User's Guide

TRENDNET®

Outdoor 3 MP Full HD 1080p PoE IR Network Camera

TV-IP312PI

Contents

Product Overview

TV-IP312PI

Package Contents

- TV-IP312PI
- Multi-Language Quick Installation Guide
- CD-ROM (Utility, Software & User's guide)
- Camera Mounting hardware
  (Drill template, mounting screws, waterproof cap, torx screw driver)
- (Optional power adapter not included)

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

Features

TRENDnet's Outdoor 3 MP Full HD 1080p PoE IR Network Camera, model TV-IP312PI, offers night vision up to 50 meters (164 ft.), an IP66 weather rating, and an integrated mounting bracket. Ultra energy efficient advanced infrared creates a more balanced night vision illumination field and reduces close object overexposure. Record 3 Megapixel HD video (2048 x 1536) at 20 fps in a space saving H.264 compression format. Manage up to 32 TRENDnet cameras with included complimentary software and mobile apps.

3 Megapixel HD

Record 3 Megapixel HD video (2048 x 1536) at 20 fps in a space saving H.264 compression format

D-WDR

Improved image quality in high contrast lighting environments with Digital Wide Dynamic Range technology

Recording Schedule

Define a weekly hybrid continuous and motion detection recording schedule

IPv6

IPv6 support

ONVIF

ONVIF compliant
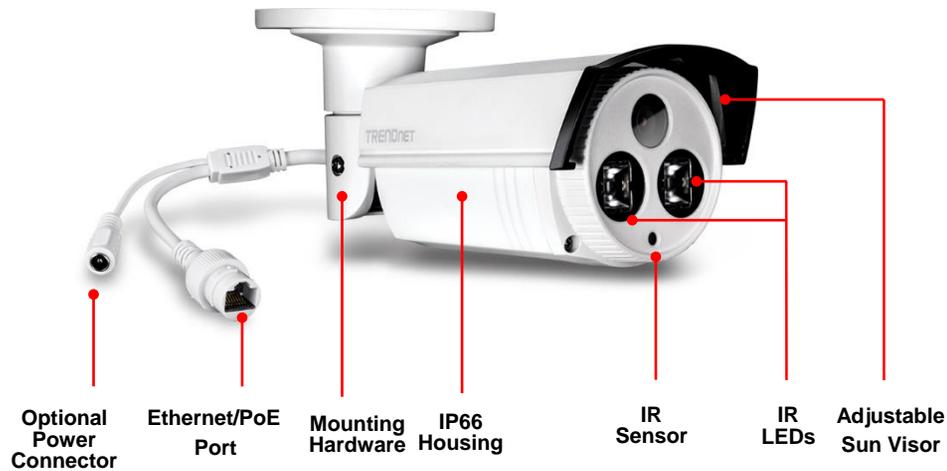
Complimentary Software

Complimentary pro-grade software to manage up to 32 TRENDnet cameras

Complimentary Apps

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

Product Hardware Features

Camera Overview

| Optional Power Connector | Ethernet/PoE Port | Mounting Hardware | IP66 Housing | IR Sensor | IR LEDs | Adjustable Sun Visor |

- **Optional Power Connector:** This model is designed to power by PoE. For non-PoE user, please connects the power adapter (12VDC1A sold separately) to camera.
- **Ethernet/PoE Port**: Plug the network cable to connect to supply power to the camera if using non-PoE connection.
- **Mounting Hardware:** Adjust the screws to fit the mounting position
- **IP66 Housing:** Housing is rated with IP66.
- **IR Sensor:** Detect the light source.
- **IR LEDs:** The IR LEDs will be on when the sensor detect low light source.
- **Adjustable Sun Visor:** Adjustable sun visor to prevent direct sun to the camera.

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.

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 waterproof cap to prevent water soaking into the cable.

There are a number of factors involved in successful camera installation. Follow the suggested installation steps and go through the check lists. This guide will help you to make your camera installation smooth and easy.

Plan for installation location

Setup Your Camera with CD

Hardware Installation

Plan for Installation

Viewing angle

The TV-IP312PI is a bullet camera with a focused viewing angle (70° horizontal) 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.

