intensity whe n objects are near, and increasing IR intensity when objects are farther away. Night vision up to 100 meters (328 ft.).

Continuous PTZ

Endless 360° variable speed pan and 90° tilt with auto-flip

PoE+

Save installation costs with Power over Ethernet (PoE)

IP66 Rating

Outdoor IP66 weather rated housing

Additional Mounting Bracket Required

Separate mounting bracket required—install with TRENDnet's TV-HC400, TV-HW400, TV-HP400, or TV-HN400

Storage

Record video to a network storage device or to a Micro SD card (up to 128GB sold separately).

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Advanced Playback

Advanced in-camera archived video review functionality

Motion Detection

Create custom motion detection zones to record video and send email notifications when a zone is triggered.

Tamper Detection

Create custom tamper detection zones to send an email notification when the camera view has been obstructed.

Digital Wide Dynamic Range (D-WDR)

Adjustable D-WDR setting improves image quality and focusing when a camera is exposed to high contrast lighting environments by enhancing the dark areas of the image to make them more visible.

Recording Flexibility

Define custom schedules using continuous (24/7) and/or event based recording modes.

Audio Support

Audio input/output for third party microphone and speaker (sold separately)

IPv6

IPv6 support

ONVIF

ONVIF Profile S

Complimentary Software

Complimentary pro-grade software to manage TRENDnet cameras

Complimentary Apps

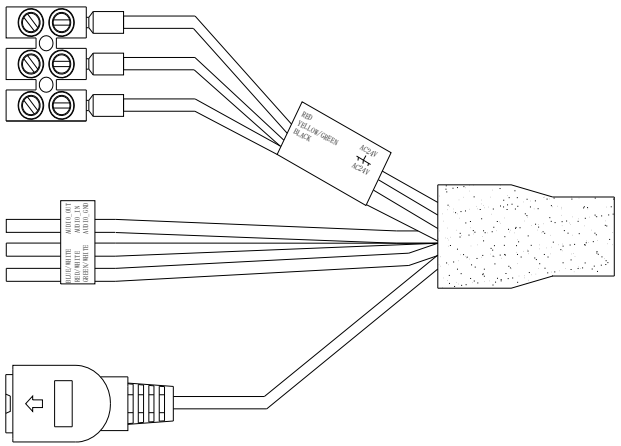
Live video to a mobile device with free iOS® and Android™ apps

Cables

Audio Line in, line out, and grounding wires

Line in/out for DC 12V power

Network cable connection



Warnings:

- It is recommended to use the PoE+ injector or an IEEE 802.3at compliant PoE+ switch.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. Disassembling the product will void the warranty and may cause harm or injury.
- The installation should be done by a qualified service person and should conform to all construction and electric regulations and other local codes.

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Cautions:

- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera lens at the strong light such as the Sun or an incandescent lamp. Strong light can damage the camera sensor.
- The sensor may be burned out by a laser beam. When any laser equipment is being used, make sure that the surface of the sensor will not be exposed to the laser beam.
- Do not place the camera in extremely hot, cold temperatures (the operating temperature should be between -30°C to 65°C), dusty or damp environment, and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- While shipping, the camera should be packed in its original packing.
- Use water proof tape to cover all the wires, cables which will be exposed outdoor after the camera installation.

Plan for Installation

Viewing angle

- The camera has a wide viewing range that provides non-distorted and detailed images. Choose the location where has good angle to shoot the image you expect to see. The motion detection area should also be considered when installing the camera.

Weather Conditions

- The camera is an outdoor dome camera, which fits most installations indoor and outdoor. The camera can work under a wide range of weather conditions. For severe weather conditions. Using the camera in milder weather conditions will help extend the camera's life and preserve the quality of the camera image.
- **Moisture:** Avoid damp or moist environments whenever you can. The camera is an IP66 grade water proof camera, and it will work in moist environments. However, rain may affect the picture quality, especially at night, water may reflect the light from the infra-red illumination and degrade picture quality.
- **Temperature:** Camera works within a specified temperature range. Areas with severe temperatures should be avoided when installing the camera. It's recommended that you use an enclosure with a heater and blower if you plan on using this camera outside of the specified temperature range.
- **Sunlight:** Avoid direct sun light exposure. Direct sun light will damage the image sensor. If sunlight is necessary for your viewing purposes, provide protection for the image sensor.
- **Lighting:** Consider installing your camera faces the same direction of the light sources. Shooting images with top-down position outdoor or next to the existing light source are good choices. Avoid the light source if it creates a shade that darkens the viewing area.

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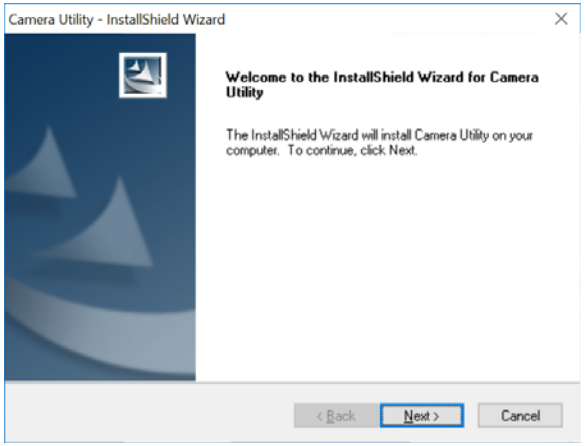
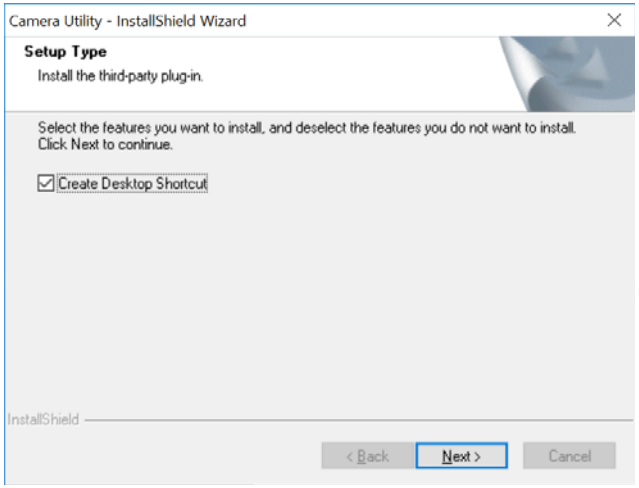
Setup Camera with CD

1. Insert the Installation CD-ROM into your computer's CD-ROM drive to initiate the Auto-Run program. Choose your preferred language and then click the **Install Camera Utility**.

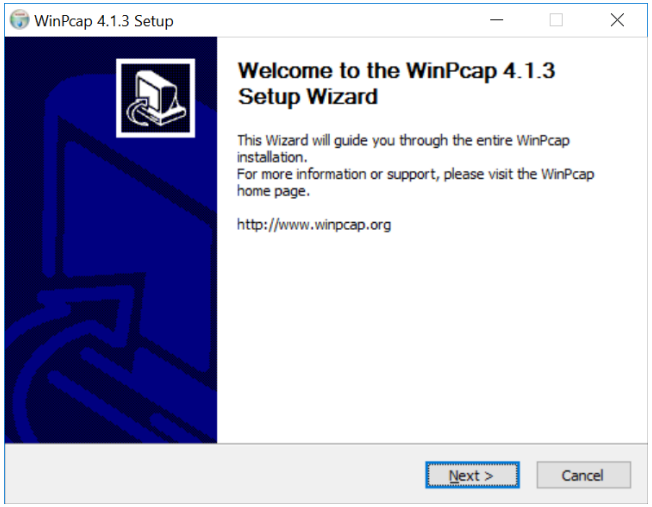
2. Install the Camera Utility as instructed.



3. Last, click Next to finish the installation



4. This will also require you to install WinPcap program if you don't have this installed before, please follow the on screen instruction to install it.



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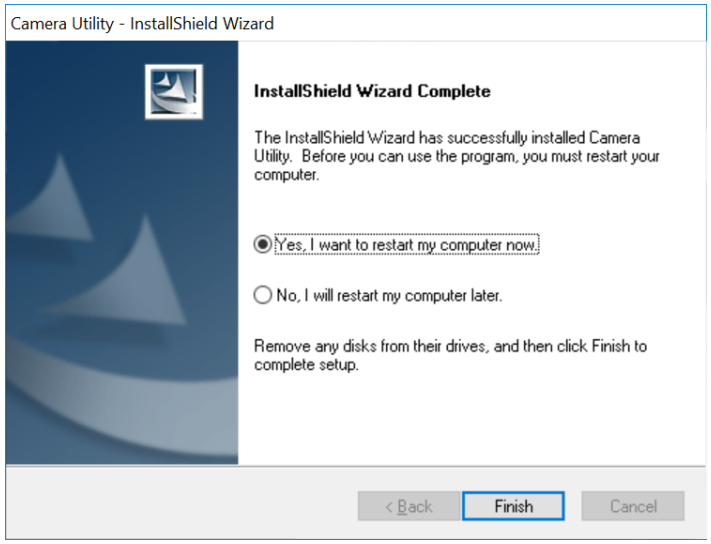
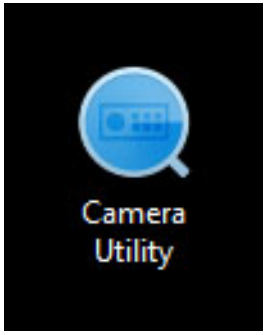
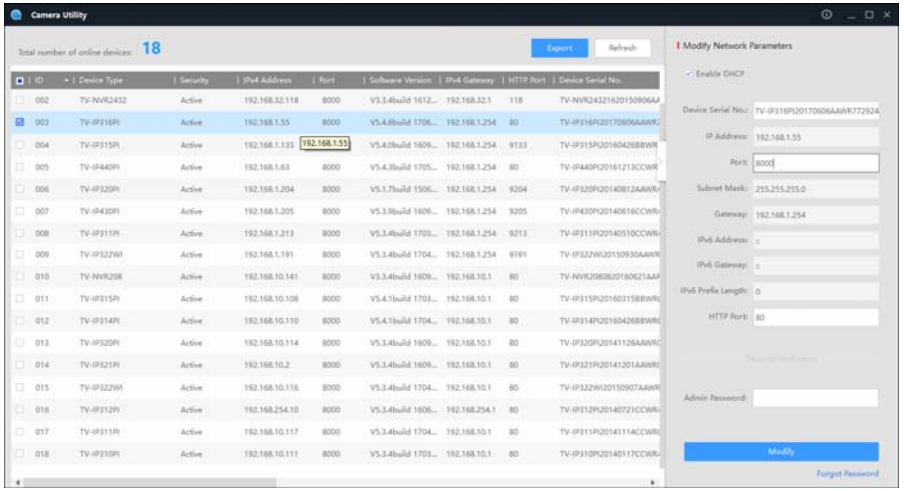
5. Restart the computer after the installations.



6. After computer is restarted, double click on the Camera Utility icon to launch the program.



7. Find the camera you would like to access and configure then double click on the IP address.



8. Continue to the next section **Access your Camera with the Web Browser** for detail configurations of the camera.

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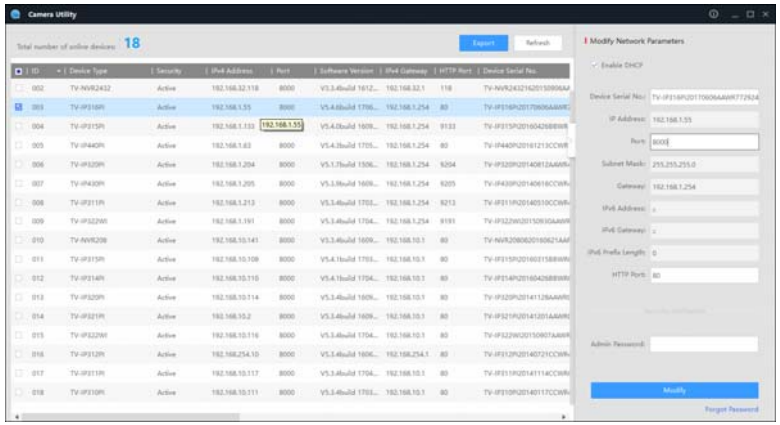
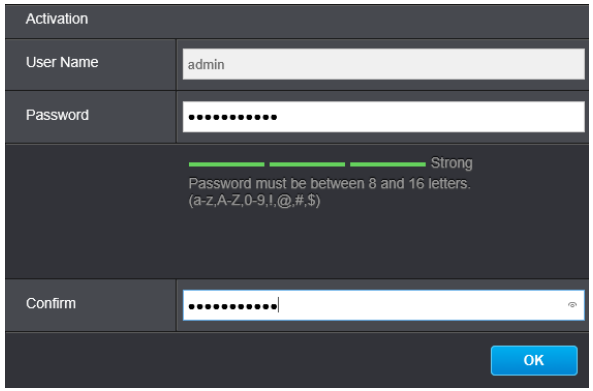
Access Camera through the Web Browser

Logging-in to the Camera for the First Time (Windows)

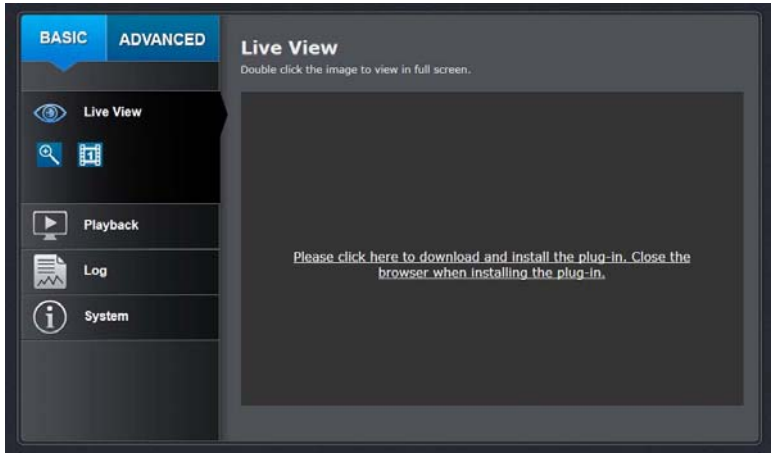
1. Find the camera from the Utility and double click on the IP address to open the browser.



2. Activate the **admin** User Account by entering your desired password, and then click **OK**.



3. The camera management page will detect if you installed the camera video streaming plug-in or not. Click the link to download the plug-in from the camera.



4. Download the plug-in to your computer and then and close your browser. Launch the plug-in installation to install the plug-in.

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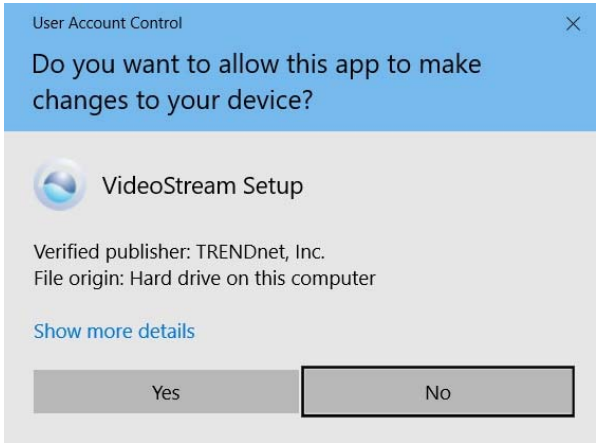
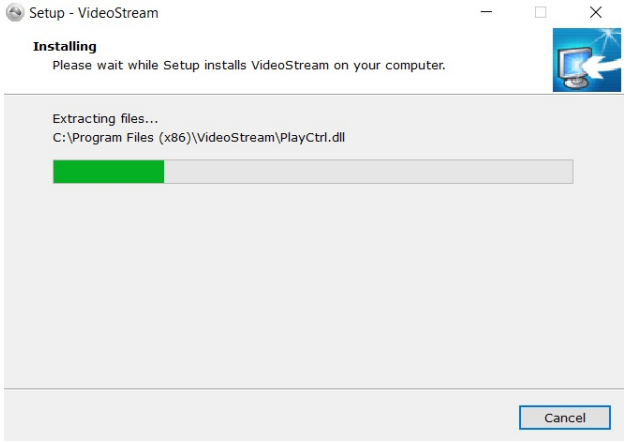
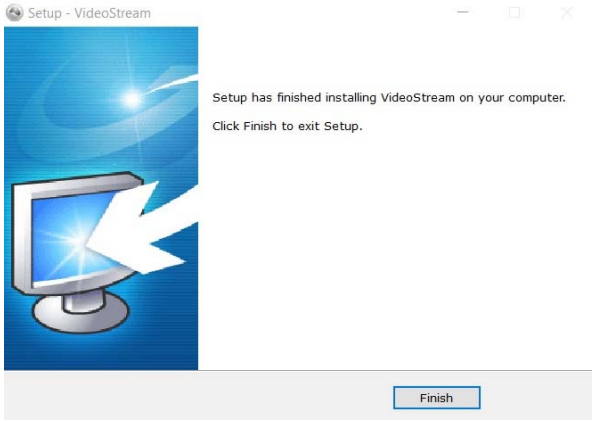
5. Permission request may show up depends on the Internet security settings on your computer. Click **Yes** to install the plug- in.



6. Click **Next** to install the plug-in.



7. Click **Finish** to finish the installation.



8. Open the browser and login again. Enter the user name **admin** and new password again to start secured session.

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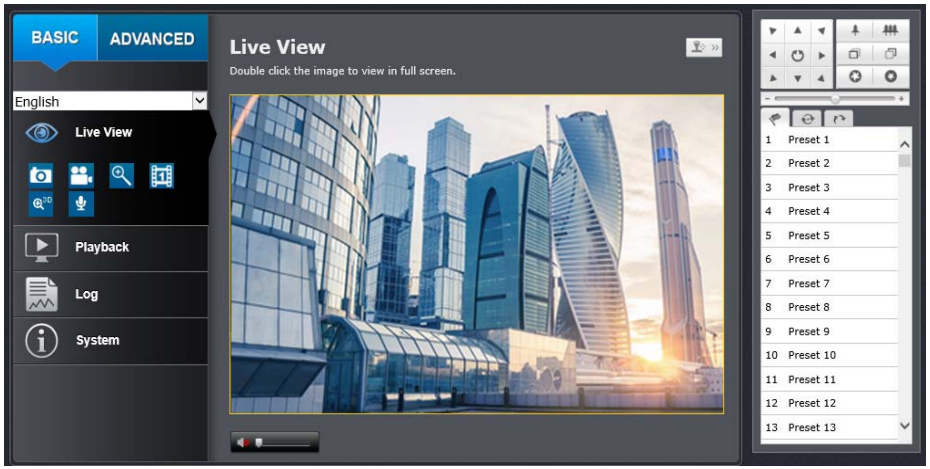
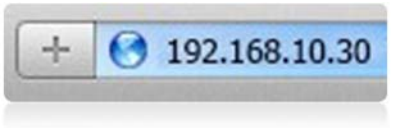
9. The Live View page will show up and begin streaming video.

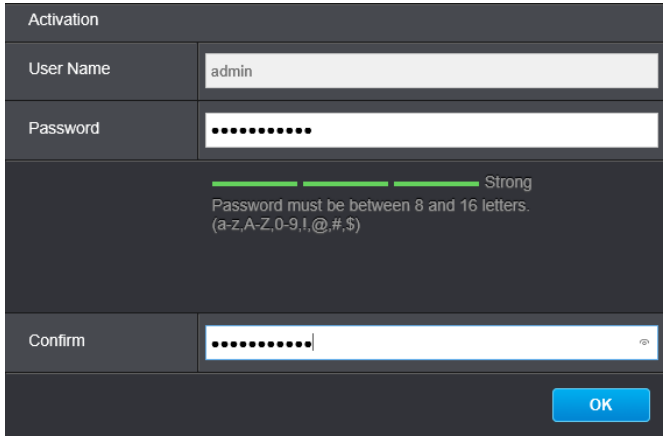


Logging-in to the Camera for the First Time (OS X)

1. Open the web browser on your computer. In the address bar, enter the default IP address of the camera 192.168.10.30. If the camera is connected to a router/network, please use the Windows Camera Utility to find the exact IP address.



2. Activate the **admin** User Account by entering your desired password, and then click **OK**.



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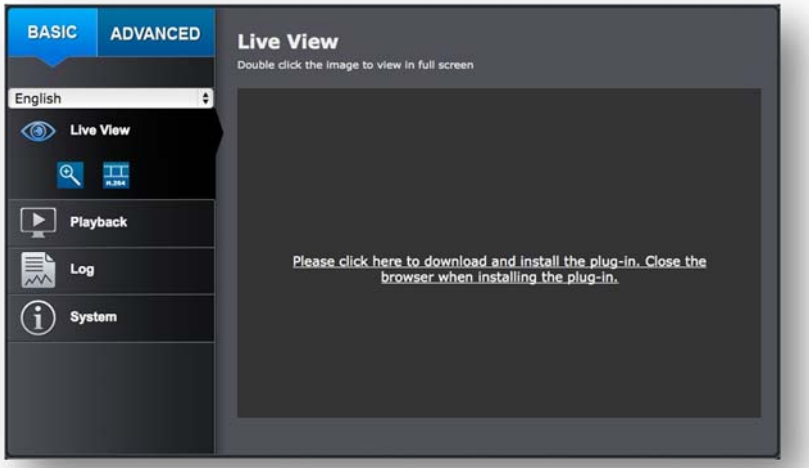
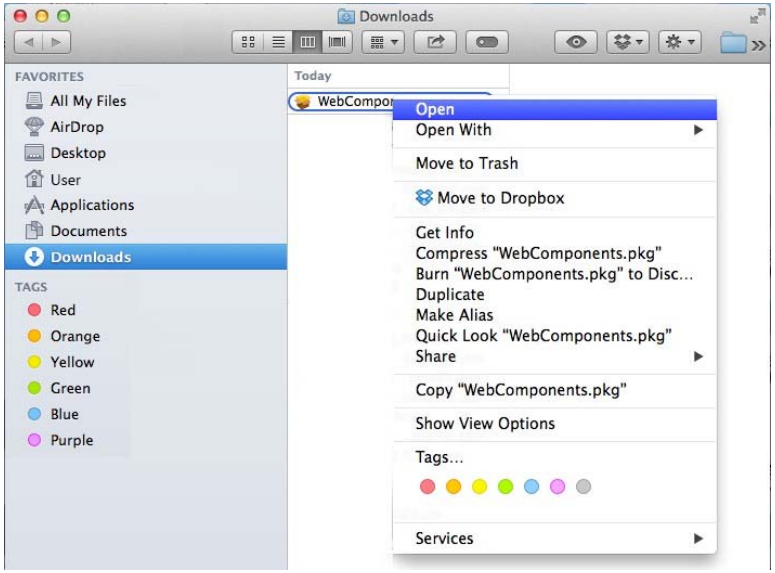
3. The camera management page will detect if you installed the camera video streaming plug-in or not. Click the link to download the plug-in from the TV-IP340PI camera.

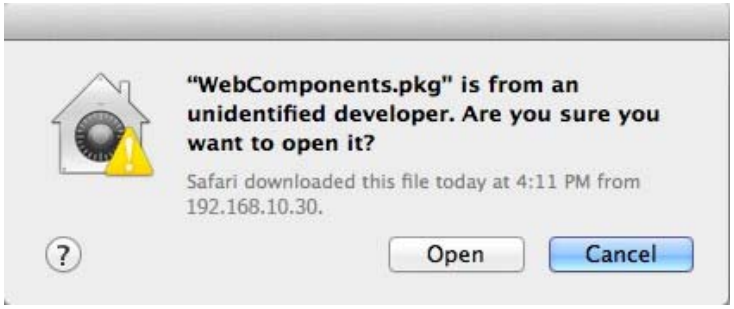


4. Quit your browser completely by **command-Click** on the browser icon and then click **Quit** before installing the plug-in.

5. Go to the **Finder** and navigate to the **Download** folder. **Command-Click** the **WebComponents.pkg** and then click **Open**. (If you are install the plug-in from the CD, just browse to /Mac folder and double click the **WebComponents.pkg** file.)



6. Click **Open** to start installation.



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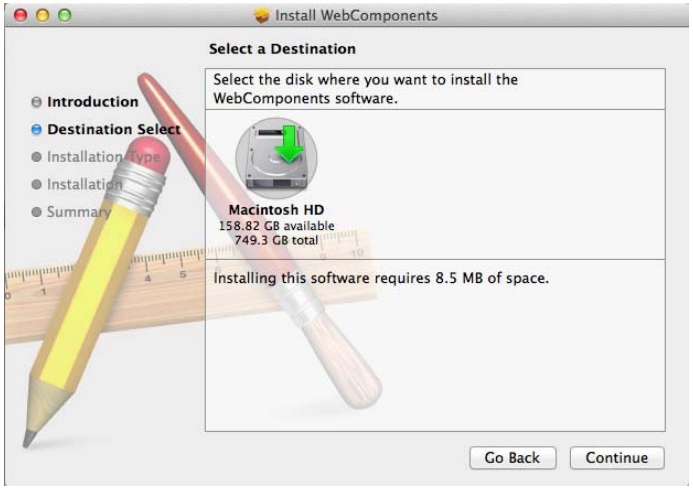
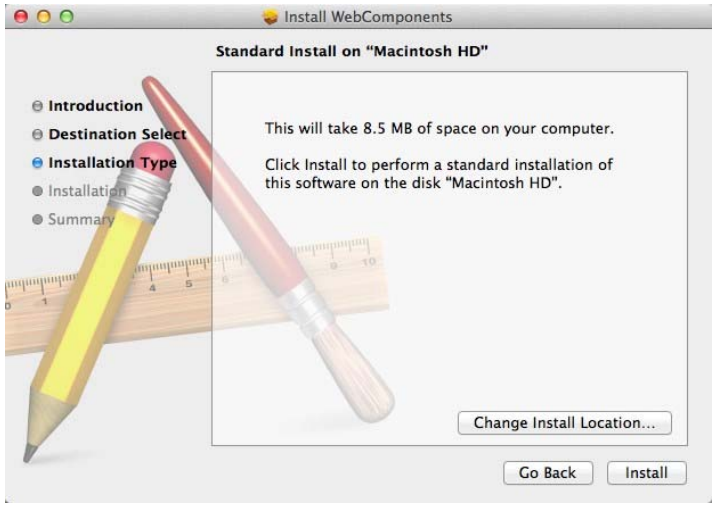
7. Click **Continue** to install the plug-in.

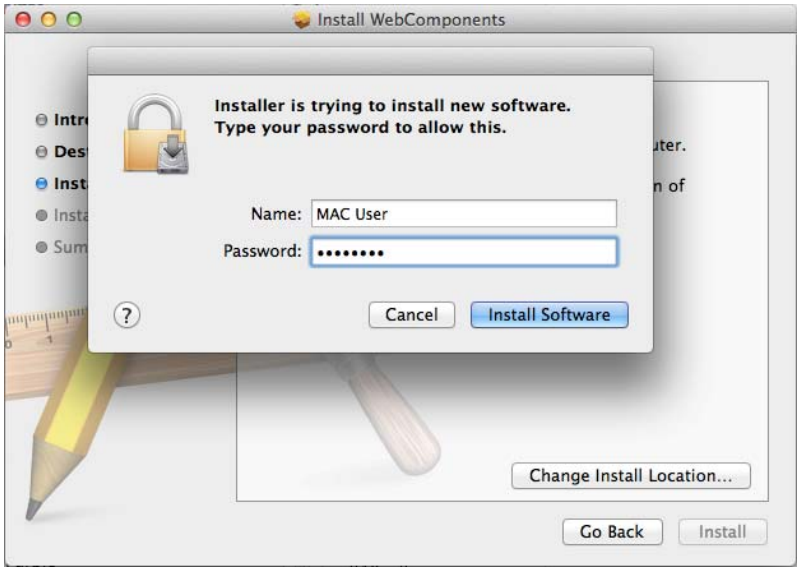
8. Select a destination to install the plug-in. Then click **Continue**.



9. Use the default location and click **Install**.



10. Enter your password and click **Install Software**



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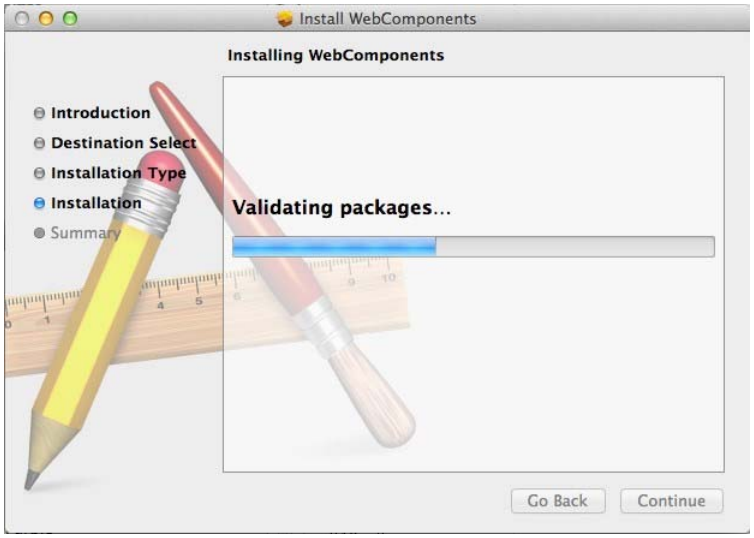
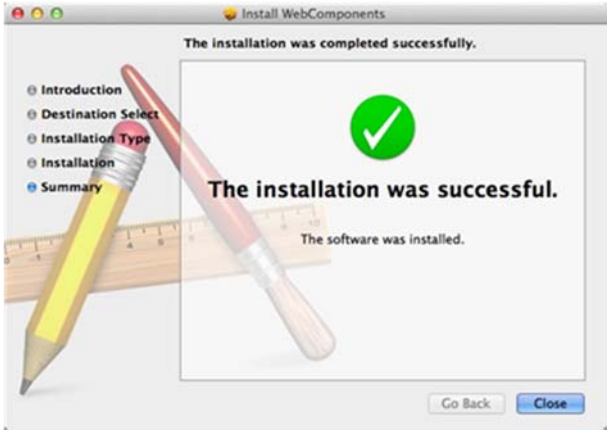
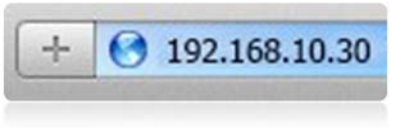
11. Installation will process automatically.



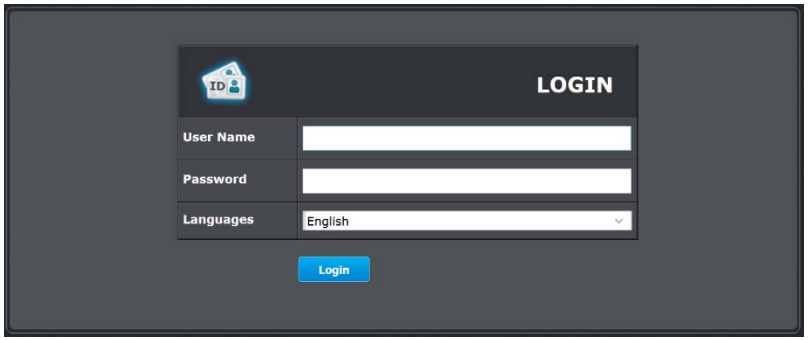
12. Click **Close** to exit the installation.



13. Open the browser and login again with the default IP 192.168.10.30 or the IP that was dynamically assigned by your router.



14. Enter your user name and password, then click **Login**



15. Click **Trust** (You'll have to do this again when your camera changes to a new IP address.)

16. The Live View page shows up and the video starts to stream.

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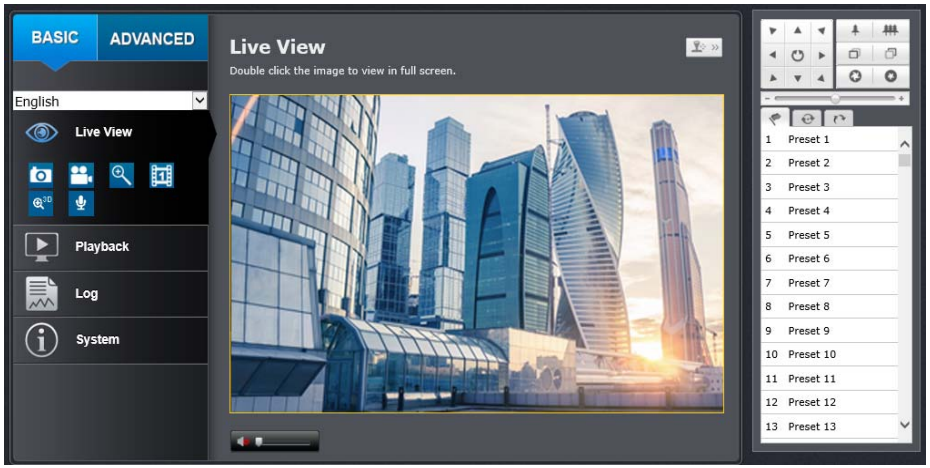
Basic Settings

Live View

After you log-in into the camera management page, you'll see the Live View page.



Multi-Language	Change your preferred language anytime
Snapshot	Click this icon to take a video snapshot
Recording	Click once to start recording. Click it again to stop recording. The status bar will indicate if it is in recording state or not
Zoom	Click once to enable zoom. Then, click and drag the area on the picture to zoom in. Click once on picture for 100% zoom. Click the icon again to disable zoom. The zoom function works in full screen mode as well

Video Stream	The camera has two video streams: H.264 and MJPEG. Switch to view the different video streams by clicking this icon
3D Zoom	Click the position of the live video, the corresponding position will be moved to the center of the live feed. Click and hold the mouse for a desire portion of the live image, then that position will be moved to the center of the live feed
2-way Audio	Click to enable 2-way audio
Full Screen Mode	Double click the picture to view in full screen mode. Double click again or press escape key on your keyboard to exit full screen mode
Status Bar	The status bar shows the status you are at, including enabled the zoom, recording video, and successfully taking a snapshot
	The icon expands the PTZ control panel
	Pan / Tilt / Zoom control panel Zoom in / out Focus close / far Iris open / close

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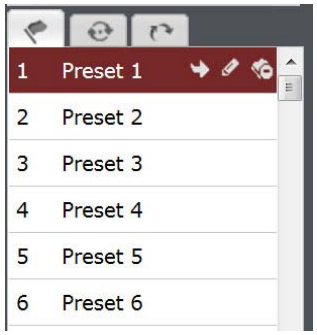
	Speed of pan/tile movement
Presets	Use the presets panel to move to previously saved locations

Presets

Configure a Preset position

A preset is a predefined image position. For the defined preset, you can click the Call button to quickly view the desired image position.

1. In the PTZ control panel, select a preset number from the preset list.



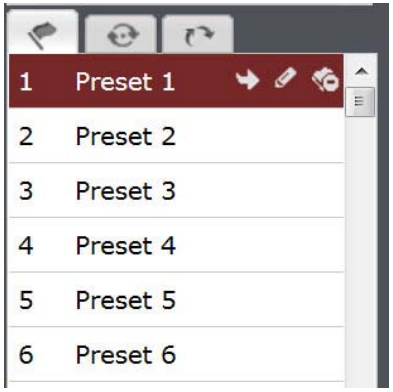
2. Use the PTZ control buttons to move the lens to the desired position.
   - Pan the speed dome to the right or left.
   - Tilt the speed dome up or down.
   - Zoom in or out.
   - Refocus the lens.

3. Click to finish the setting of the current preset.

4. You can click to delete the preset. You can configure up to 256 presets.

Calling a Preset position

In the PTZ control panel, select a defined preset from the list and click to call the preset.



The following presets are predefined with special commands. You can only call them but not configure them. For instance, preset 99 is "Start auto scan". If you call preset 99, the speed dome starts auto scan function.

Special Preset	Function	Special Preset	Function
33	Auto flip	93	Set limit stops manually
34	Back to initial position	94	Remote reboot
35	Call patrol 1	96	Stop a scan
36	Call patrol 2	97	Start random scan
37	Call patrol 3	98	Start frame scan
38	Call patrol 4	99	Start auto scan
39	IR cut filter in	100	Start tilt scan
40	IR cut filter out	101	Start panorama scan
41	Call pattern 1	102	Call patrol 5

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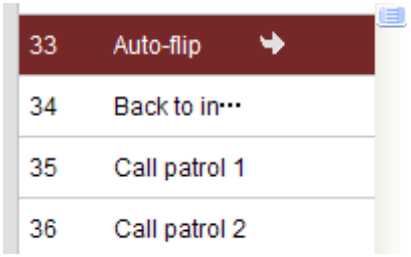
42	Call pattern 2	103	Call patrol 6
43	Call pattern 3	104	Call patrol 7
44	Call pattern 4	105	Call patrol 8
45	One-touch patrol		
92	Start to set limit stops		



Note: When you call preset 45 (one-touch patrol), the speed dome patrols from presets 1 to 32. Before you enable this function, please set presets 1 to 32 first.

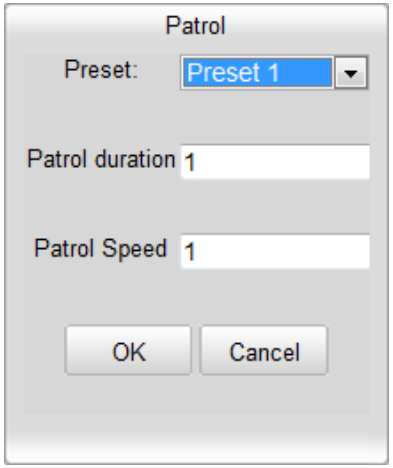
Patrols

A patrol is a memorized series of preset functions. It can be configured and called on the patrol settings interface. There are up to 8 patrol available for customization. A patrol can be configured with 32 presets.

Configure a Patrol route

1. In the PTZ control panel, click to enter the patrol settings interface.
2. Select a patrol number from .

Click to add a preset to a patrol path.



3. Configure the preset number, patrol time and patrol speed.

Name	Description
Patrol Time	This is the duration the camera stays on one patrol point. The speed dome moves to another patrol point after the patrol time.
Patrol Speed	This is the speed that the camera moves in between patrol points.

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4. Click OK to save a preset into the patrol.
5. Repeat the steps from 3 to 5 to add more presets.
6. Click to save all the patrol settings.

Calling a Patrol route

In the PTZ control panel, select a defined patrol from Path 01 and click to call the patrol.

Buttons on the Patrol interface:

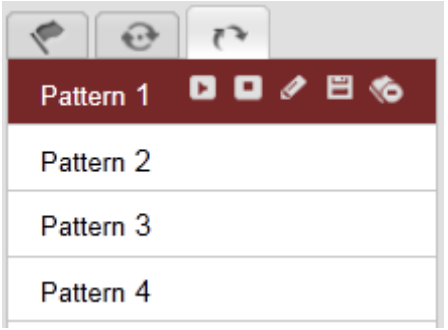
Buttons	Description
	Save a patrol
	Call a patrol
	Stop a patrol
	Add a preset to a patrol path
	Modify a preset
	Delete a preset
	Delete all the presets in the selected patrol path

Pattern

A pattern is a memorized series of pan, tilt, zoom, and preset functions. A pattern can be called in the pattern settings interface. There are up to 4 patterns available for customization.

Configure a Pattern

1. In the PTZ control panel, click to enter the pattern settings interface.
2. Select a pattern number from the list as shown in **Error! Reference source not found.**.



3. Click to enable recording the panning, tilting and zooming actions.
4. Use the PTZ control buttons to move the lens to the desired position after the information of **PROGRAM PATTERN REMAINNING MENORY (%)**.

- Pan the speed dome to the right or left.
- Tilt the speed dome up or down.
- Zoom in or out.
- Refocus the lens.

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5. Click to save the pattern settings.

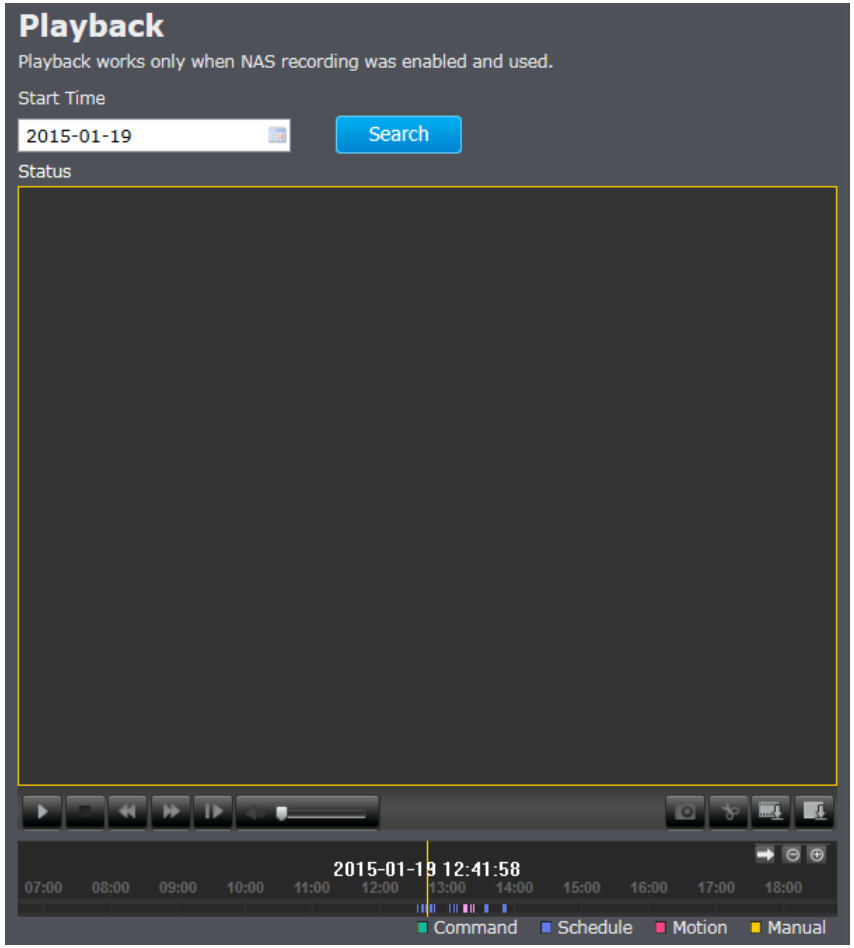
Buttons on the Patterns interface:

Buttons	Description
	Start recording a pattern.
	Stop recording a pattern.
	Call the current pattern.
	Stop the current pattern.
	Delete the current pattern.

- These 4 patterns can be operated separately and with no priority level.
- When configuring and calling the pattern, proportional pan is valid; the limit stops and auto flip will be invalid; and the 3D positioning operation is not supported.

Playback

You can playback the video recording on the network storage and download the video clip and snapshots to your local computer.



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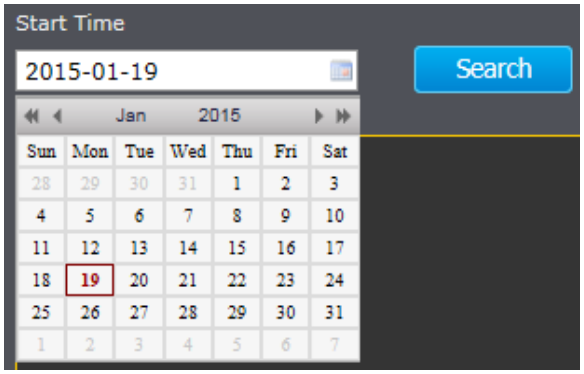
Search for video recordings

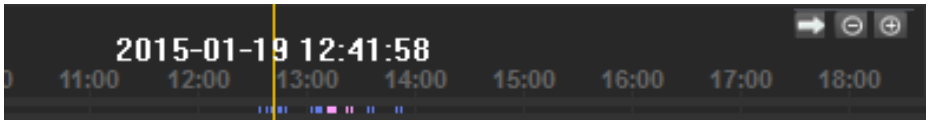
Click the date selection, and then choose a date for the date range of your recording. Click Search to start searching.

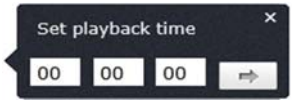


Time line

There is a playback head in the center of the time line represented by a yellow vertical line. To look for a specific video recording, move the time line by clicking and dragging it. If the recording is short, zoom in by clicking button. Click to zoom out the time scale. If you know the exact time of the day you are looking for, click then enter the time you want to playback.

Different types of recordings are identified differently. The scheduled recordings are marked in blue, and the recordings triggered by motion detection are marked in red.