Waterproof cap

The TV-IP312PI is IP66 weather rated camera. There is a set of network cable waterproof cap that comes with the package. Run the network cable going through the cap and then using crimp the tool to crimp the cable with an RJ-45 modular. Plug in the network cable and then tighten the waterproof cap to prevent water running into the camera through the cable.
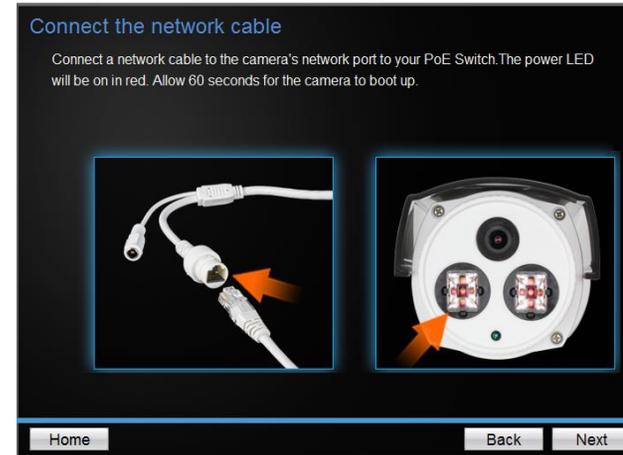
Setup Camera with CD

1. Insert the Installation CD-ROM into your computer's CD-ROM drive to initiate the Auto-Run program. Click the Install Camera.
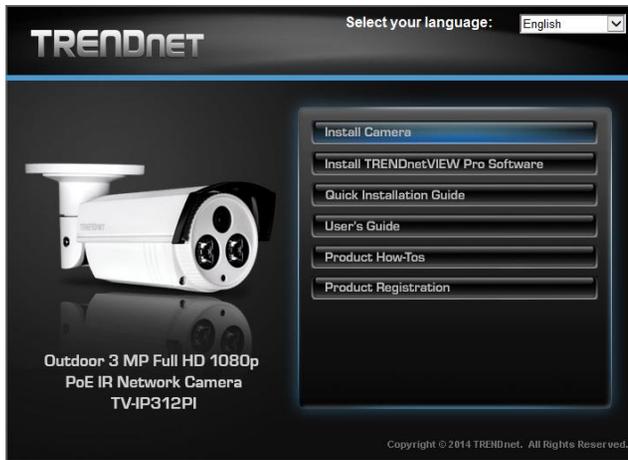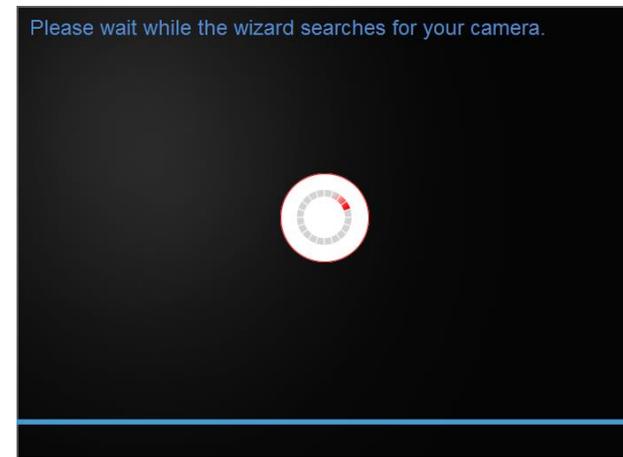

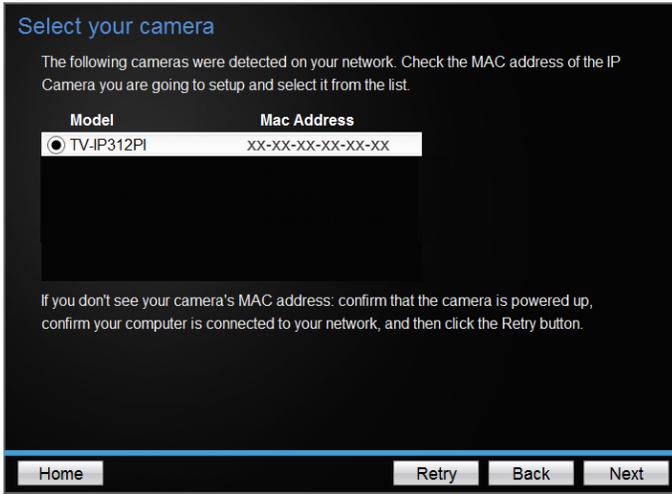2. Write down the MAC ID of the camera. Click **Next**.