	Click and drag the time line to move your time manually
	Click this button to zoom in the scale
	Click this button to zoom out of the scale
	Click this button to specify a specific time of the day.  then click to confirm selection and then click **X** to close this dialog box.

Play video

Use playback controls to play back the video recordings.

	Click this button to play the video
	Click this button to pause video playback
	Click this button to stop playback
	Click this button to increase playback speed*
	Click this button to decrease playback speed*
	Click to playback video frame by frame. Click again for the next frame.
	*There are 5 steps of playback speeds. You can choose from ¼, ½ , 1, 2, and 4 times of original speed.

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Take Images from a video playback

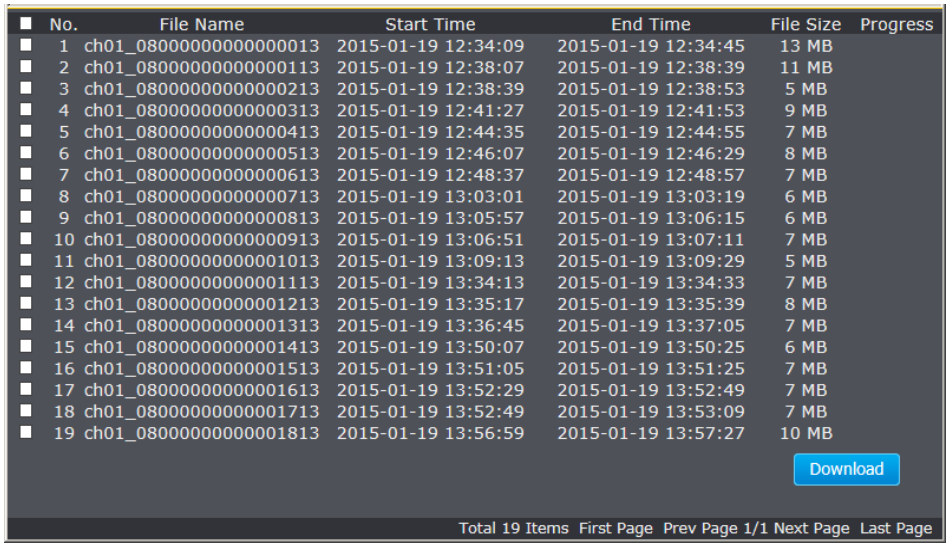
You can take snapshots from playback video or make new video clips from the video you are playing back.

	Click this button to enable zoom. Then click and drag on the video to define the area you want to zoom in. Click again to get back to 100% zoom. Double click to show video in full screen and press **ESC** on keyboard to exit full screen mode
	Click this button to disable zoom
	Click this button to take a snapshot of current playback
	Click this button to start clipping a video from playback
	Click this button to stop clipping a video from playback

Download sections of a video

To save complete video sections or snapshots, you can download the files directly.

	Click this button to download video sections



No.	File Name	Start Time	End Time	File Size	Progress
1	ch01_08000000000000013	2015-01-19 12:34:09	2015-01-19 12:34:45	13 MB	
2	ch01_08000000000000113	2015-01-19 12:38:07	2015-01-19 12:38:39	11 MB	
3	ch01_08000000000000213	2015-01-19 12:38:39	2015-01-19 12:38:53	5 MB	
4	ch01_08000000000000313	2015-01-19 12:41:27	2015-01-19 12:41:53	9 MB	
5	ch01_08000000000000413	2015-01-19 12:44:35	2015-01-19 12:44:55	7 MB	
6	ch01_08000000000000513	2015-01-19 12:46:07	2015-01-19 12:46:29	8 MB	
7	ch01_08000000000000613	2015-01-19 12:48:37	2015-01-19 12:48:57	7 MB	
8	ch01_08000000000000713	2015-01-19 13:03:01	2015-01-19 13:03:19	6 MB	
9	ch01_08000000000000813	2015-01-19 13:05:57	2015-01-19 13:06:15	6 MB	
10	ch01_08000000000000913	2015-01-19 13:06:51	2015-01-19 13:07:11	7 MB	
11	ch01_08000000000001013	2015-01-19 13:09:13	2015-01-19 13:09:29	5 MB	
12	ch01_08000000000001113	2015-01-19 13:34:13	2015-01-19 13:34:33	7 MB	
13	ch01_08000000000001213	2015-01-19 13:35:17	2015-01-19 13:35:39	8 MB	
14	ch01_08000000000001313	2015-01-19 13:36:45	2015-01-19 13:37:05	7 MB	
15	ch01_08000000000001413	2015-01-19 13:50:07	2015-01-19 13:50:25	6 MB	
16	ch01_08000000000001513	2015-01-19 13:51:05	2015-01-19 13:51:25	7 MB	
17	ch01_08000000000001613	2015-01-19 13:52:29	2015-01-19 13:52:49	7 MB	
18	ch01_08000000000001713	2015-01-19 13:52:49	2015-01-19 13:53:09	7 MB	
19	ch01_08000000000001813	2015-01-19 13:56:59	2015-01-19 13:57:27	10 MB	

Download

Total 19 Items First Page Prev Page 1/1 Next Page Last Page

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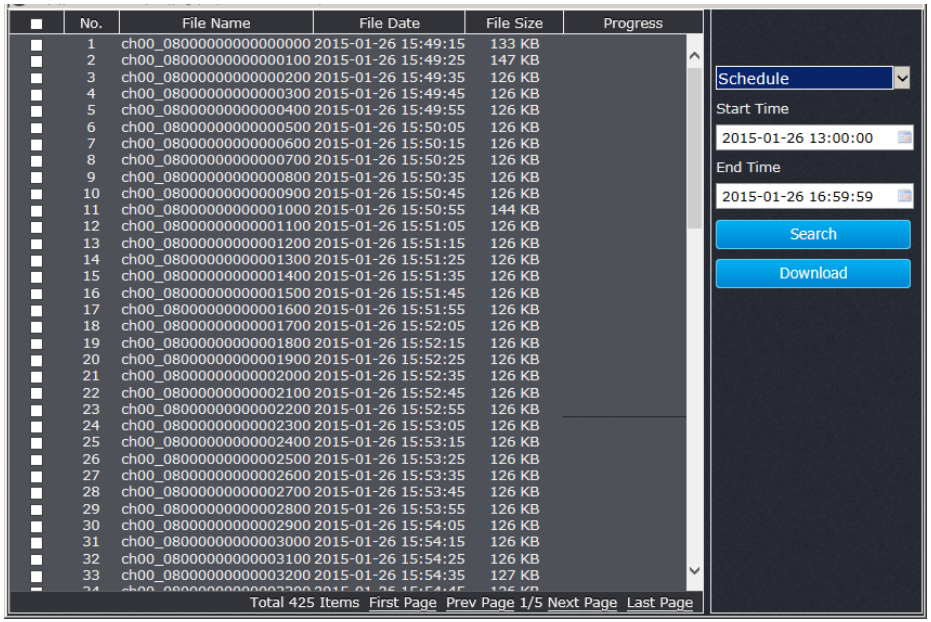
Download snapshots

	Click this button to download snapshots



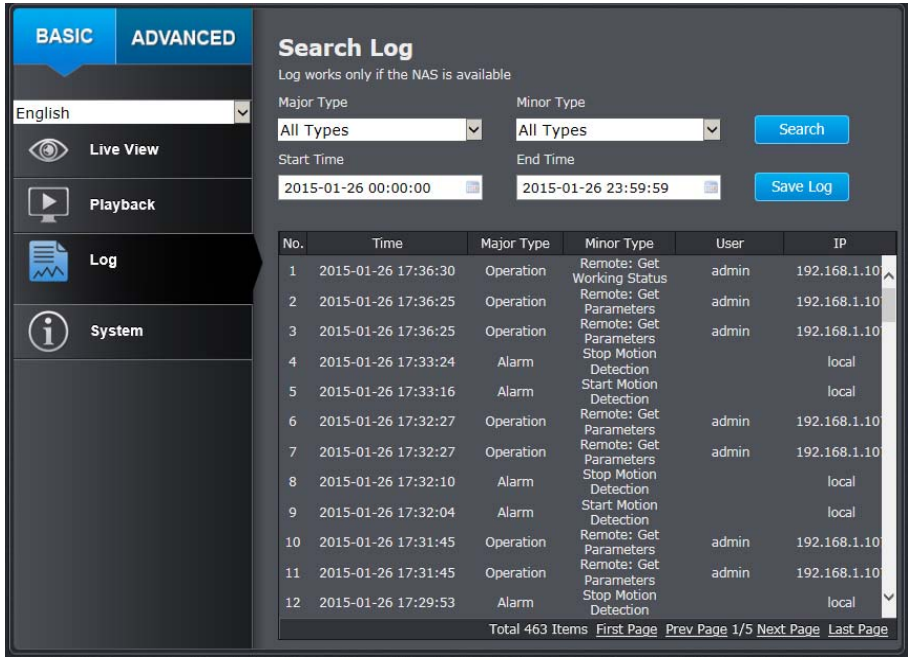
Select the type of event that triggered the snapshots. Choose the **Start Time** and **End Time**. Then, click **Search** to find the snapshot list. Check the time of the snapshot, and then select the snapshots you want to download, then click **Download**.

Note: Where can I find saved files?

Videos and snapshots captured from Playback will save to your computer.

Log

The log of the TV-IP440PI will be saved on the network storage. You can search the relevant records and save to your local computer.



Search for logs

Click the type of log and then the Start Time and End Time. Click Search to start searching.

Click **First Page, Prev Page**, **Next Page**, and **Last Page** to show the logs. Click **Save Log** to save the logs to your computer.

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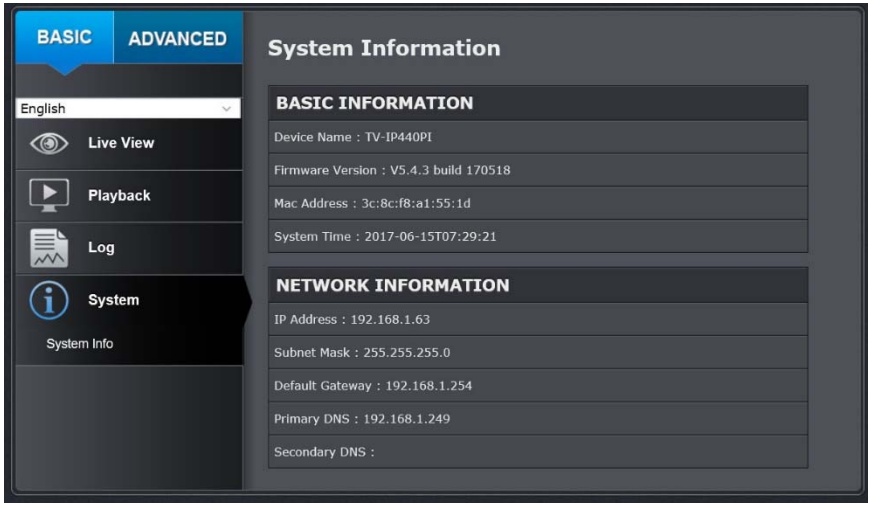
System

System Information page shows the camera basic information. Click **System** then click **System Info** to show the page.



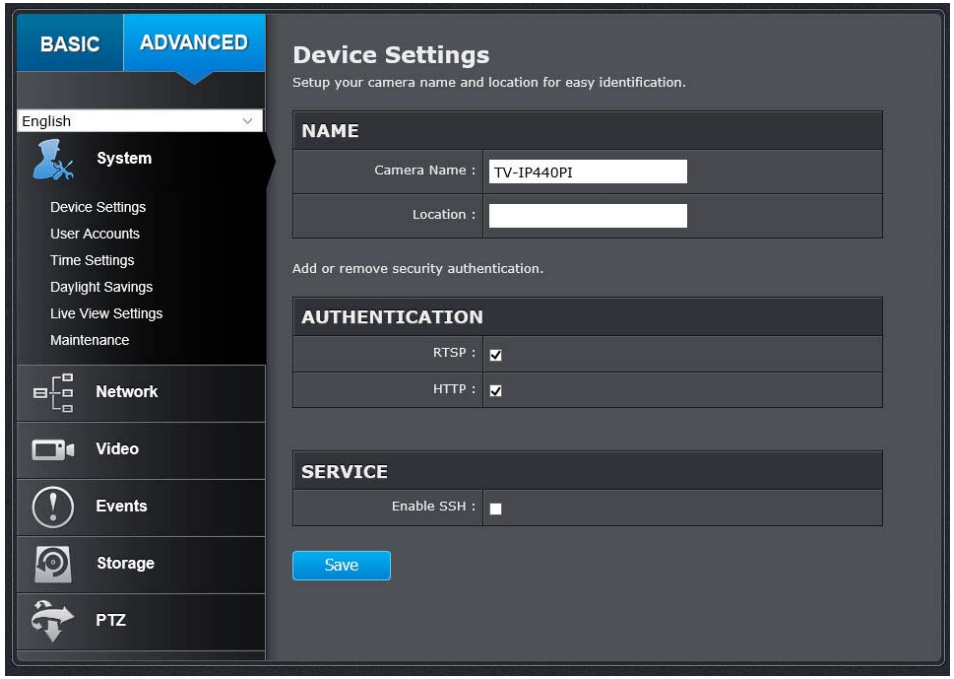
Basic Information	
Device Name:	User defined device name
Firmware Version:	Firmware Version
MAC Address:	MAC address of the camera
System Time:	Display the system time
Network Information	
IP Address:	IP address of the camera
Subnet Mask:	Network range of IP address
Default Gateway:	Gateway for the camera
Primary DNS:	Primary DNS server address
Secondary DNS:	Secondary DNS server address

Advanced Settings
System

Device Settings

Setup your camera name and location for easy identification. This camera name will also be recognized by other network camera software as the name of this camera.

OSD, On Screen Display, the camera name is setting up here as well.



Names	
Camera Name:	Name of the camera. The camera name setup here can be discovered by other network camera software and

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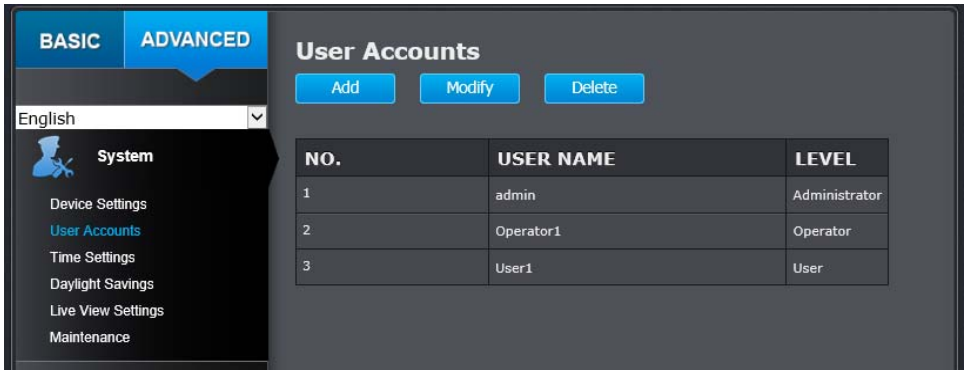
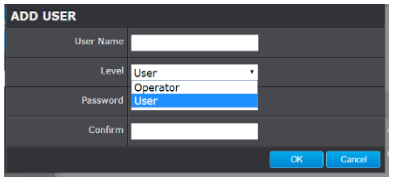
	OSD, On Screen Display. The default is the camera's model name:
Location:	Label where you installed this camera
Authentication	
RTSP:	Camera's video stream can be accessed with RTSP, Real Time Streaming Protocol. Only the administrator and users can view this video stream. Un-checking this box will allow everyone access to this video stream without authentication. Default: checked.
HTTP:	Camera can be accessed via password protected web management interface. Un-checking this box will allow anyone to access this camera and change its settings. Default: checked.
Service	
Enable Telnet	Camera embedded Telnet service for multiple camera control for system developer. Default: disable.

User Accounts

You can setup up to 32 user accounts to access the camera's video stream with a web browser or real time video stream (RTSP). Only one administrator account can be setup to configure the camera and cannot be deleted.



User Accounts	
Add:	Click **Add** button to add one user account. Select user level as Operator account or user account. Operator could configure settings. User account could view but could not change any setting. 
Modify:	To change a user's name and password, highlight the user by clicking on it. Then, click **Modify** button. Administrator can change user's name, level and password. The administrator's name is fixed, you cannot change it. Click **OK** to save the changes.

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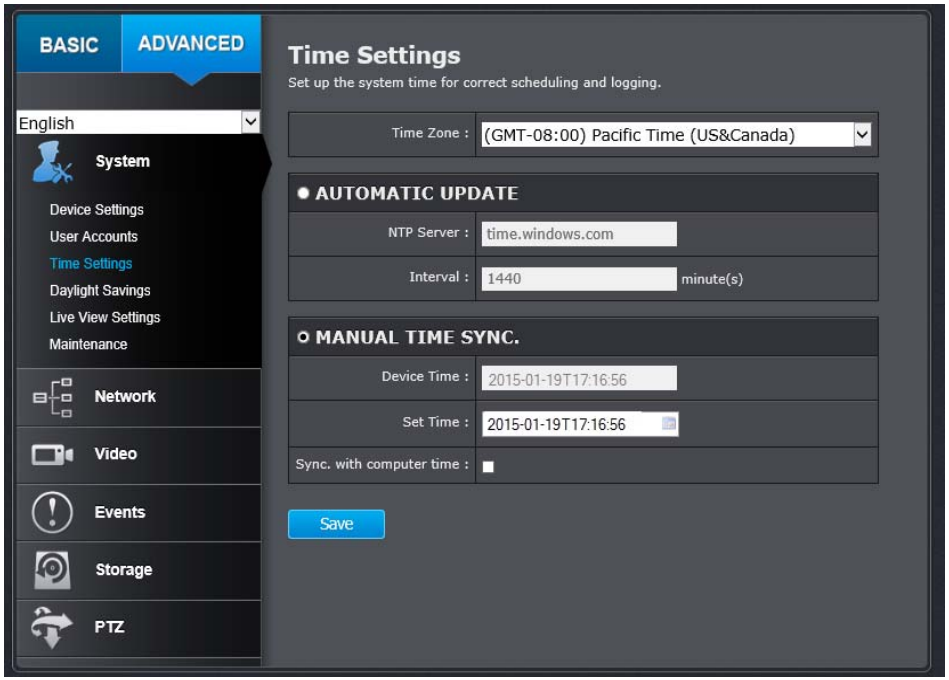
Time Settings

The accuracy of the system clock is important for scheduling and accurate logging. You can synchronize the system time with your computer, or automatically check the time accuracy with a network time server (NTP server).

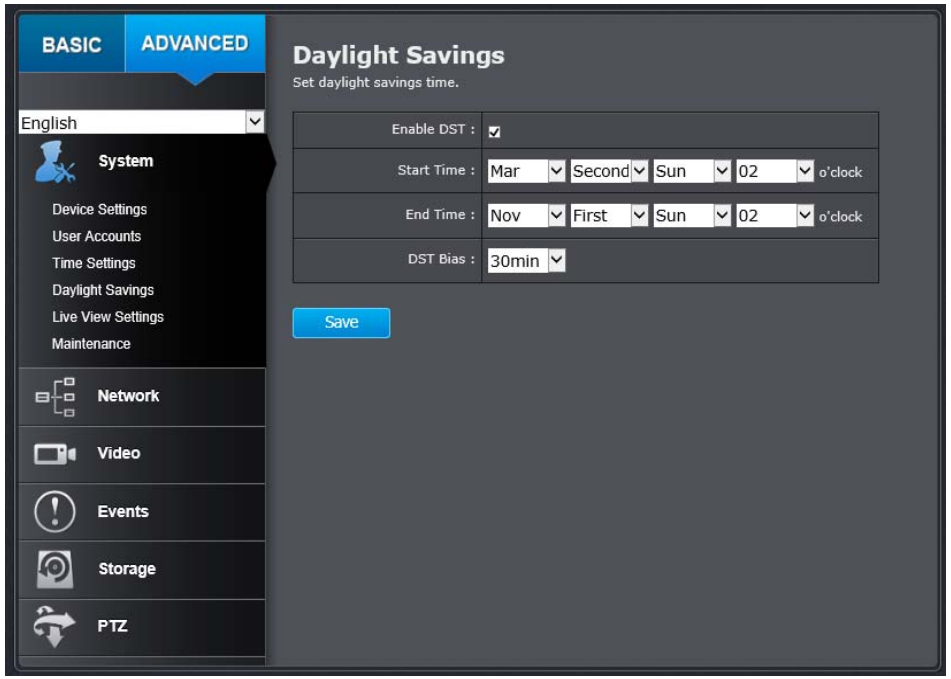


Automatic Update	
NTP Server:	Specify a time server (NTP server) to synchronize with. (e.g. time.windows.com)
Interval:	The time interval that the camera will synchronize the time with NTP server. Default: 1440 minutes (24 hours).
Click **Save** to save the changes	

Manual Time Sync.	
Device Time:	The system time of this camera.
Set Time:	Click the calendar icon and manually select the date. Check the **Sync. with computer time** to copy the time from your computer.
Click **Save** to save the changes	

Daylight Savings

Setup daylight settings for the camera.



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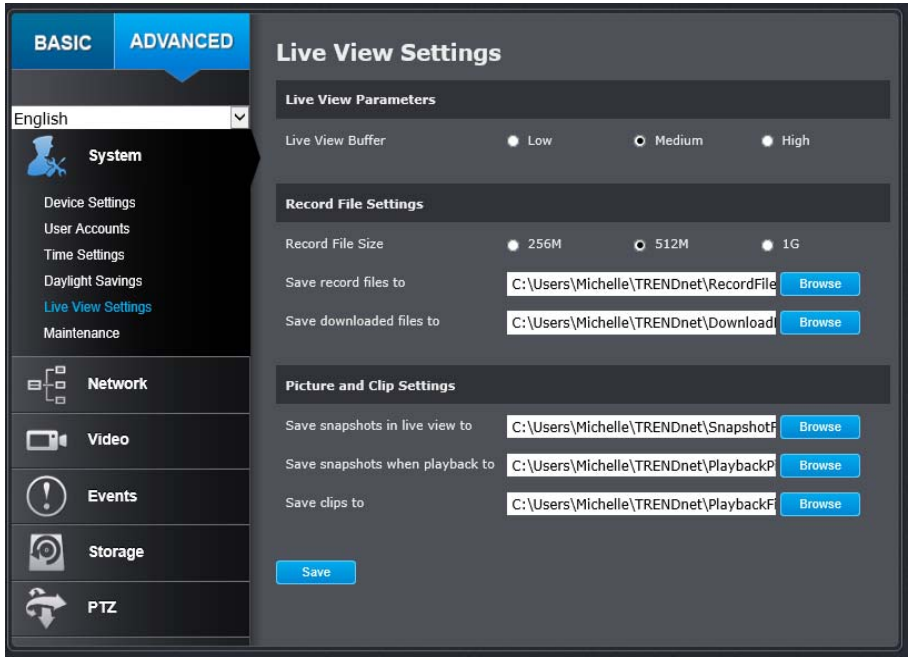
Daylight Saving	
Enable DST:	Check this box if your time zone has daylight savings
Start Time:	Enter the Month and Date that daylight savings starts
End Time:	Enter the Month and Date that daylight savings ends
DST Bias:	Enter how much time the daylight saving adjusted by daylight savings
Click **Save** to save the changes	

Live View Settings

Setup the Live View buffer and the destination of record file or snap shot.



Live View Parameters	
Live View Buffer:	Configure the buffer size for live view video stream. With low buffer size setting, you can get real-time video stream, but the video may be stop and go if the network is congested. With high buffer setting, you can have smooth video streaming, but the video is delayed from the time happening. Medium size can have moderate video stream smoothness and time delay.
Record File Settings	
Record File Size:	This size of live view video recording. You can choose 256MB, 512MB, or 1GB a file. Smaller file size is good for many short recordings.
Save Record Files to:	By default, files will be saved under your user name, and under the TRENDnet/RecordFiles. Click **Browse** and choose a new destination if you want to save the file somewhere else.
Save Download Files to:	By default, files will be saved under your user name, and under the TRENDnet/DownloadFiles. Click **Browse** and choose a new destination if you want to save the file somewhere else.
Picture and Clip Settings	
Save Snapshots in live view to:	By default, files will be saved under your user name, and under the TRENDnet/SnapshotFiles. Click **Browse** and choose a new destination if you want to save the file somewhere else.
Save snapshots when playback to:	By default, files will be saved under your user name, and under the TRENDnet/PlaybackPics. Click **Browse** and choose a new destination if you want to save the file somewhere else.

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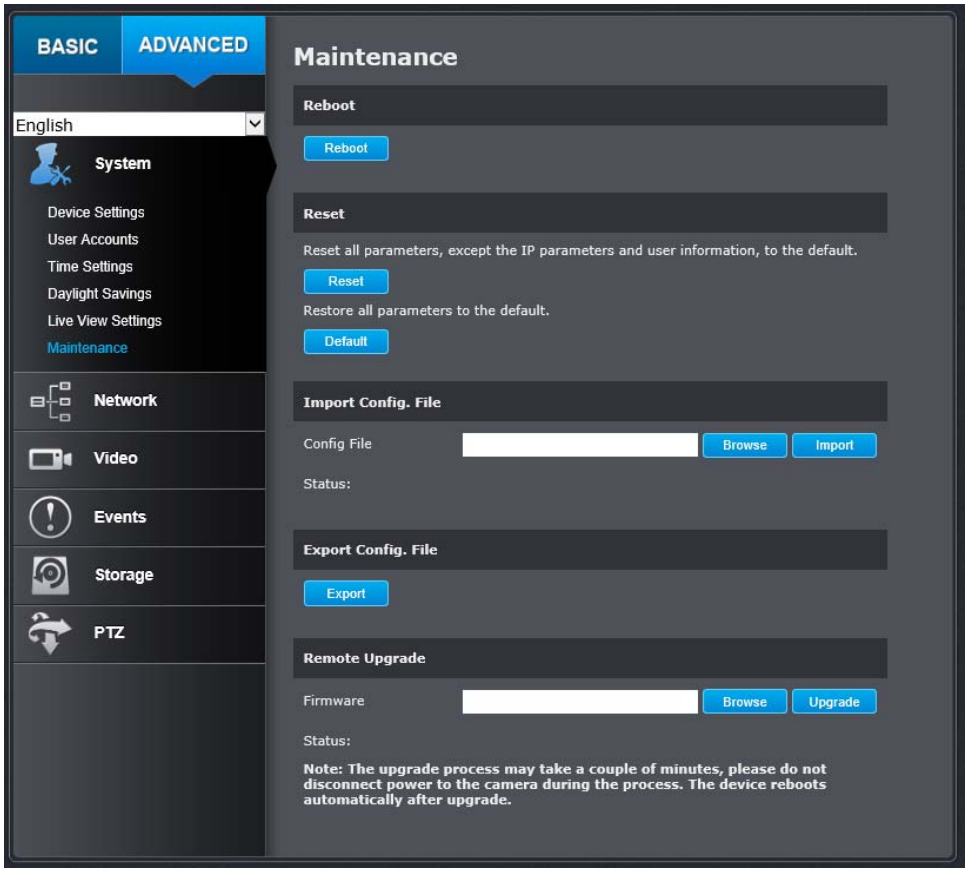
Save Clips to:	By default, files will be saved under your user name, and under the TRENDnet/PlaybackFiles. Click **Browse** and choose a new destination if you want to save the file somewhere else.
Click **Save** to save the changes	

Maintenance

You can do the camera system maintenance on this page.



Reboot	
Reboot:	Click this button to reboot this camera.
Reset	
Reset:	Reset all camera parameters except the IP parameters and user information.
Default:	Load complete factory default settings to the camera.
Import Config. File	
Config File:	To load previously saved configurations, click **Browse** to find the configuration file and then click **Import**.
Status:	Shows the status in loading configuration file.
Export Config. File	
Export:	Click **Export** to download configuration file. The file will be downloaded to the **Download** folder by default.
Remote Upgrade	
Firmware:	Click **Browse** to find the latest firmware and then click **Upgrade***.
Status:	Shows the status in firmware upgrade.
Click **Save** to save the changes	

* TRENDnet may periodically release firmware upgrades that might add features or fix problems associated with your TRENDnet model and version. To find out if there is a firmware upgrade available for your device, please check your TRENDnet model and version using the link. http://www.trendnet.com/downloads/

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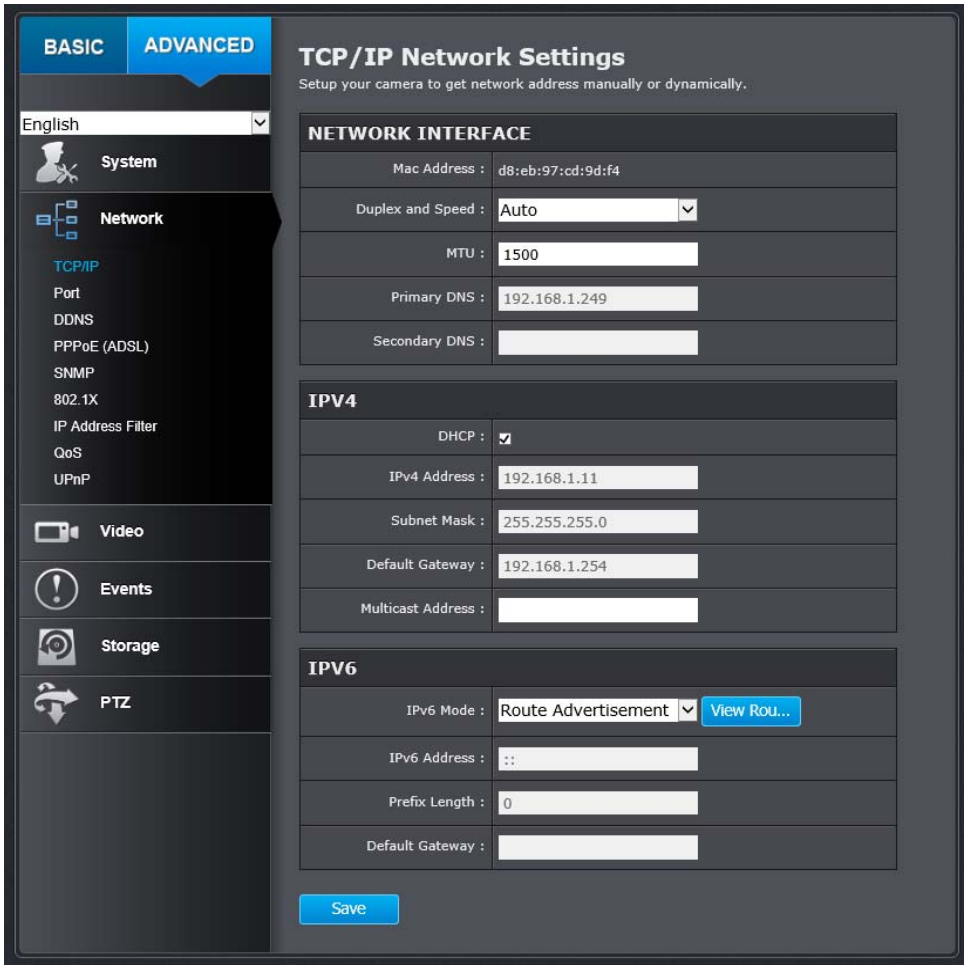
Network

TCP/IP

Setup your basic IPv4 and IPv6 network settings on this page.



Network interface	
MAC Address:	Click this button to reboot this camera.
Duplex and Speed:	Choose one of the Ethernet duplex and speed to match your network. Default: auto.
MTU:	Maximum transmission unit. The maximum byte size Ethernet data field.
Primary DNS:	Enter your first IPv4 or IPv6 DNS server address
Secondary DNS:	Enter your second IPv4 or IPv6 DNS server address
IPv4	
DHCP:	Check this box if the IP address is assigned by DHCP server.
IPv4 Address:	Load complete factory default to the camera.
Subnet Mask:	Network range of the subnet
Default Gateway:	The default route going further from camera IPv4 subnet.
Multicast Address:	Multicast address for video streaming.
IPv6	
IPv6 Mode:	Choose Manual, DHCP, or Route Advertisement. Click **View Route Advertisement** to find a route advertisement. Manual DHCP Route Advertisement
IPv6 Address:	IPv6 address of the camera.
Prefix Length:	Length of network prefix
Default Gateway:	The default route going further from camera IPv6 subnet.
Click **Save** to save the changes	

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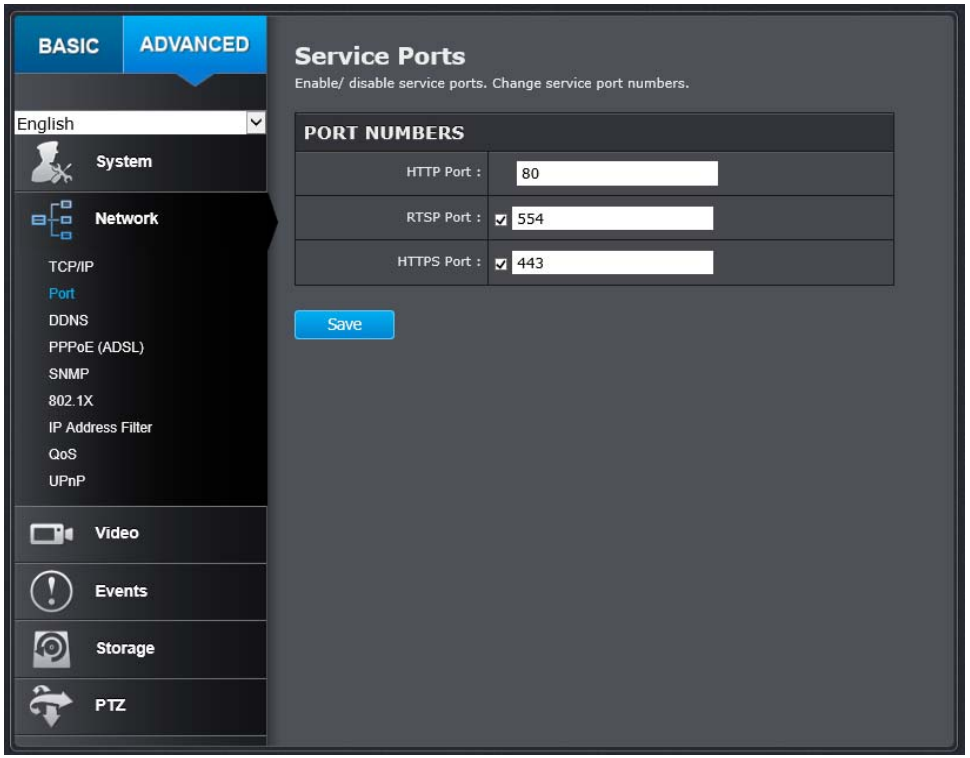
Port

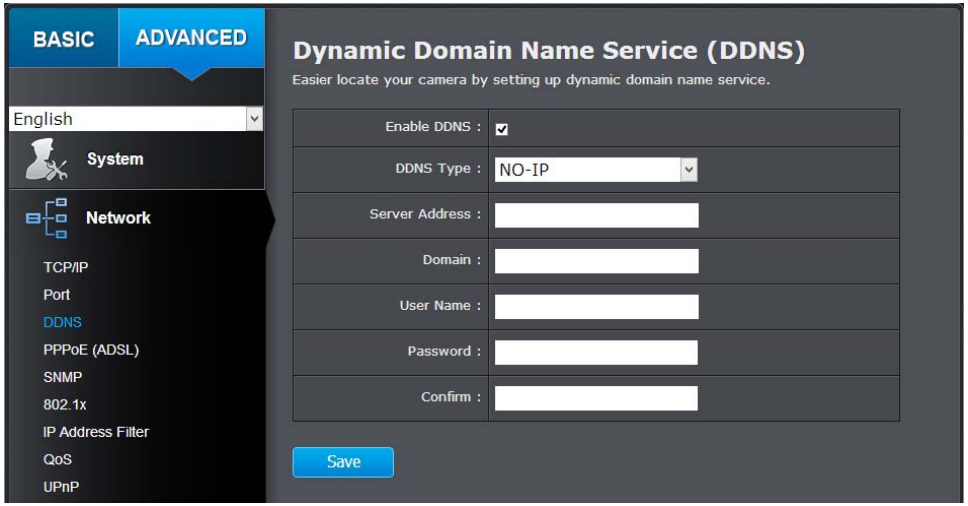
You can change the service ports number of the camera or disable RTSP or HTTPS services.



Port Numbers	
HTTP Port:	The default web access port. You can change the port number. However, you cannot disable the web service. The default port number is 80.
RTSP Port:	The Real-Time Streaming Protocol port for video streaming. You can change the port number or disable the service by uncheck the box. The default port number is 554.
HTTPS Port:	The secured web service port. You can change the port number, or you can disable the service by uncheck the box. The default port number is 443.
Click **Save** to save the changes	

DDNS

Dynamic Domain Name Service, DDNS, allows you to find your camera from the Internet with an easy to remember domain name.



DDNS	
Enable DDNS:	Check this box to enable DDNS Service.
DDNS Type:	Select a DDNS service provider.
Server Address:	Enter the DDNS server address.

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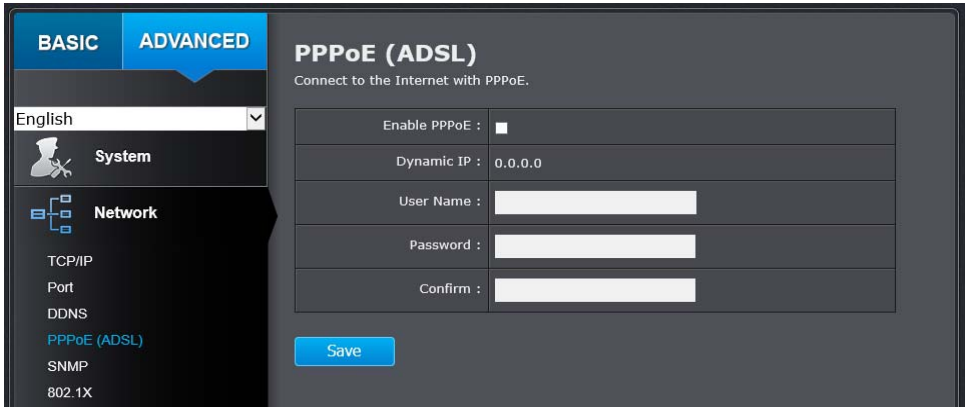
Domain:	Enter your registered domain name on selected DDNS service.
User Name:	Enter the account name.
Password:	Enter the password.
Click **Save** to save the changes	

PPPoE

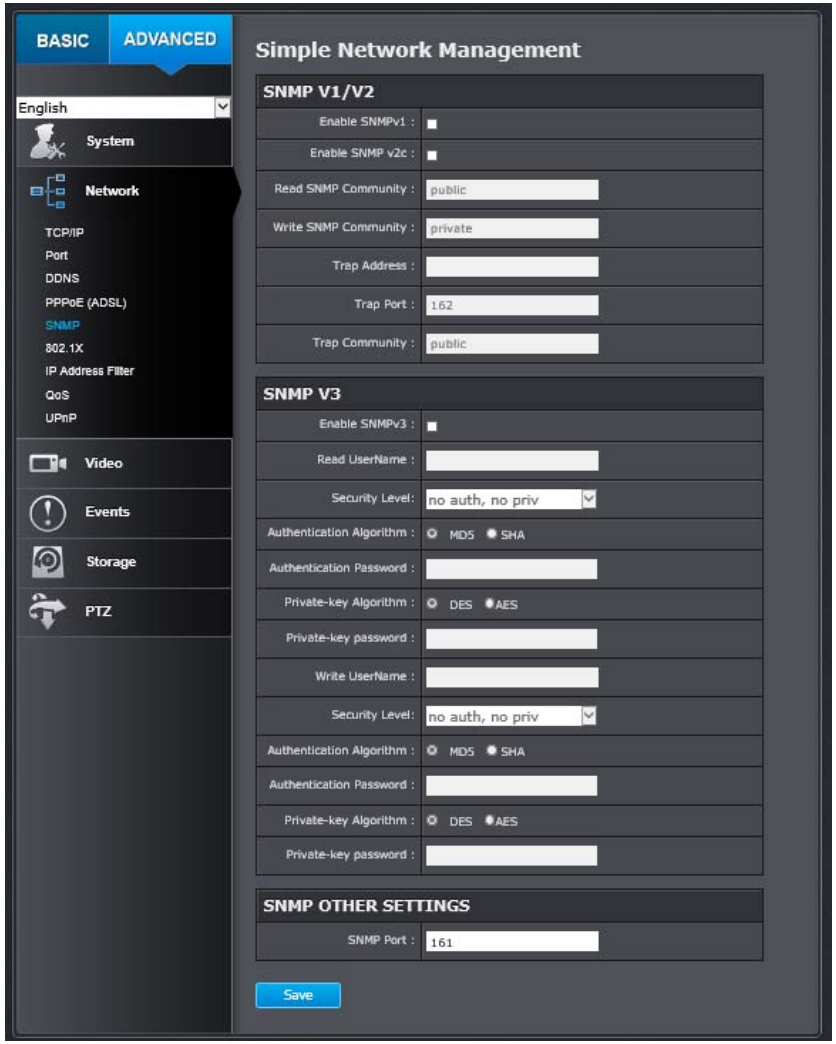
Setup PPPoE (ADSL) connection to connect your camera with your ISP, Internet Service Provider.



PPPoE (ADSL)	
Enable PPPoE:	Check this box to enable PPPoE connection.
Dynamic IP:	The IP address provided by ISP
User Name:	Enter the account name.
Password:	Enter the password.
Confirm:	Enter the password again.
Click **Save** to save the changes	

SNMP

SNMP Settings allows you to assign the contact details, location, community name and trap settings for SNMP. This is a networking management protocol used to monitor network-attached devices. SNMP allows messages (called protocol data units) to be sent to various parts of a network. Upon receiving these messages, SNMP compatible devices (called agents) return data stored in their Management Information Bases.



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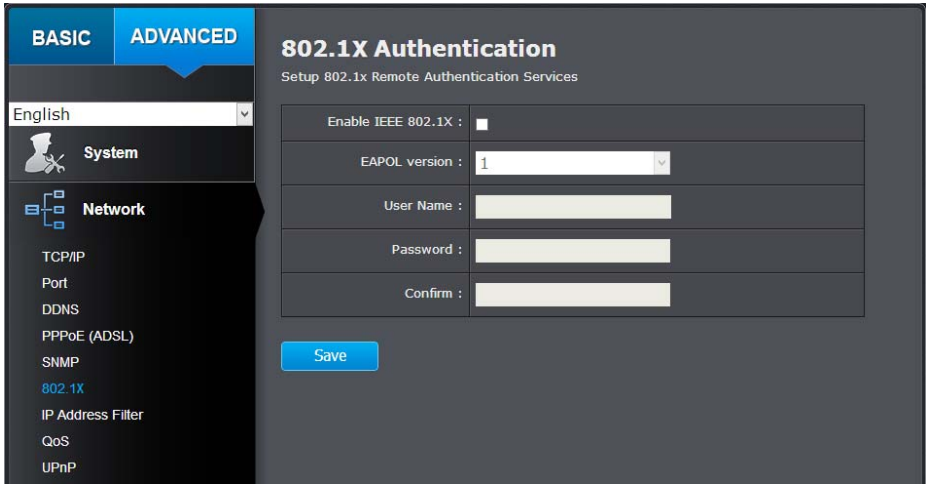
SNMP V1/V2	
Enable SNMPv1:	Check this box to enable SNMP v1 management.
Enable SNMPv2c:	Check this box to enable SNMP v2c management.
Read SNMP Community:	Specify the password for access the SNMP community for read only access
Write SNMP Community:	Specify the password for access to the SNMP community with read/write access
Trap Address:	Specify the IP address for the SNMP trap community
Trap Port:	Specify the port number for the SNMP trap community
Trap Community:	Specify the name of SNMP trap community
SNMP V3	
Enable SNMPv3:	Check this box to enable SNMP v3 management.
Read User Name:	SNMP v3 member user name
Security Level:	Choose one of the security levels. Authentication and Privacy Authentication only Privacy only
Authentication Algorithm:	Choose the authentication method to verify the source of information: MD5 or SHA.
Authentication Password:	Specify the authentication password between 8 to 32 letters.
Private-key Algorithm:	Choose the privacy key to encrypt SNMP messages: DES or AES.
Private-key Password:	Specify the privacy key between 8 to 32 letters.
Write User Name:	SNMP v3 manager user name
Security Level:	Choose one of the security levels.
Authentication Algorithm:	Choose the authentication method to verify the source of information: MD5 or SHA.
Authentication Password:	Specify the authentication password between 8 to 32 letters.
Private-key Algorithm:	Choose the privacy key to encrypt SNMP messages: DES or AES.
Private-key Password:	Specify the privacy key between 8 to 32 letters.
SNMP Other Settings	
SNMP Port:	SNMP service port number.
Click **Save** to save the changes	

802.1X

Setup 802.1X for remote authentication service.