3. Connect a network cable to the camera's network port to a PoE switch. The power LED will be lit. Allow 60 seconds for the camera to boot up. Click **Next**.
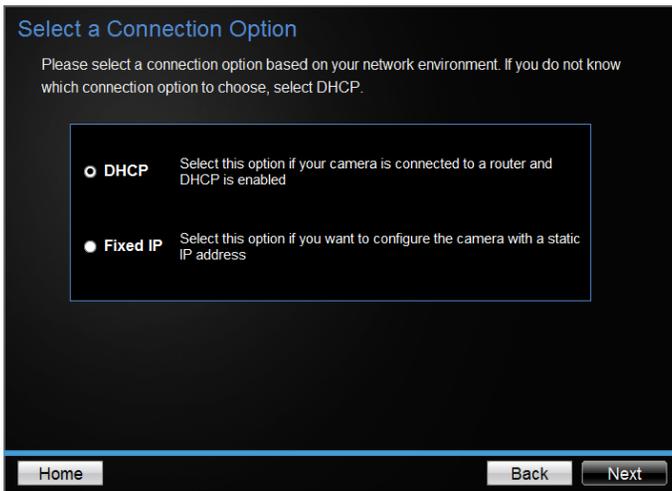

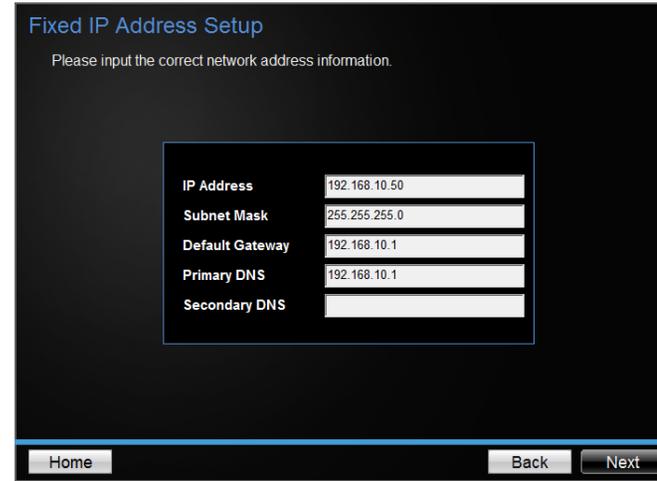
4. Wait while searching the cameras.

5. The founded cameras will show on the screen. The camera already selected by default if you have only one camera installed. If you have more than one camera in the same Network, you will need to identify the camera by the MAC ID. Click **Next**.
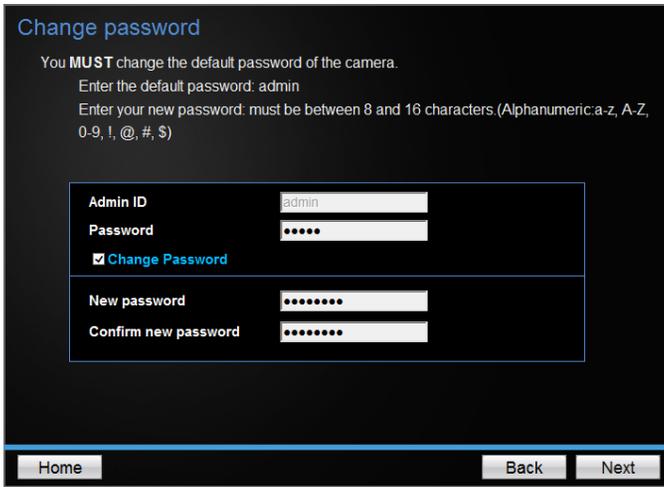
Select your camera

The following cameras were detected on your network. Check the MAC address of the IP Camera you are going to setup and select it from the list.

Model	Mac Address
◉ TV-IP312PI	XX-XX-XX-XX-XX-XX

If you don't see your camera's MAC address: confirm that the camera is powered up, confirm your computer is connected to your network, and then click the Retry button.

| Home | | Retry | Back | Next |

6. Select "DHCP" option to assign an IP by DHCP server or Select "Fixed IP" to set IP address manually. Click **Next**.

Select a Connection Option

Please select a connection option based on your network environment. If you do not know which connection option to choose, select DHCP.