802.1X Authentication	
Enable IEEE 802.1X:	Check this box to enable 802.1X authentication service.

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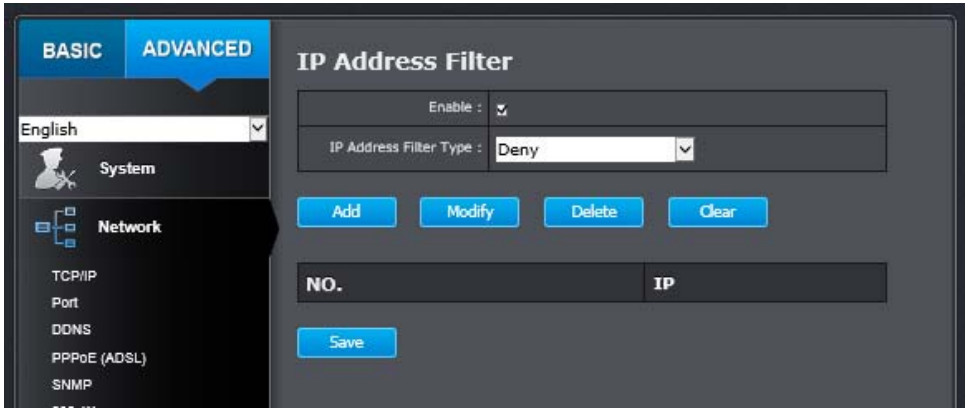
EAPOL version:	Extensible Authentication Protocol (EAP) over LAN (EAPoL). Choose version 1 or 2. This version number must matches to your 802.1X service EAPOL version.
User Name:	Enter the account name.
Password:	Enter the password.
Confirm:	Enter the password again.
Click **Save** to save the changes	

IP Address Filter

Set up a list of clients allow only the clients on the list to access this camera or to reject clients on the list from access this camera.

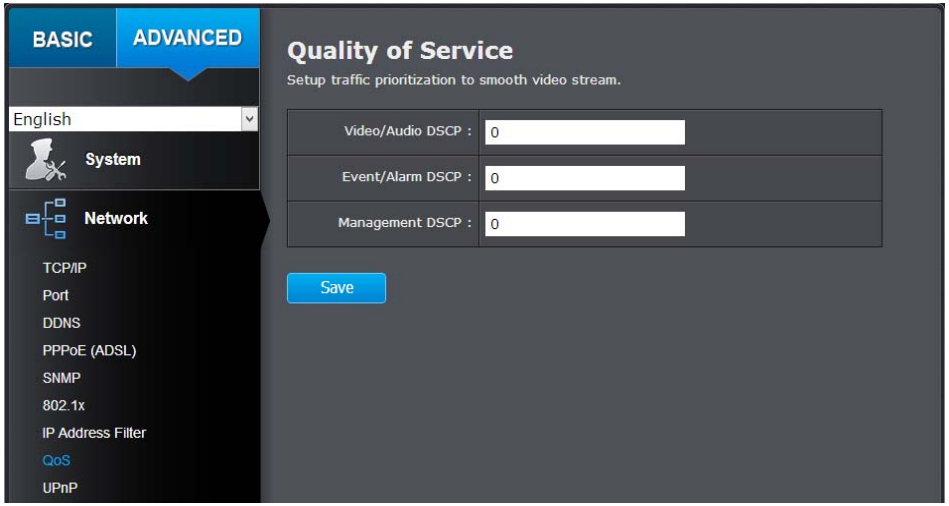


IP Address Filter	
Enable IP Address Filter:	Check this box to enable IP address filtering service.
IP Address Filter Type:	Choose **deny** to ban the listed IP addresses or **Allow** to allow listed host to access this camera.
Add:	Click **Add** to add a user account

Modify:	To modify an entry on the list, highlight the entry by clicking on it. Then, click the **Modify** button. Enter the IP address then click **OK**.
Delete:	To delete an entry on the list, highlight the entry by clicking on it. Then, click **Delete**.
Click **Save** to save the changes	

QoS, Quality of Service

Setup traffic prioritization to help smooth out the video stream. You can set the Differentiated Services Code Point (DSCP) bits on outgoing data streams. The QoS capable network device will forward different data in different priorities. The meaning of the value is different in different DiffServ domains. Consult your network manager for the setup details.



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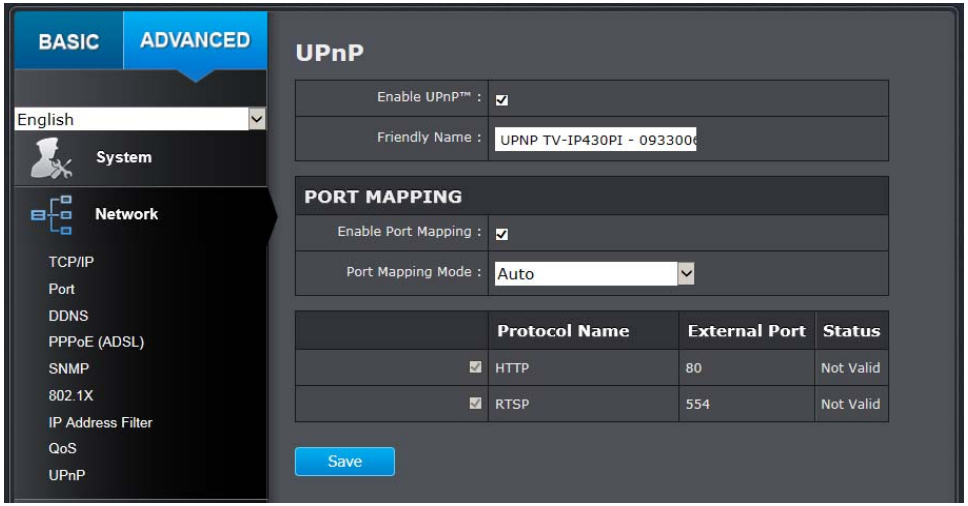
QoS	
Video/Audio DSCP:	Enter Video/Audio DSCP. Default: 0.
Event/Alarm DSCP:	Enter Event/Alarm DSCP. Default: 0.
Management DSCP:	Enter Management DSCP. Default: 0.
Click **Save** to save the changes	

UPnP

Universal Plug-and-Play is a device discovery protocol set. It allows your camera to easily be found, for example, on a Windows operation system.

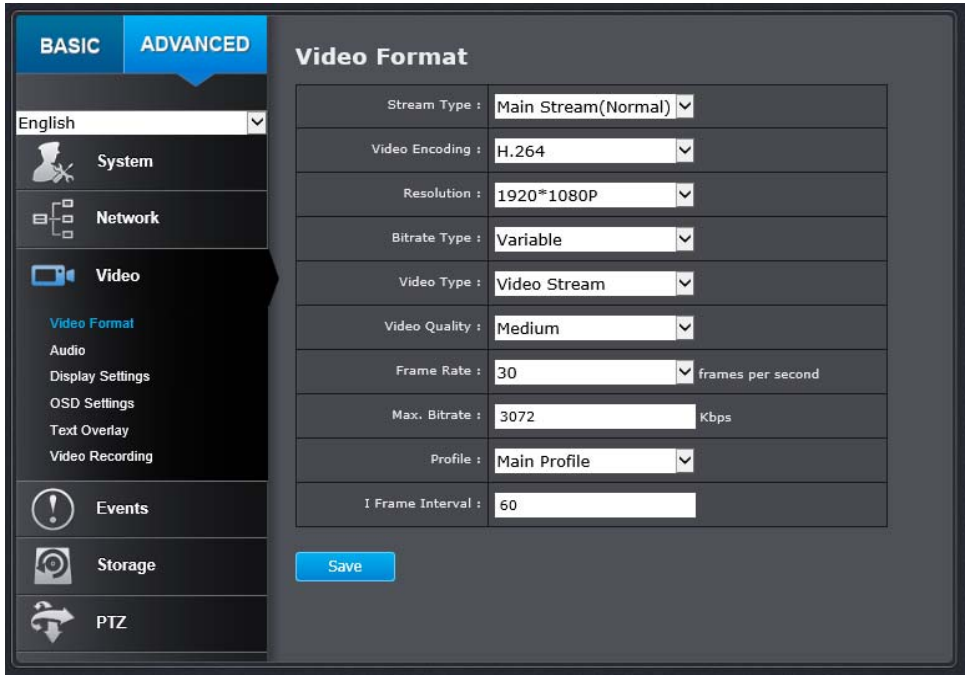


UPnP	
Enable UPnP:	Check this box to enable UPnP connection.
Friendly Name:	The name that will be appeared when searched.
Port Mapping	
Enable Port Mapping:	Check this box to enable UPnP connection.
Port Mapping Mode:	Choose Manual or Auto port mapping.
External Port:	Choose the port number for mapping.
Click **Save** to save the changes	

Video

Video Format

Adjust the format of video.



Video Format	
Stream Type:	Select Main Stream (Normal), Sub Stream or Third Steam (live view on Chrome/Firefix)
Video Encoding:	Choose the video stream you want to modify. Main stream supports H.264 only. Sub Stream supports H.264 and MJPEG.

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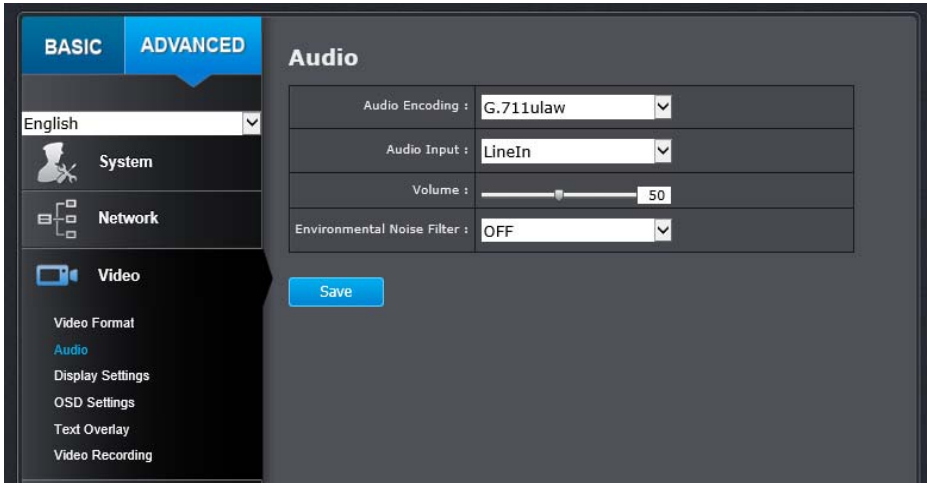
Resolution:	H.264 1280*720P 1920*1080P	H.264/MJPEG 320*240 352*240 704*480
Bitrate Type:	Choose between variable bit rate or constant bit rate for video compression. The default is variable rate. Variable Constant	
Video Quality:	Choose the video quality. The default is medium quality. Lowest Lower Low Medium Higher Highest	
Frame Rate:	Choose the capturing frame rate. The default value is 30 frames per second. Reduce the frame rate to reduce the capture file size. 30 1/16 1/8 1/4 1/2 1 2 4 6 8 10 12 15 16 18 20 22 25	
Max. Bitrate:	Choose the maximum video sampling bit rate. Default: 3072	

I Frame Interval	An I Frame is a frame that records a complete picture. Frames between I frames, (P frame or B frame) only records the image differences between two frames. Choose the I Frame Interval here. The default is 60.
Click **Save** to save the changes	

Audio

Adjust the audio settings for the camera.



Audio	
Audio Encoding:	G.711ulaw, G.711alaw, MP2L2 and G.726 selectable.
Audio Input:	Select Line In or Mic In to adjust volume.
Input Volume:	Slid the **bar** to turn up/down the volume. The value ranges from 0 to 100.
Click **Save** to save the changes	

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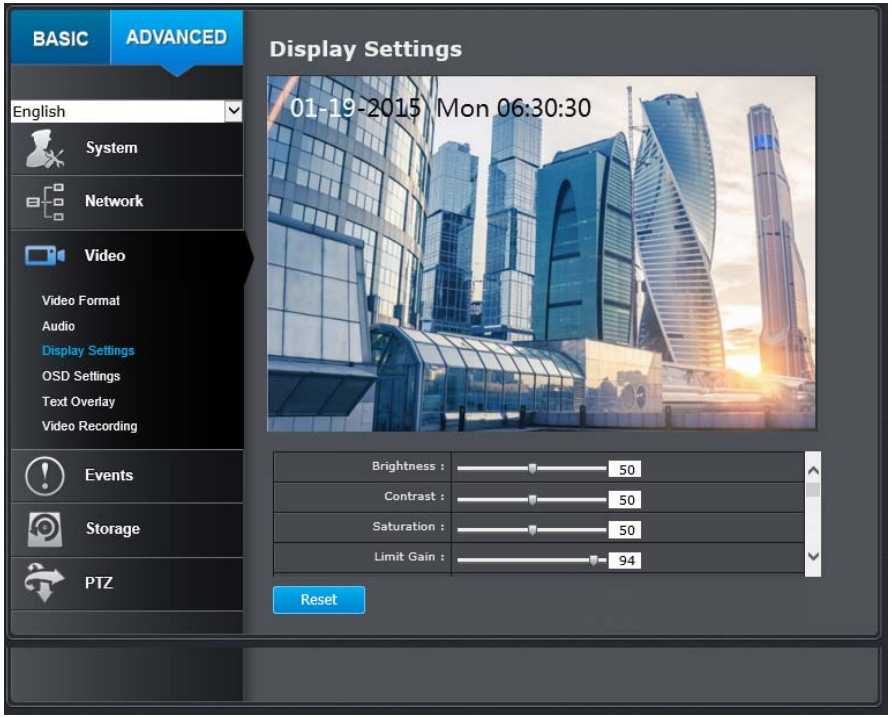
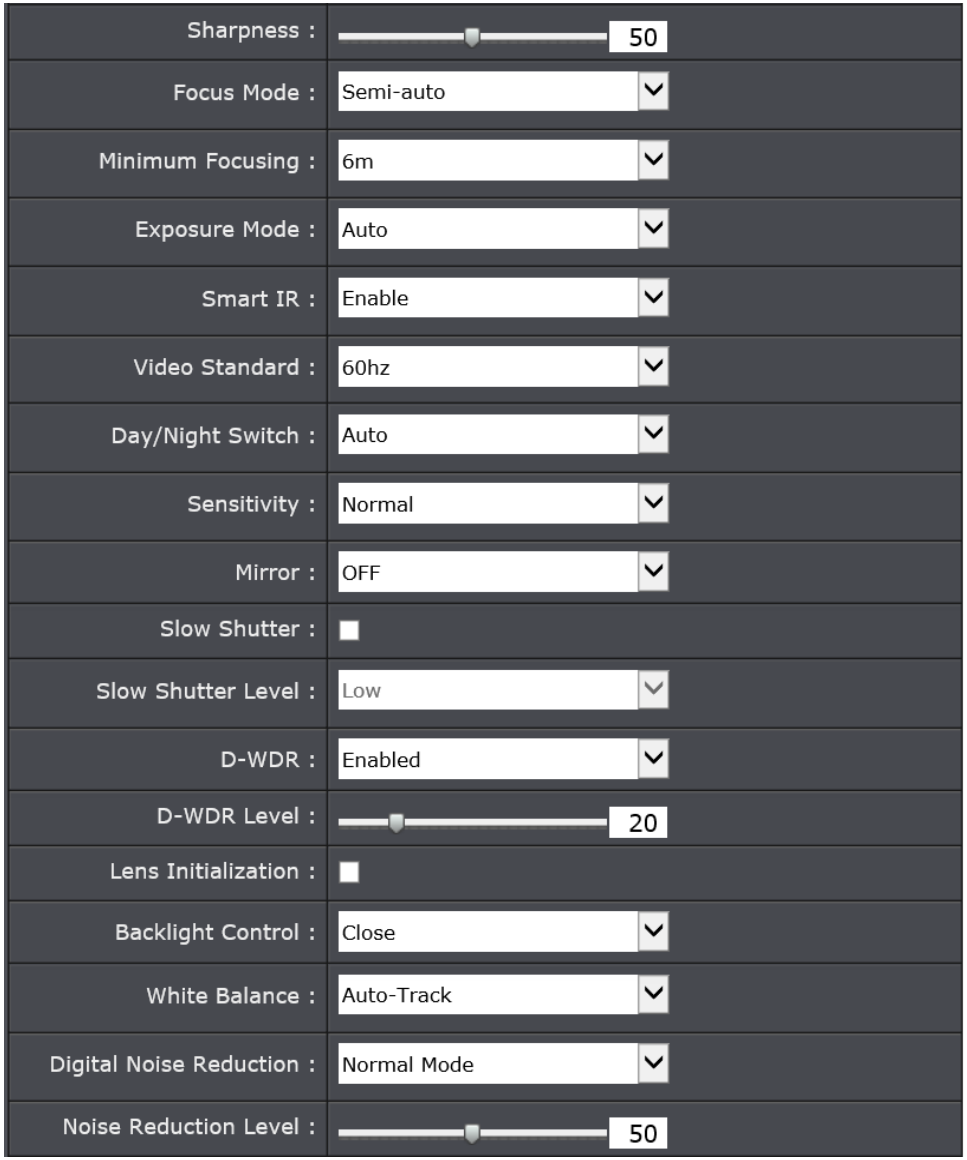
Display Settings

Adjust video image quality, lightness, and color settings here.



Display Settings	
Brightness:	Use the slider or enter a number (0-100) to adjust the image brightness. Default: 50
Contrast:	Use the slider or enter a number (0-100) to adjust the image contrast. Default: 50
Saturation:	Use the slider or enter a number (0-100) to adjust the color saturation. The greater number means the color will be more saturated. Default: 50
Limit Gain:	Use the slider or enter a number (0-100) to adjust the color shade. Default: 50



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Display Settings	
Sharpness:	Use the slider or enter a number (0-100) to adjust the image sharpness. Default: 50
Focus Mode:	Auto: allows the camera to focus automatically at any time. Manual: use the icon in the live view page to control focus manually. Semi-auto: cameras focuses only once after pan/tilt/zoom. Auto Manual Semi-auto
Minimum Focusing:	This function is used to limit the minimum focus distance. The value can be set to 1.5m, 3m, 6m, 10cm and 50cm. 10cm 50cm 1m 1.5m 3m 6m INFINITE

Exposure Mode:	Manual Auto Iris Priority Shutter Priority
Iris	Manual: Once selected, you can adjust the Iris and shutter speed from the extended options menu. Auto: The iris and shutter values will be adjusted automatically according to the brightness of the environment.
Shutter Speed	Iris Priority: The value of iris needs to be adjusted manually. The shutter values will be adjusted automatically according to the brightness of the environment. Shutter Priority: The value of shutter needs to be adjusted manually. The iris values will be adjusted automatically according to the brightness of the environment. 1/30 1/60 1/90 1/100 1/125 1/180 1/250 1/350 1/500 1/725 1/1000 1/1500 1/2000 1/3000 1/4000 1/6000 1/10000 1/30000

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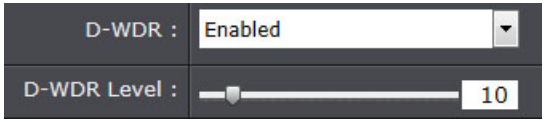
Smart IR	
Video Standard:	This is the base frequency for the video refresh rate. It is recommended to set to the same frequency of your local video standard (NTSC: 60, PAL: 50). Default: 60Hz.
Day/Night Switch:	Choose whether you want the camera to be set to the day mode (color video) or night mode (IR enhanced black/white video). You can manually set it to day mode or night mode, adjust by lighting (**Auto**), or pre-define schedule. **Day**: The speed dome displays color image. It is used for normal lighting conditions. **Night**: The image will be black and white. **Night** mode can increase the sensitivity in low light conditions. **Auto:** In **Auto** mode, the day mode and night mode can switch automatically according to the light condition of environment.
Sensitivity	Adjust the light sensor sensitivity.
Mirror:	Select from OFF or ON option to set the correct direction of the camera view.
Slow Shutter:	This function can be used in underexposure condition. It lengthens the shutter time to ensure full exposure. The slow shutter value can be set to **Low**, **Normal** and **High**.

D-WDR:	This Digital Wide Dynamic Range feature helps to improve the image quality under limited light source. Higher value brings brighter images. 
Lens Initialization:	The lens operates the movements for initialization when you check the check box.
Backlight Control	If there's a bright backlight, the subject in front of the backlight appears silhouetted or dark. Enabling Backlight Control function can correct the exposure of the subject. But the backlight environment is washed out to white.
White Balance:	**Manual:** In **Manual** mode, you can adjust the color temperature manually to meet your own demand. **Outdoor:** You can select this mode when the speed dome is installed in outdoor environment. **Indoor:** You can select this mode when the speed dome is installed in indoor environment. **Fluorescent Lamp:** You can select this mode when there are fluorescent lamps installed near the speed dome. **Sodium Lamp:** You can select this mode when there are sodium lamps installed near the speed dome. **Auto-Track:** White balance is continuously being adjusted in real-time according to the color temperature of the scene illumination. **Auto**:

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	The camera retains color balance automatically according to the current color temperature. Manual Outdoor Indoor Fluorescent Lamp(6500K) Sodium Lamp Auto-Track Auto
Digital Noise Reduction:	Enable or disable noise reduction. **Noise Reduction Level:** Adjust the effect of digital noise reduction. Range: 0-100%, default : 100%
Defog Mode	Select defog mode ON for a foggy environment. The default is OFF.
Zoom Limit:	You can set **Zoom Limit** value to limit the maximum value of zooming. The value can be set to 20, 40, 80, 160 and 320.
HLC:	HLC (High Light Compensation) makes the camera identify and suppress the strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.
IR Light Mode:	Auto: The brightness of the infrared light will be adjusted automatically. Manual: you need to adjust the brightness value of infrared light manually. **IR Light Sensitivity** value ranges from 0 to 100.
Brightness Limit:	The image brightness is adjusted automatically. You can specify the brightness limit range from 0 to 100.

Note:

- When **IR Light Mode** is set to auto, the day/night mode is adjusted automatically according to the IR Light Mode. Manually setting the day/night mode is invalid.
- When **IR Light Mode** is set to manual and the **IR Light Bright** is 0, you can set the day/night mode manually.
- When **IR Light Mode** is set to manual and the **IR Light Bright** is not 0, night mode is set as the default mode. Manually setting the day/night mode is invalid.

On Screen Display (OSD) Settings

You can display the camera name and the time the video is shooting on the screen.

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OSD Display	
Display Name:	Check this box to display the product name that was setup in the device settings (refer to page 25 to change the device name.)
Display Date:	Check this box to display system time.
Display Week:	Check this box to display time of the week.
Time Format:	Select 12 or 24 hours' time format.
Data Format:	Select different date format.
Display Mode:	Select transparent/flashing format.
OSD Size:	Select different size format. (Auto, 16*16, 32*32, 48*48, 64*64)
Click **Save** to save the changes	

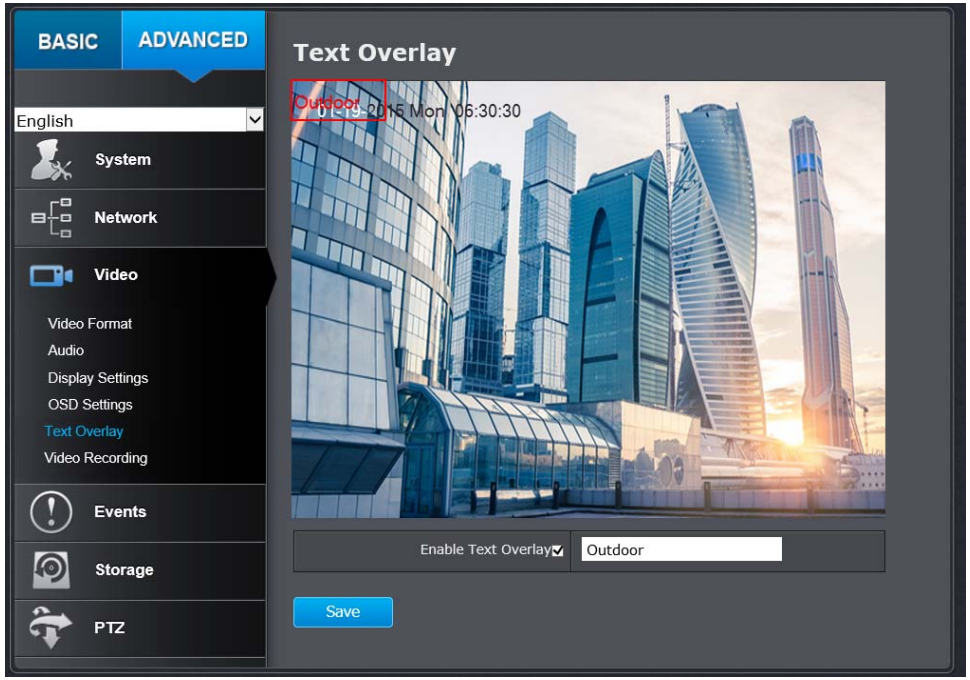
Sub stream can be used for lower resolution needed application, for example mobile app streaming or NVR streaming.

Third stream is used for Live view only, it has resolution limitation on Chrome, Firefox and Safari. Max resolution can be supported under Internet Explorer.

Note: When H.264+/H.265+ is enabled, Live view on Chrome or Firefox will be disabled due to browser limitation, you can continue to use Internet Explorer or Safari to view the camera otherwise disable the H.264+ and H.265+ option.

Text Overlay

Display extra information on the screen over the image.



Text Overlay	
Check Box:	Check this box to enable text overlay.
Text Field:	Enter the text you want to display. You can enter your local language if you want. The text field allows maximum 44 English letters or 20 non-English characters.
Click **Save** to save the changes	

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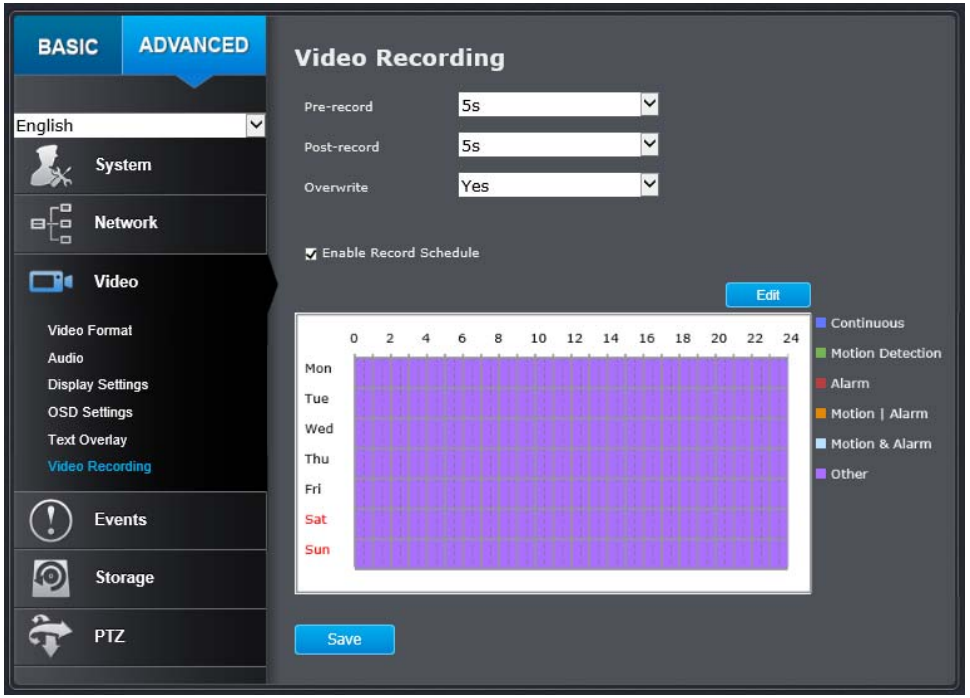
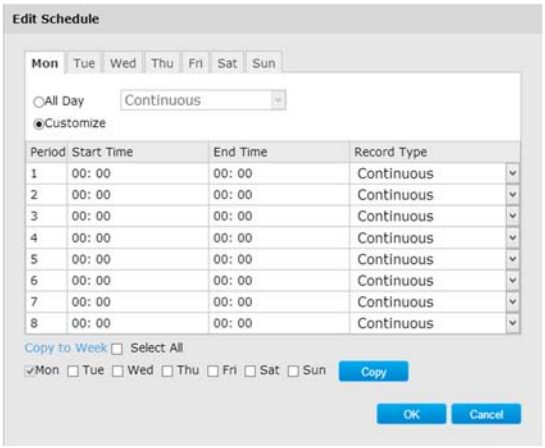
Video Recording



Video Recording	
Pre-record:	Recording time before trigger event.
Post-record:	Recording time after trigger event.
Overwrite:	Select Yes to allow older recordings to be overwritten.
Enable Record Schedule:	Check this box and then click **Save** to enable video recording.

Edit:	Click **Edit** to edit the recording schedule.



1. Select day of the week you want to edit the schedule.
2. Select **All Day** or **Customized** schedule of the day.
3. Set the time period and the event you want to trigger the video recording **continuous** (always recording) or **motion detection**.
4. Click **Copy to Week** if you want the same daily schedule every day. Or, you can select other day of the week and click **Copy** to copy the schedule of the day to other days.
5. Click another day of the week by clicking on its tab to set the next schedule. Click **OK** when you have finished your settings.

Click **Save** to save the changes

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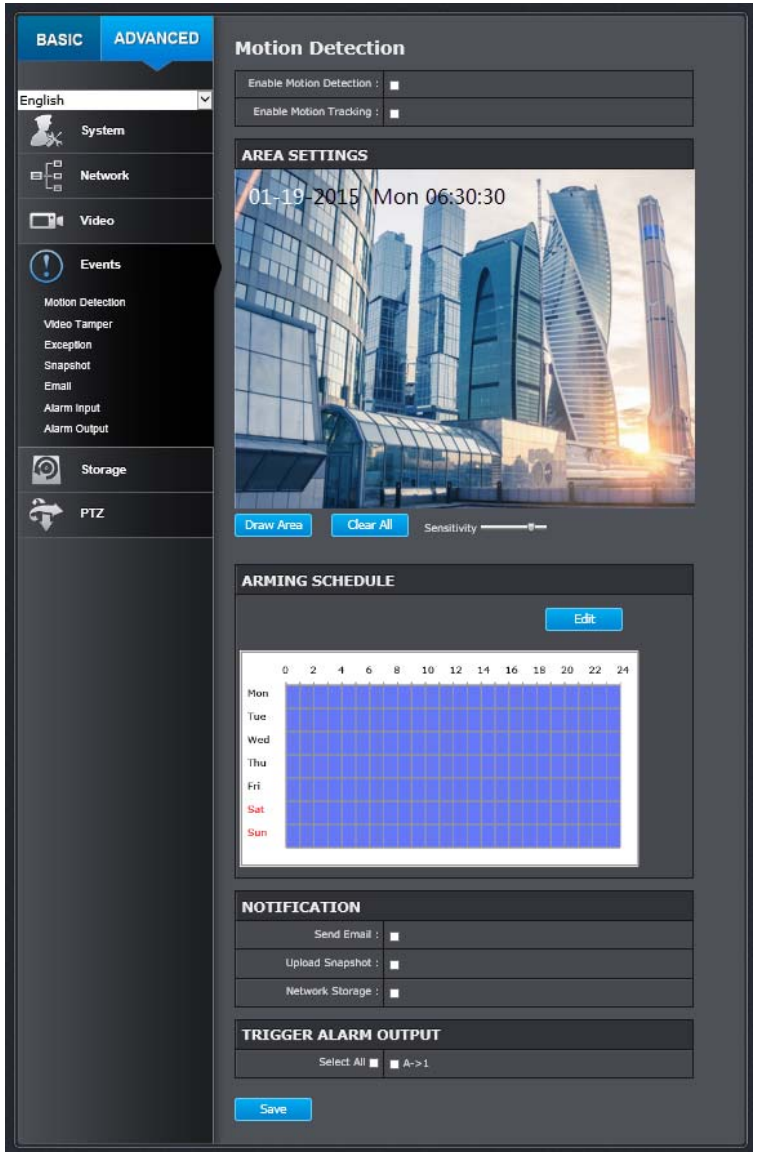
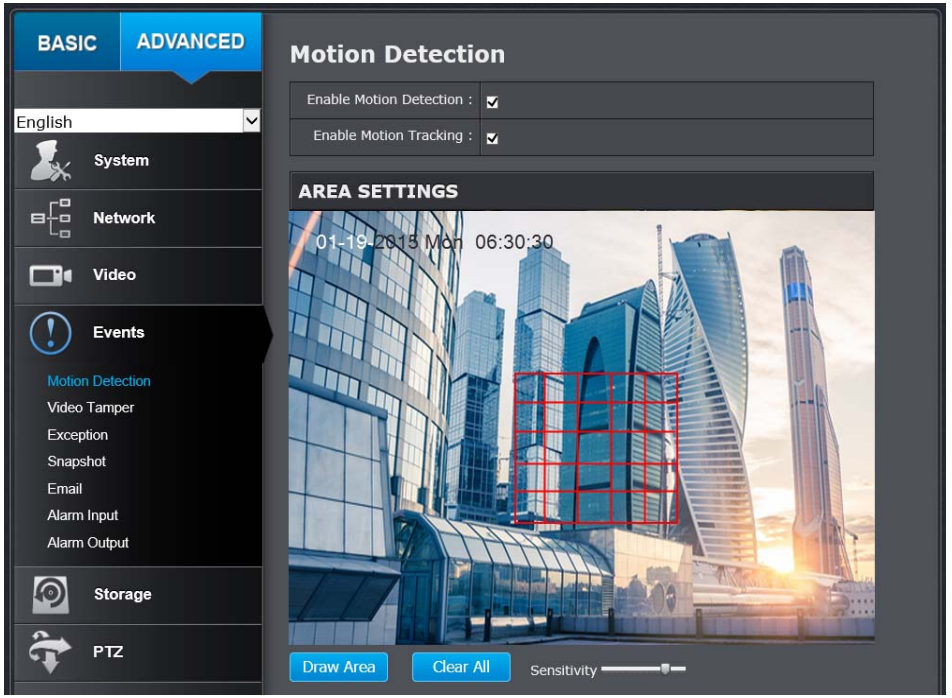
Events



Motion Detection

Set up how the motion detection event will be triggered and what actions will be triggered.



Motion Detection	
Enable Motion Detection:	Check this box to enable motion detection. Click **Save** to save the choice.
Enable Motion Tracking:	Check this box to enable motion tracking. Motion tracking is a dynamic display that shows the current status of motion detection. The motion tracking is displayed by a green grid. The grid area represents that the camera detects motion in this area. Click **Save** to save the choices.

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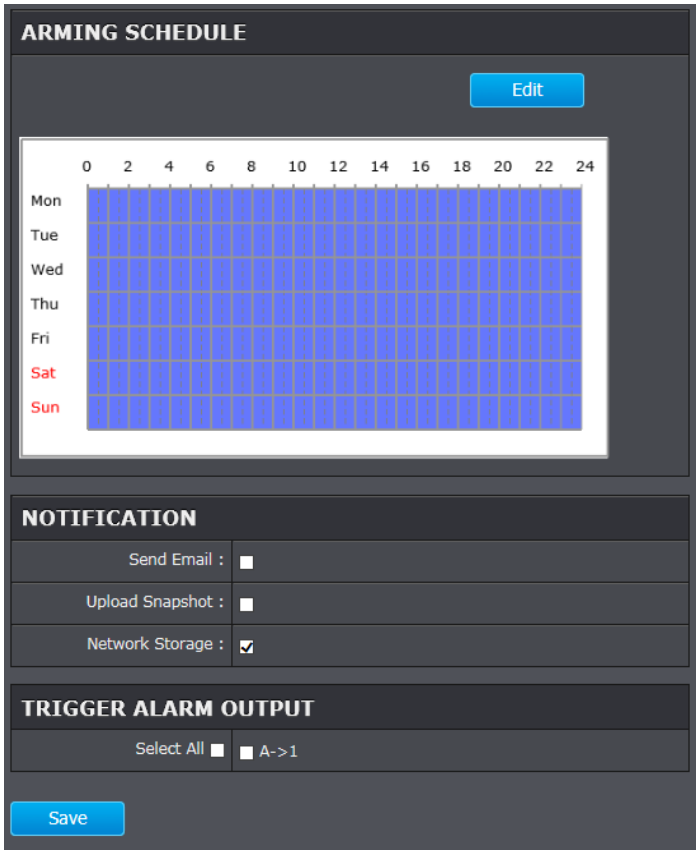
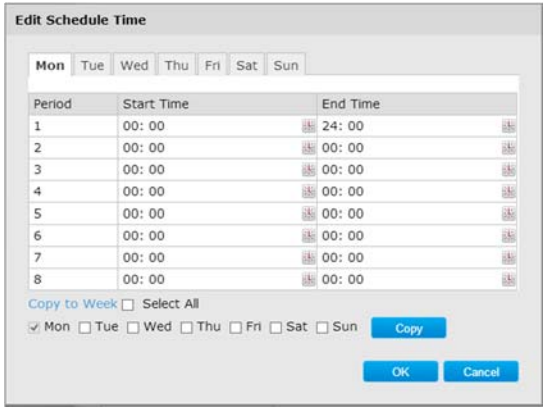
Draw Area:	Click **Draw Area** button to start drawing. Click and drag on the area you want to set up the motion detection. You can draw up to 8 different areas. Click Stop Drawing to stop drawing motion detection areas. The red grids represent the detection area.
Sensitivity:	Move the slider to adjust detection sensitivity.
Clear All:	Click this button to clear all the set up areas.



Arming Schedule	
Edit:	Click **Edit** to define when you want the motion detection works.  1. Select day of the week you want to edit the schedule. 2. Set the time period you want to enable motion detection. (Default is 0-24 hours, all day). 3. Click **Copy to Week** if you want the same daily schedule every day or you can select other day of the week and click **Copy** to copy the schedule of the day to other days. 4. Select another day of the week by clicking on its tab to set next schedule. Click **OK** when you finished your setting.
Notification	
Send Email:	Check this box to send an e-mail notification when motion is detected. Go to Events / Email to setup email account information.

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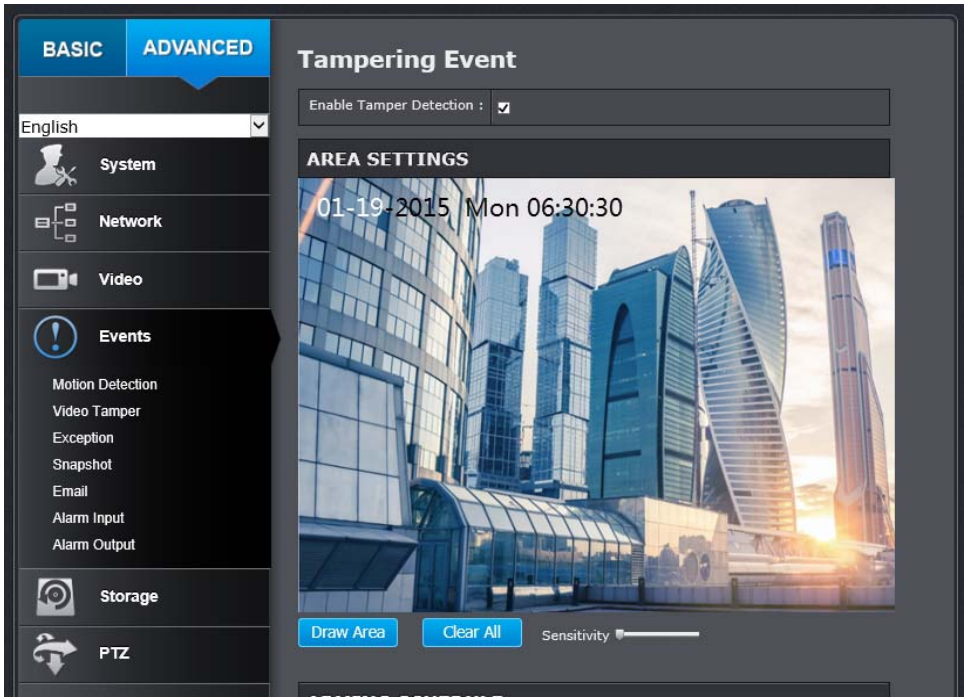
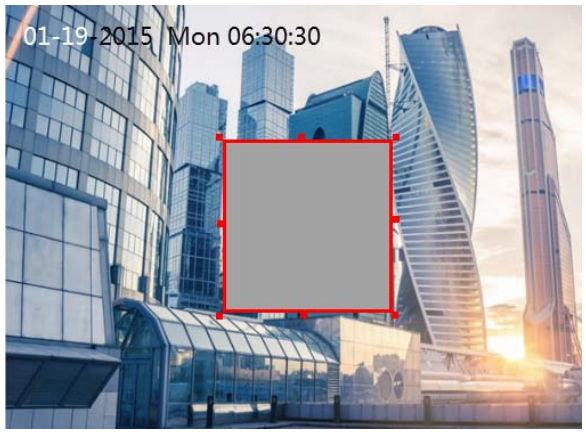
Upload Snapshot:	Check this box to send snapshots to an FTP server or configured Network Storage when motion is detected. Go to Network Storage or FTP to setup server information
Network Storage	Check this box to send video clip to network storage when motion is detected. Go to **Storage** > **Network Storage** to setup Storage server information
Click **Save** to save the changes	

Video Tamper

This is to detect if the camera has been tampered with and surveillance is compromised. You can set up tamper proof notifications to alert the system manager to check the camera.



Tamper-proof	
Enable Tamper Detection:	Check this box to enable tamper detection. Click **Save** to save the settings.
Draw Area:	Click **Draw Area** button to start drawing. Click and drag on the area you want to set up the tamper detection. You can setup only one area for tamper detection. Click Stop Drawing to stop drawing motion detection areas. The gray block represent the detection area. 
Sensitivity:	Move the slider to adjust detection sensitivity.
Clear All:	Click this button to clear all the set up areas.
Enable Tamper Detection:	Check this box to enable tamper detection. Click **Save** to save the settings.