○ **DHCP** Select this option if your camera is connected to a router and DHCP is enabled

● **Fixed IP** Select this option if you want to configure the camera with a static IP address
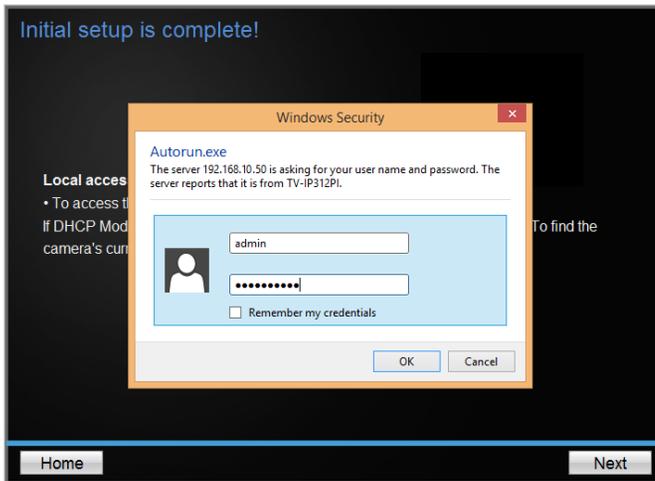
| Home | | Back | Next |

7. If you select "Fixed IP", fill out the IP address, subnet mask, default gateway, DNS server. Please ensure that the IP address of the camera and the computer must within the same network. Click **Next**.
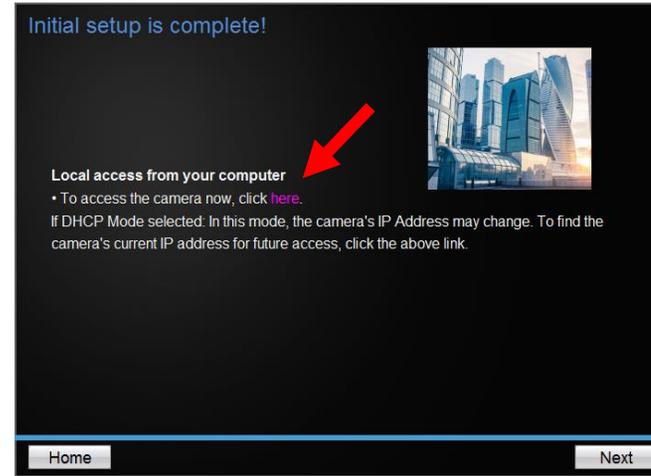
Fixed IP Address Setup

Please input the correct network address information.

IP Address	192.168.10.50
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
Primary DNS	192.168.10.1
Secondary DNS	

| Home | | Back | Next |

8. Type in the Password. The default password is "admin". You must change the default password of the camera. Enter the default password: admin and enter the new password. The password must be between 8 and 16 characters. (Alphanumeric: a-z, A-Z, 0-9), and confirm the new password by entering the password twice.

   * This camera installation wizard is also good for finding the camera if it was setup with DHCP. The IP address may change dynamically with the DHCP setting. If you want to access your camera later and you do not know the IP address, you can run this camera installation wizard again. If you have already setup the password and want to keep the password unchanged, un-check the **Change Password** box and click next to get the link to access your camera.

   ** Please save the password for future reference. This device does not have a hardware rest function for temper proof purpose.
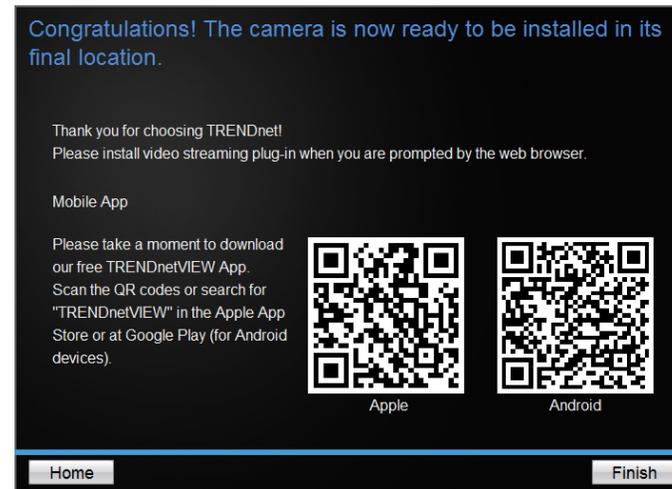
Change password

You **MUST** change the default password of the camera.
   Enter the default password: admin
   Enter your new password: must be between 8 and 16 characters.(Alphanumeric:a-z, A-Z, 0-9, !, @, #, $)

Admin ID	admin
Password	•••••
☑ Change Password	
New password	••••••••
Confirm new password	••••••••

Home   Back   Next

9. Enter "admin" on username and enter new password you just created.

Initial setup is complete!