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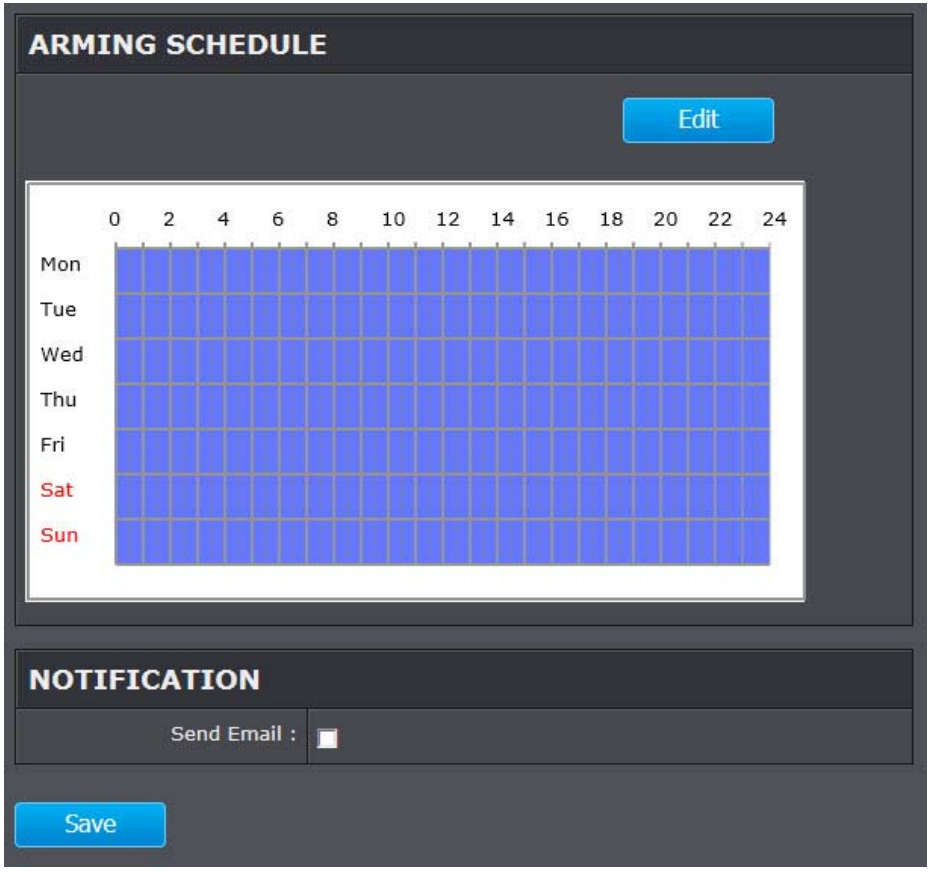
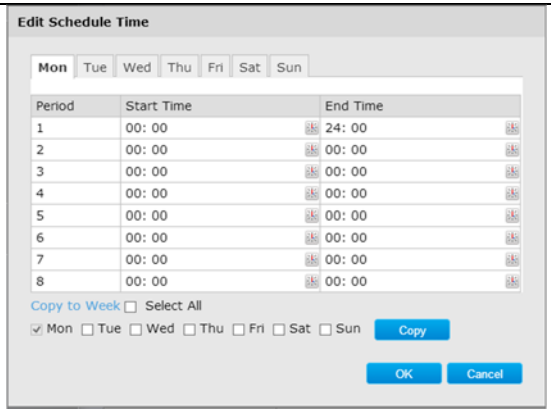


Arming Schedule	
Edit:	Click **Edit** to define when you want the tamper detection works.



1. Select the day of the week you want to edit the schedule.
2. Set the time period you want to enable tamper detection. (Default is 0-24 hours, all day).
3. Click **Copy to Week** if you want the same daily schedule every day. Or, you can select other day of the week and click **Copy** to copy the schedule of the day to other days.
4. Select another day of the week by clicking on its tab to set the next schedule. Click **OK** when you have finished your settings.

Notification	
Send Email:	Check this box to send an e-mail notification when motion is detected. Go to Events / Email to setup email account information.

Click **Save** to save the changes

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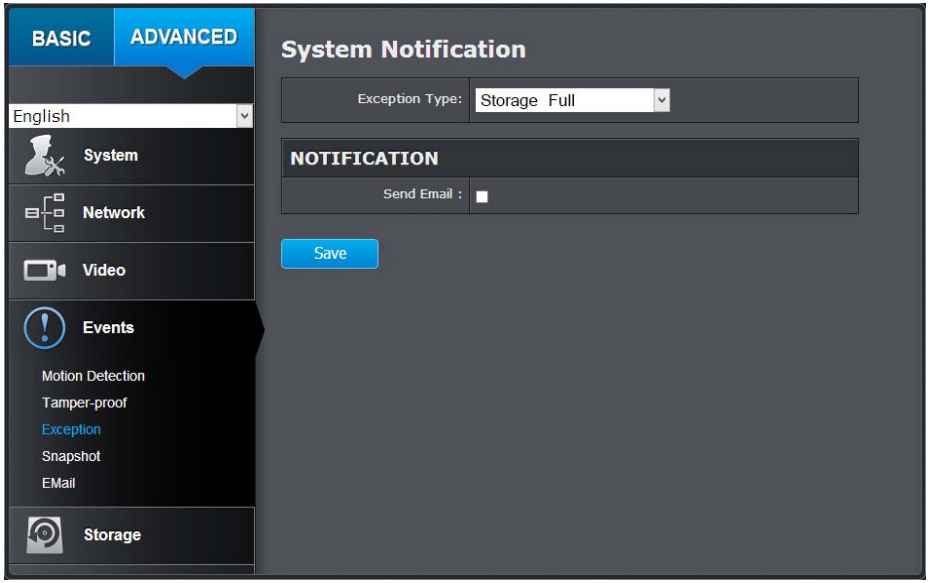
Exception

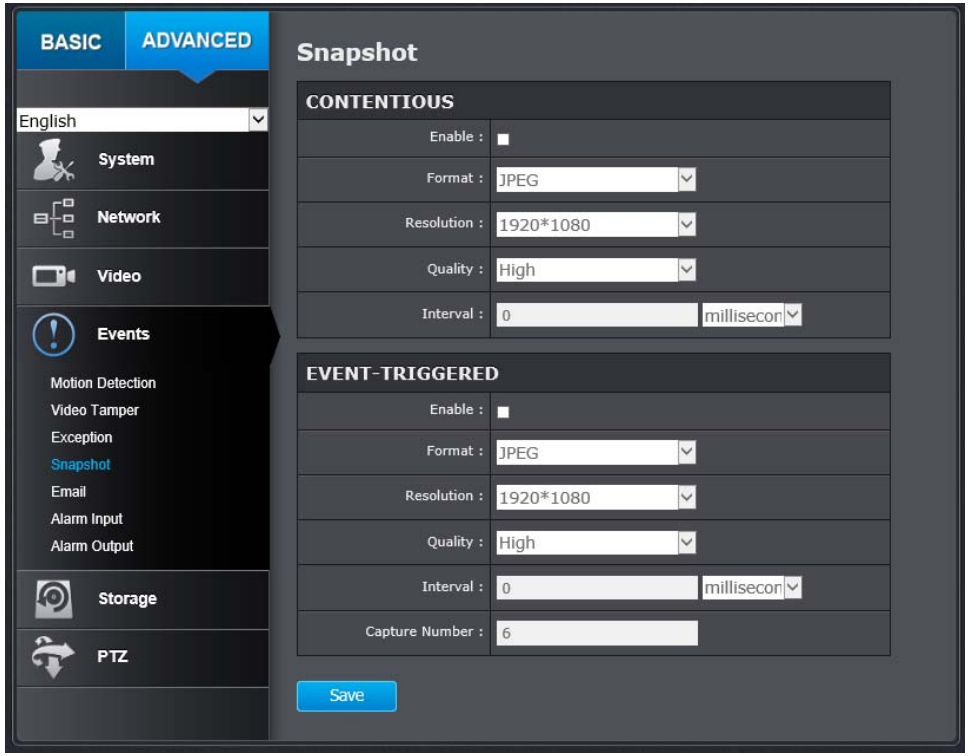
Provides notifications for other system events, set up your notifications here.



Notification	
Exception Type:	First choose the exception type, then choose the corresponding action.
Send Email:	Check this box to send an e-mail notification when motion is detected. Go to Events / Email to setup email account information.
Click **Save** to save the changes	

Snapshot

You can set up your camera to continuously take snapshots or take snapshots when an event happens.



Continuous	
Enable:	Check this box to continuously take snapshots.
Format:	Save snapshots in JPEG format
Resolution:	Uses the same resolution set in **Video Format** for the snapshot resolution.
Quality:	Choose a compression quality for snapshots.
Interval:	State the time interval between snapshots. The default interval is 10 seconds.

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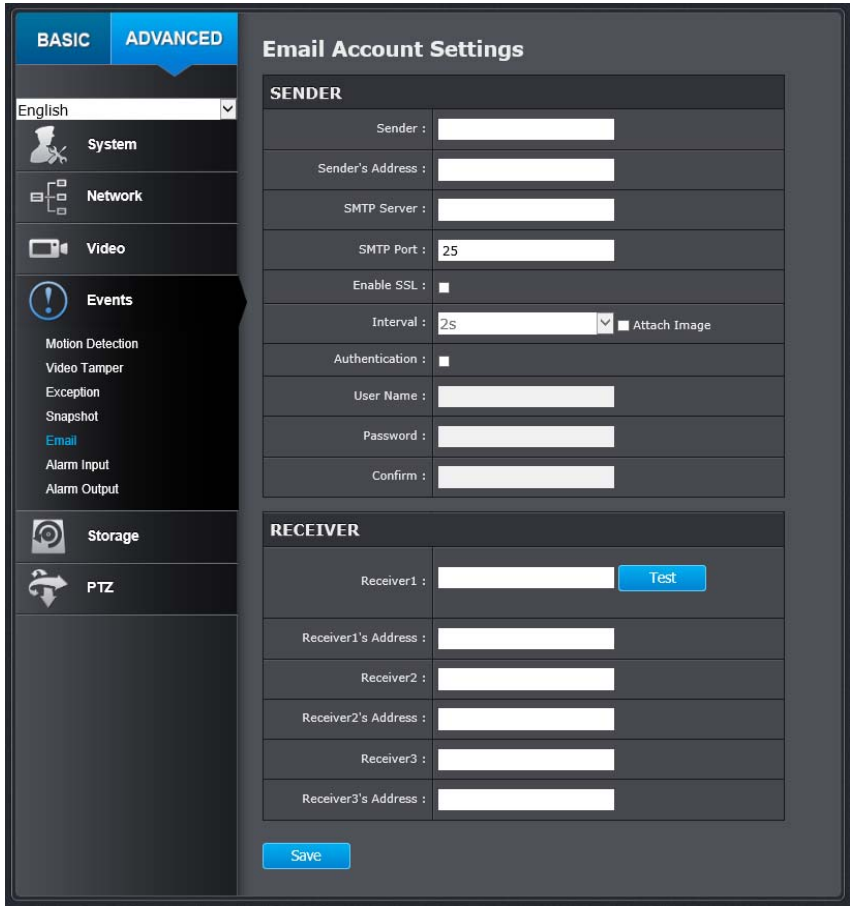
Click **Save** to save the changes	
Event Triggered	
Enable:	Check this box to take snapshots when an event is occurred.
Format:	Save snapshots in JPEG format
Resolution:	Uses the same resolution set in **Video Format** for the snapshot resolution.
Quality:	Choose a compression quality for snapshot.
Interval:	State the time interval between this series of snapshots. The default interval is 1 second.
Capture Number:	State how many snapshots you want to take in a single triggered event. Default: 3 pictures.
Click **Save** to save the changes	

Email

Set up email accounts for notifications.



Sender	
Sender:	Enter the name to appear as the email sender.
Sender's Address:	Enter sender's email address.

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SMTP Server:	Simple Mail Transportation Protocol Server address, the outgoing email server address. Please ask your email service provider for details.
SMTP Port:	Service port number for outgoing email.*
Enable SSL:	Check this box if your service provider requires a SSL secured connection.
Attach Image/Interval:	Check **Attach Image** if you want to send a snapshot image with the email notification and select the interval of snapshots in seconds.
Authentication:	Check this box if your server requires a password in order to send email. Most email servers require authentication when sending an email.
User name:	Enter the user name of outgoing email account
Password:	Enter the password
Confirm:	Enter the password again to confirm that the password was entered correctly.
Click **Save** to save the changes	

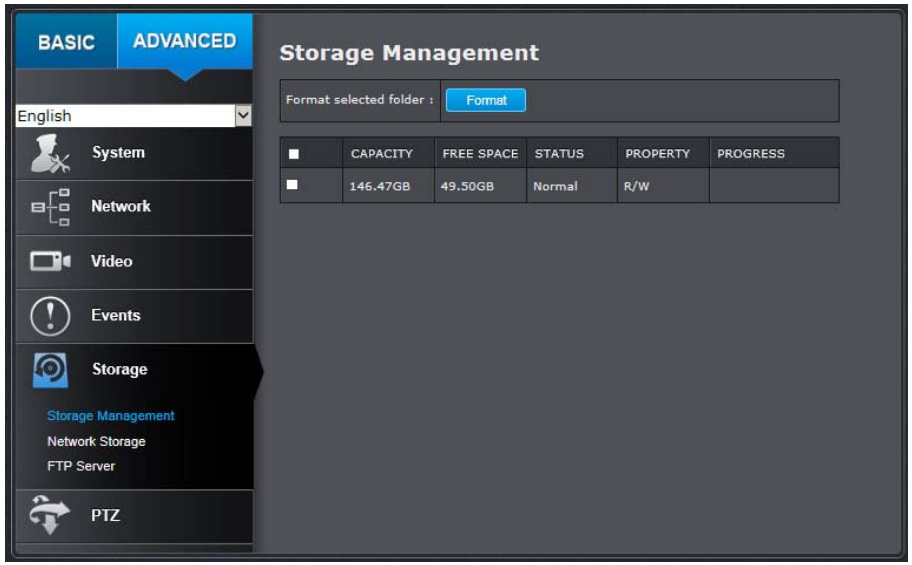
Receiver	
Receiver 1:	The first receiver's name.
Receiver 1's Address:	The first receiver's email address.
Receiver 2:	The second receiver's name.
Receiver 2's Address:	The second receiver's email address.
Receiver 3:	The third receiver's name.
Click **Test** to test the email settings. A text email will send to Receiver's email address.	
Click **Save** to save the changes	

* Many ISPs do not allow service port 25 going through their network. Other popular ports are 587 and 465. Please consult your email service provider and ISP for details.

Storage

Storage Management

* Micro SD card or Network storage device must be setup / formatted before it can be managed / stored. Camera will save to SD card only when there is no additional NAS device setup.



*Micro SD slot is located on the back of the camera. Using a screw driver to loosen the screws and remove the cover. Please make sure the environment is dry and clean when opening the dome cover.

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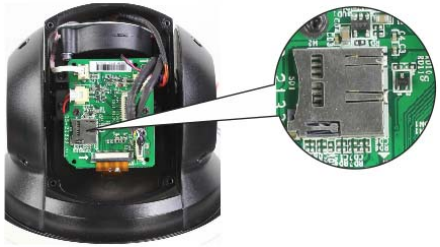
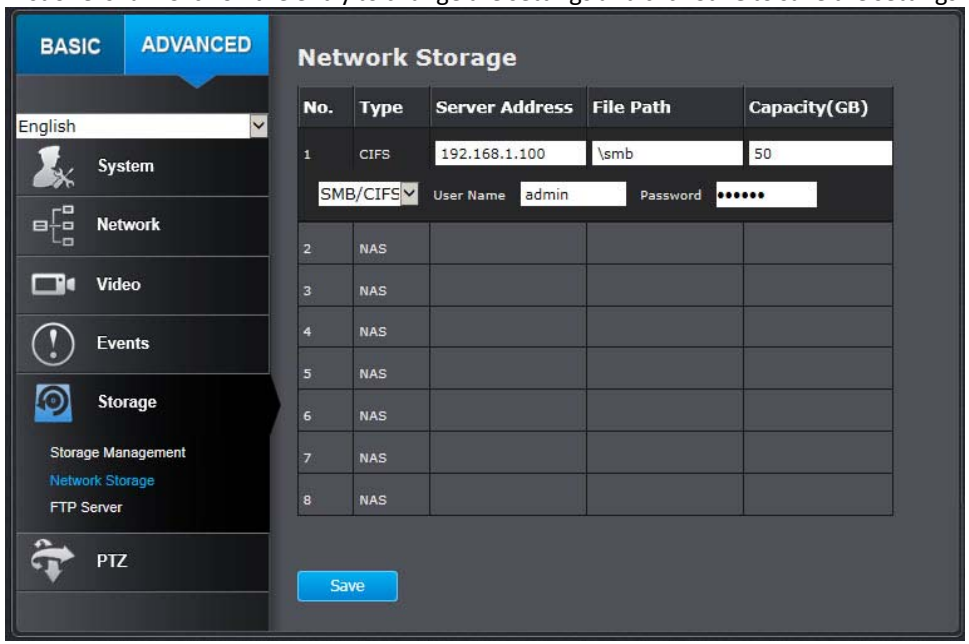


Network Storage

* **Network Storage** must be setup before it can be managed. For storage management, please refer to the next section.

The camera supports two formats of network storage file systems: NFS and SMB/CIFS. NFS, Network File System, is natively supported by Linux computers and most NAS, Network Attached Storage. SMB/CIFS, Common Internet File System, is natively supported by Windows® systems and now is generally supported by Linux and OS X®.

You can add up to 8 network storages for your camera. The recordings will subsequently be stored in these spaces. Save video from the first storage and then the next when the first one is full. Click on the entry to change the settings and click **Save** to save the settings.



Network Storage	
No:	The sequential number of the network storage.
Type:	The type of storage.
Server Address:	Enter the IP address of your network storage.
File Path:	Enter the file path on the server for network storage.
Capacity:	Enter the size of the disk space you want to assign for this storage. The minimum disk space requirement is 8GB. If you do not want to limit the size and use the full physical disk space, enter 0 in this field.

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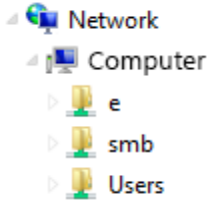
File System:	Choose between NFS or CIFS for file system. If you assign the network storage on a Windows® computer, set it to SMB/CIFS. (if you use an anonymous account, please still enter a random user ID and password before saving)
User Name:	Enter the user name if the network storage requires authentication. Leave it blank if no authentication is required.
Password:	Enter the password to access the network storage.
	**Tip:** To create network storage on your Windows® based system, create a shared folder and then test your set up with another computer. Enter the IP address of the computer here and enter the shared folder name with a leading forward slash. For example, if you have a shared folder named "SMB", enter "\SMB" in the **File Path**.
Click **Save** to save the changes	

FTP Server

FTP	
Enable Snapshot to FTP:	Check this box if you want to store snapshots on the FTP.
Server Address:	Enter the FTP server IP address.
Port:	Enter the service port number of the FTP server.
User Name/Anonymous:	Check Anonymous if the FTP server does not require authentication. Enter the **User Name** if the FTP server requires authentication.
Password:	Enter the password of the FTP account.
Confirm:	Enter the password again to make sure the password was entered correctly.
Directory Structure:	When saving snapshots on an FTP server, they can be saved in a single place or organized with meaningful directory names.

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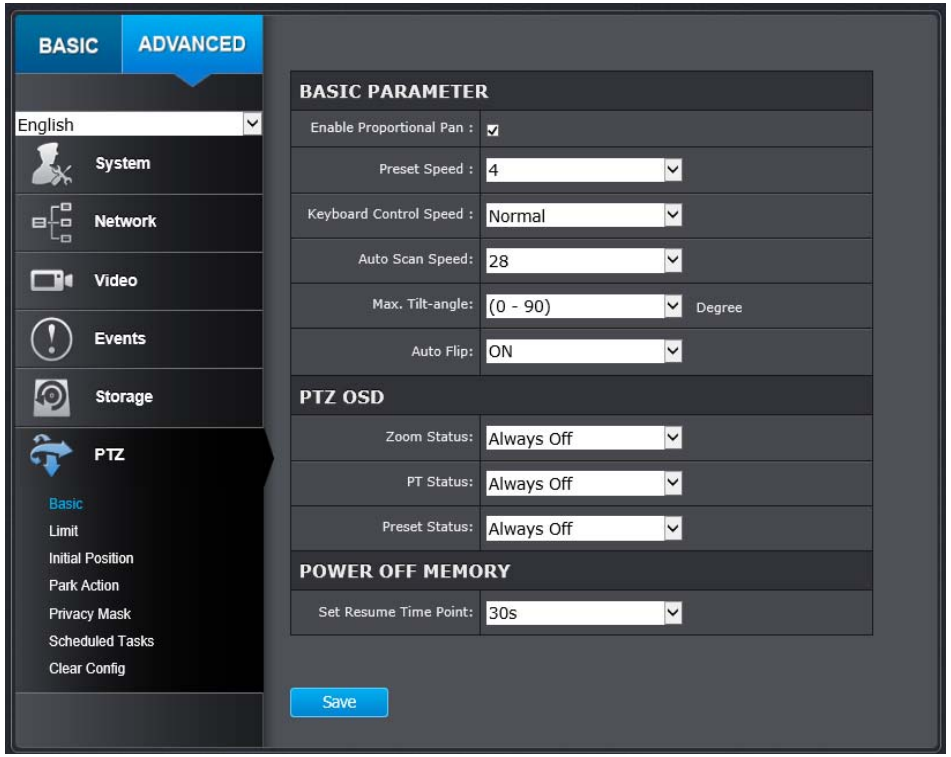
	Save in root directory: You can choose to store all files in the same folder of FTP login. **Save in directory:** Structure your folders with camera name or IP address.
Directory:	**Use Camera Name:** Use the camera name to organize the saved files. **Use Camera IP:** Use the camera IP address to organize the saved files.
Click **Save** to save the changes	

PTZ (Pan/Tilt/Zoom)

Basic



Basic Parameters	
Enable Proportional Pan:	If you enable this function, the pan/tilt speeds change according to the amount of zoom.
Preset Speed:	You can set the speed of defined preset from 1 to 8.
Keyboard Control Speed:	Define the speed of PTZ control by a keyboard as Low, Normal or High.

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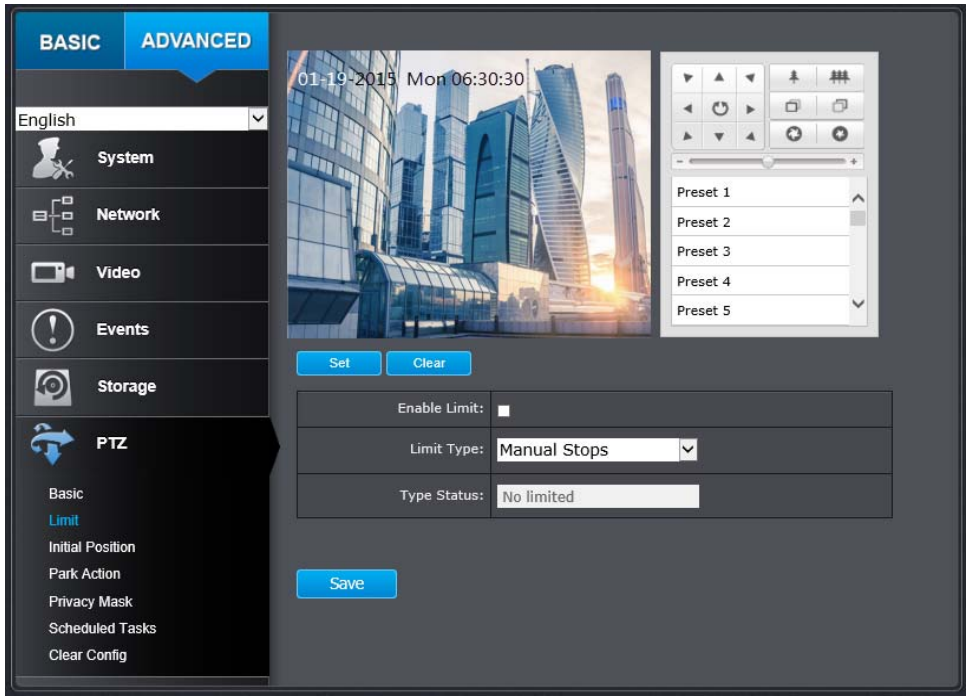
Auto Scan Speed:	The camera provides 5 scan modes: auto scan, tilt scan, frame scan, random scan and panorama scan. The scan speed can be set from level 1 to 40.
Max. Tilt-angle:	The maximum angle that the camera can revolve in the tilt direction is adjustable. The values range from (0-90) to (-5-90)
Auto Flip:	You can enable/disable the auto flip function
PTZ OSD	
Zoom Status:	Set the OSD duration of zooming status as 2 seconds to 10 seconds, always on or off.
PT Status:	Set the angle display duration white panning and tilting as 2 seconds to 10 seconds, always on or off.
Preset Status:	Set the preset name display duration as 2 seconds to 10 seconds, always on or off.
POWER OFF MEMORY	
Set Resume Time Point:	The camera can resume its previous PTZ status or actions after it is restarted from a power-off. You can set the time point of which the camera resumes its PTZ status from 30 seconds up to 600 seconds before power-off.
Click **Save** to save the changes	

Limit

The camera can be programmed to move within the configured stops. (left, right, up or down)



Steps

1. Check the **Enable Limit** box and select Manual Stops or Scan Stops from the Limit Type list.
    a. When manual limit stops re set, you can operate the PTZ control panel manually only in the limited area.
    b. When scan limit stops are set, all the scan actions are performed only in the limited area.
2. Click the PTL control buttons to find the left/right/up/down stop limits, you can also call the presets and set them as the limits for the camera.
3. Click Set to save the limits and Clear to clear the limits.

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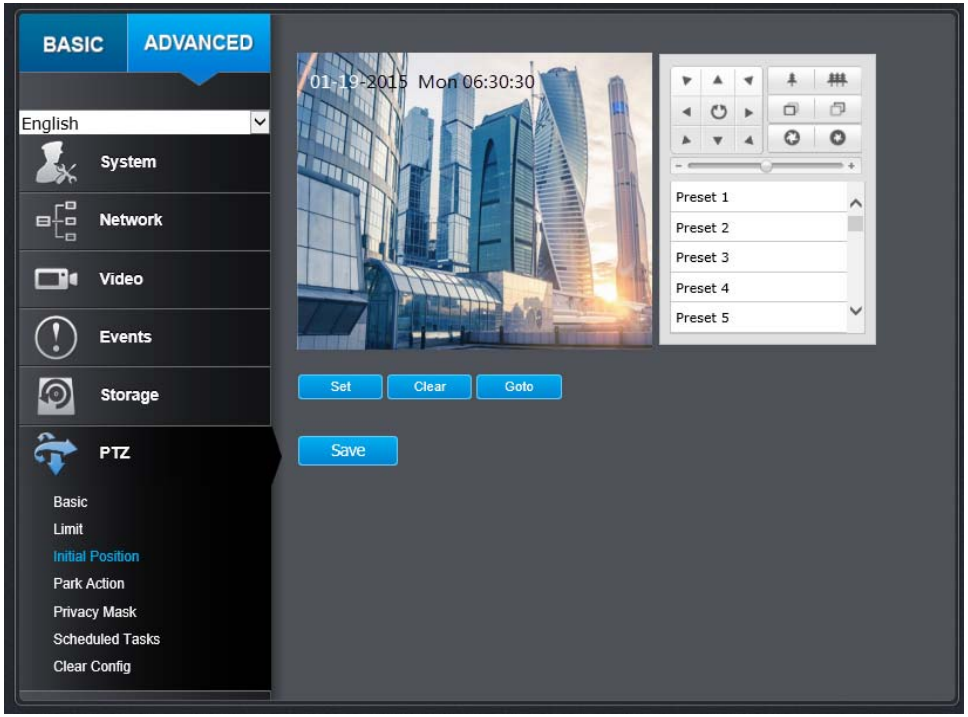
Initial Position

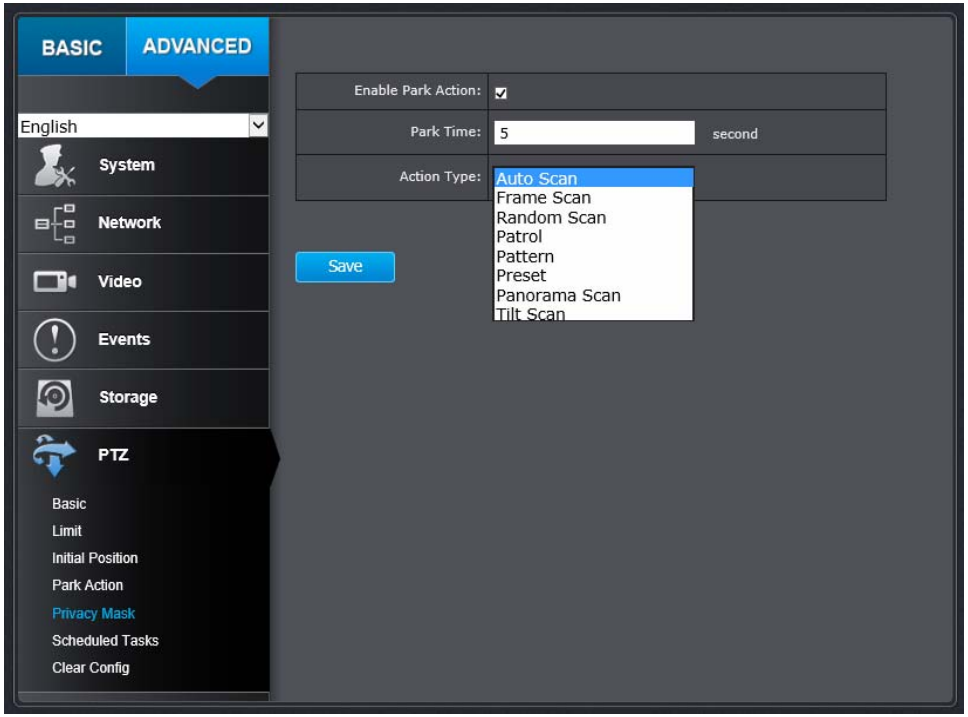
Set the camera initial position, you can also call a preset for the position. Click Set to save the position and Clear to clear the position.



Park Action

The feature allows the camera to start at a predefined park action. (scan, preset, pattern) automatically after a period of inactivity (park time).

Scheduled Tasks function has higher priority over Park Action function therefore when two functions are set at the same time, Scheduled Tasks function takes effect.



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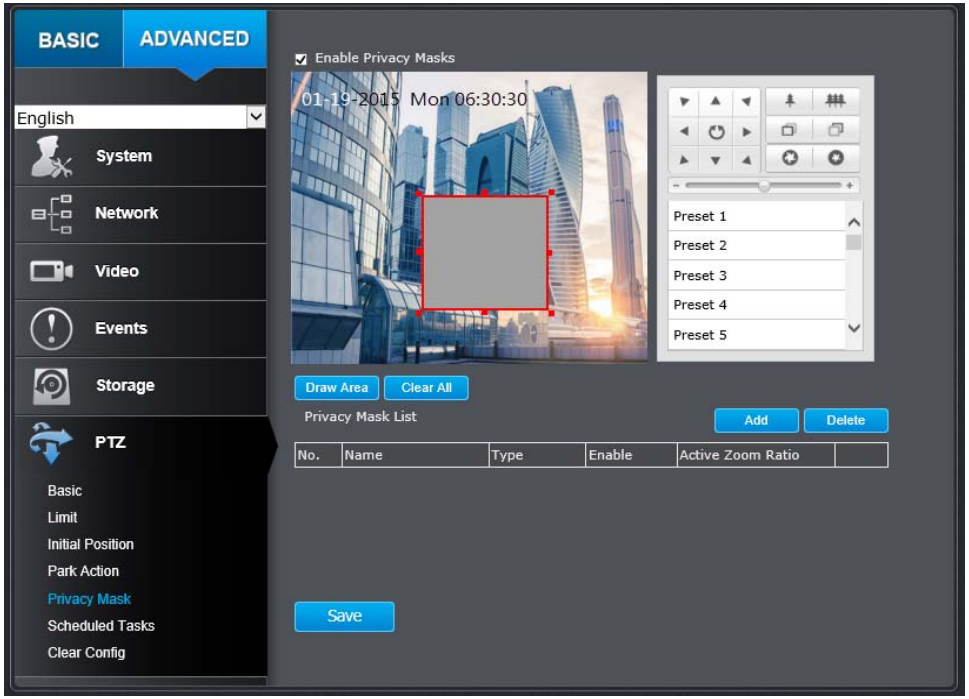
Private Mask

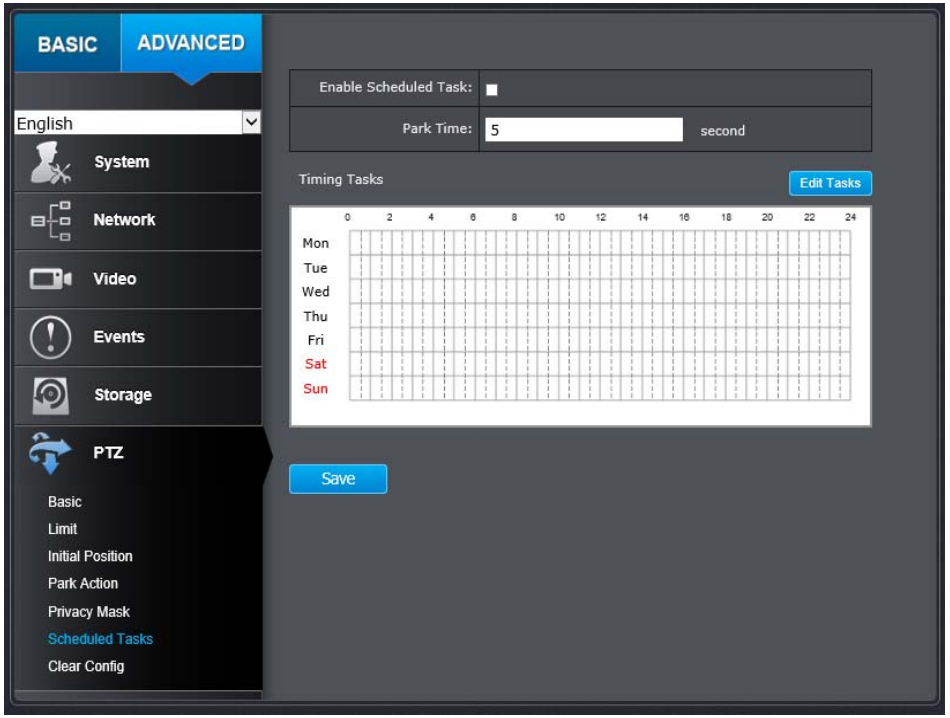
Create masking area to keep your privacy. You can create up to four independent masking areas by clicking and dragging on the screen.



Private Mask	
Enable Privacy Mask:	Check this box to enable privacy masking.
Draw Area:	Click this button to start drawing.
Stop Drawing:	Click this button to stop drawing.
Clear All:	Click this button to clear all the masking areas.
Add:	Click this button to add the mask.
Delete:	Click this button to delete the mask.
Click **Save** to save the changes	

Schedule Tasks

You can configure the camera to perform a certain action automatically in a user-defined time period.



Enable the Scheduled Task, define the Park Time and Edit the Tasks that you would like to perform at certain time.

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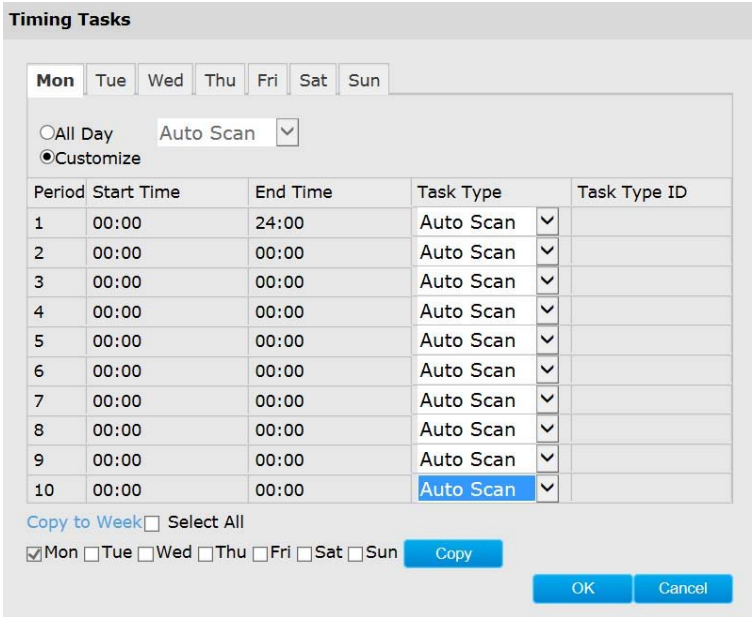
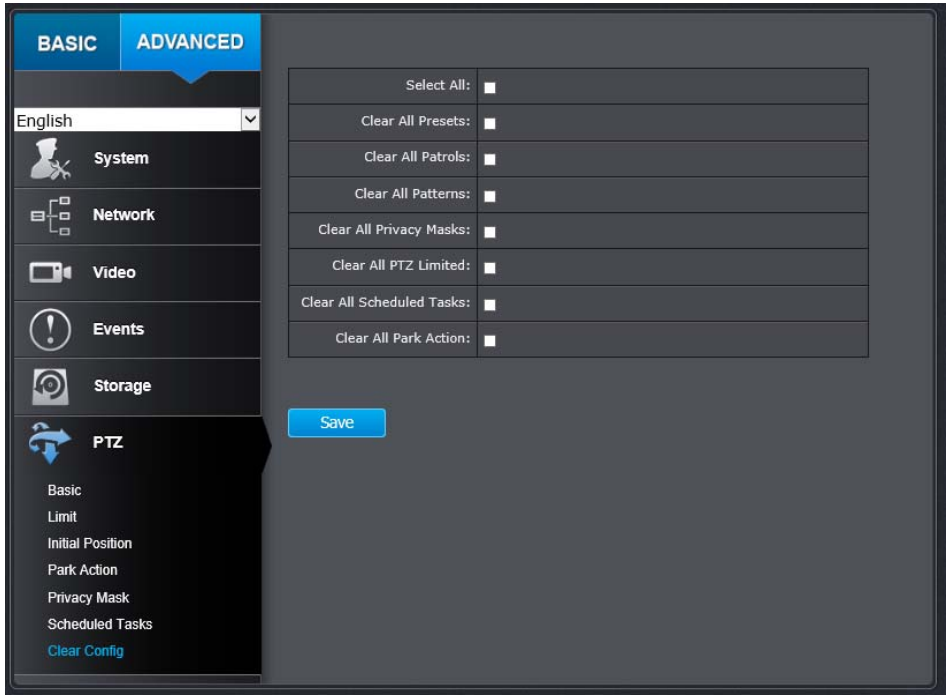


1. Choose the day you would like to set the task schedule
2. Click All Day or Customize to enter the Start Time and End Time for each task.
3. Choose the task type from the drop down list.
4. Click OK to save the settings.

Note: The time for each task cannot be overlapped, up to 10 tasks can be configured for each day.

Clear Config

You can clear PTZ configurations all at once in this section, select the desire function and click **Save** to clear.



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Restore Default Password

For security purpose, if you find yourself in need of restoring the camera to factory default setting, you will need to contact technical support.

Toll Free English Technical Support
USA/Canada: 855-373-4741

Monday – Friday (Except holidays)
7:00 AM – 5:30 PM Pacific Standard Time

After hours: 866-845-6373

Global Support:

Find the support number for your country at: www.trendnet.com/contat

Online Support: www.trendnet.com/support/helpdesk

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Troubleshooting

1. **The camera is not work properly with standard 802.3af POE**

   This camera is an 802.3at PoE+ compatible appliance. If powered by an 802.3af power sourcing equipment, it will not draw enough power for camera's IR LEDs. To prevent this, please ensure it is being powered by an 802.3at power sourcing equipment.

2. **The camera can't be accessed or access is slow**

   There might be a problem with the network cable. To confirm that the cables are working, ping the address of a known device on the network. If the cabling is OK and your network is reachable, you should receive a reply similar to the following (…bytes = 32 time = 2 ms).

   Another possible problem may be that the network device such as a hub or switch utilized by the Network Camera is not functioning properly. Please confirm the power for the devices are well connected and functioning properly.

3. **The camera can be accessed locally but not remotely**

   This might be caused by a firewall. Check the Internet firewall with your system administrator. The firewall may need to have some settings changed in order for the Network Camera to be accessible outside your local LAN. For more information, please refer to the section about installing your camera behind a router.

   Make sure that the Network Camera isn't conflicting with any Web server you may have running on your network.

   The default router setting might be a possible reason. Check that the configuration of the router settings allow the Network Camera to be accessed outside your local LAN.

4. **White vertical lines appear on the image from the camera**

   It could be that the CMOS sensor (a square panel situated behind the lens that measures the light signals and changes it into a digital format so your computer can present it into an image that you are familiar with) has become overloaded when it has been exposed to bright lights such as direct exposure to sunlight or halogen lights. Reposition the Network Camera into a more shaded area immediately as prolonged exposure to bright lights will damage the CMOS sensor.

5. **The camera images are 'noisy'**

   Often if the camera is in a low-light environment, the images can contain a lot of noise. Try enabling Night mode and see if that improves the image quality. Otherwise, try to use the camera in a location where there is a bit more light source.

6. **Video can't be viewed through the web browser interface.**

   ActiveX might be disabled. If you are viewing the images from Internet Explorer make sure ActiveX has been enabled in the Internet Options menu. You may also need to change the security settings on your browser to allow the ActiveX plug-in to be installed.

   If you are using Internet Explorer with a version number lower than 6, then you will need to upgrade your Web browser software in order to view the streaming video transmitted by the Network Camera. Try also viewing the video using Java. Ensure that you have the latest version of Java installed before you do. Go to www.java.com for more information.

7. The camera isn't sending email notifications from my gmail account.

   Google's security settings may prevent the TV-IP440PI from accessing your gmail account to send notifications. To change the security settings, log into your account, then click on your account settings. Under the **Signing in** section, locate the **Access for less secure apps** setting, and click on it. Under the options, select **Turn on**. This should allow the camera to send notifications from your gmail account.

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/CANADA

Europe – EU Declaration of Conformity

TRENDnet hereby declare that the product is in compliance with the essential requirements and other relevant provisions under our sole responsibility.

EMC

EN 60950-1: 2006 + A11: 2010 + A12: 2011 + A2: 2013
EN 55024: 2010 + A1: 2015
EN 55032: 2015

This product is herewith confirmed to comply with the Directives.

Directives

EMC Directive 2014/30/EC
RoHS Directive 2011/65/EU
WEEE Directive 2012/19/EU
REACH Regulation (EC) No. 1907/2006
Low Voltage Directive 2014/35/EC
R&TTE Directive 1999/5/EC

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cs Česky [Czech]	TRENDnet tímto prohlašuje, že tento TV-IP440PI je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2004/108/ES.
da Dansk [Danish]	Undertegnede TRENDnet erklærer herved, at følgende udstyr TV-IP440PI overholder de væsentlige krav og øvrige relevante krav i direktiv 2004/108/EF.
de Deutsch [German]	Hiermit erklärt TRENDnet, dass sich das Gerät TV-IP440PI in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2004/108/EG.
et Eesti [Estonian]	Käesolevaga kinnitab TRENDnet seadme TV-IP440PI vastavust direktiivi 2004/108/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, TRENDnet, declares that this TV-IP440PI is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/.
es Español [Spanish]	Por medio de la presente TRENDnet declara que el TV-IP440PI cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2004/108/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑTRENDnet ΔΗΛΩΝΕΙ ΟΤΙTV-IP440PI ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2004/108/ΕΚ.
fr Français [French]	Par la présente TRENDnet déclare que l'appareil TV-IP440PI est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2004/108/CE.
it Italiano[Italian]	Con la presente TRENDnet dichiara che questo TV-IP440PI è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2004/108/CE.
Latviski [Latvian]	AršoTRENDnetdeklarē, ka TV-IP440PI atbilstDirektīvas 2004/108/EK un 2006/95/EK būtiskajāmprasībām un citiemar to saistītajiemnoteikumiem.
Lietuvių [Lithuanian]	Šiuo TRENDnet deklaruoja, kad šis TV-IP440PI atitinka esminius reikalavimus ir kitas 2004/108/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart TRENDnet dat het toestel TV-IP440PI in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2004/108/EG.

mt Malti [Maltese]	Hawnhekk, TRENDnet, jiddikjara li dan TV-IP440PI jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2004/108/KE.
hu Magyar [Hungarian]	Alulírott, TRENDnet nyilatkozom, hogy a TV-IP440PI megfelel a vonatkozó alapvetõ követelményeknek és az 2004/108/EK.
pl Polski [Polish]	Niniejszym TRENDnet oświadcza, że TV-IP440PI jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2004/108/WE.
pt Português [Portuguese]	TRENDnet declara que este TV-IP440PI está conforme com os requisitos essenciais e outras disposições da Directiva 2004/108/CE.
sl Slovensko [Slovenian]	TRENDnet izjavlja, da je ta TV-IP440PI v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2004/108/ES.
Slovensky [Slovak]	TRENDnettýmtovyhlasuje, že TV-IP440PI spĺňazákladnépožiadavky a všetkypríslušnéustanoveniaSmernice 2004/108/ES.
fi Suomi [Finnish]	TRENDnet vakuuttaa täten että TV-IP440PI tyyppinen laite on direktiivin 2004/108/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar TRENDnet att denna TV-IP440PI står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2004/108/EG.

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Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TV-IP440PI – 3 Years Limited Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product by any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

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V1.0R 04.16.2015

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Product Warranty Registration

Please take a moment to register your product online.
Go to TRENDnet's website at http://www.trendnet.com/register

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20675 Manhattan Place
Torrance, CA 90501. USA

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