Local acces...
• To access t...
If DHCP Mod...   To find the
camera's cur...

Windows Security ✕

Autorun.exe
The server 192.168.10.50 is asking for your user name and password. The server reports that it is from TV-IP312PI.

admin

••••••••••

☐ Remember my credentials

OK   Cancel

Home   Next

10. Click the hyperlink to access to the camera's web page or click **Next.** It is recommended that you access the IP camera now if it was using a DHCP connection.

Initial setup is complete!

Local access from your computer
• To access the camera now, click here.
If DHCP Mode selected: In this mode, the camera's IP Address may change. To find the camera's current IP address for future access, click the above link.
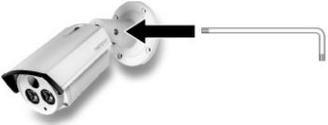
Home   Next

11. Click **Finish** to exit the program or click **Home** to return to the main screen. This device also supports the Mobile App. Using your mobile device to scan the QR code to install the App.

Congratulations! The camera is now ready to be installed in its final location.

Thank you for choosing TRENDnet!
Please install video streaming plug-in when you are prompted by the web browser.

Mobile App

Please take a moment to download our free TRENDnetVIEW App. Scan the QR codes or search for "TRENDnetVIEW" in the Apple App Store or at Google Play (for Android devices).
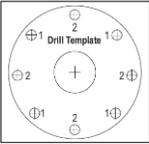
Apple   Android

Home   Finish

Hardware Installation

1. Loosen the locking bolts and manually position the camera as desired.

2. Place the provided drill template on the wall or ceiling.

3. Drill holes for the provided screw anchors at each marked position on the template. Make sure the drill bit matches the size of the provided screw anchors.

4. If the camera wire will be installed through the based plate of the unit, skip to step 6. If the wiring will be routed though the wall, drill a hole for the cable.

5. Pass the camera's cables through the hole.

6. Connect the network cable to the camera.

7. Insert the provided screw anchors into the pilot holes.

8. Align the mounting bracket with the screw anchors, and then use the provided screws to secure the camera to the mounting surface.
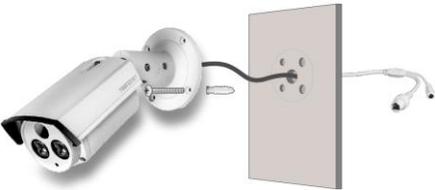
9. Power up the camera by connecting the other end of the cable to a PoE switch or injector on your network.

10. Loosen the screws and rotate the collar to final angle, then the screws.

Access Camera through the Web Browser

System Management and Default Settings

It is recommended that you install your camera with the CD that comes with the package and use accompanying TRENDnetVIEW Pro software for Windows computers. If you do not have the CD with you, please go to http://www.trendnet.com/support and enter the model number and download the software.

If you didn't go through the CD installation wizard or you have reset the camera, your camera has following settings:

| Management IP :	192.168.10.30 or a dynamic assigned address if you connect the camera to your existing network
Administrator name :	admin
Administrator password :	admin

If you want to access your camera directly instead of using software, you can follow the steps specified in this chapter to login to your camera. A web browser plug-in must be installed to view live image.

Logging-in to the Camera

1. Open the web browser on your computer. In the address bar, enter the IP address you setup through the setup CD or 192.168.10.30. (If you have a DHCP server on your network, the IP address will be assigned dynamically. For example, if you have a home gateway on your network and you plug-in the camera on the same network, you can find the camera's IP address on your home gateway.), and then press **Enter**.
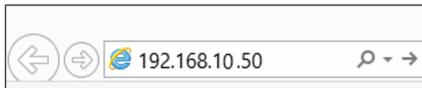

2. Enter the user name, **admin**, and the password you setup through the setup CD or the default password, **admin**, and then click **OK**.
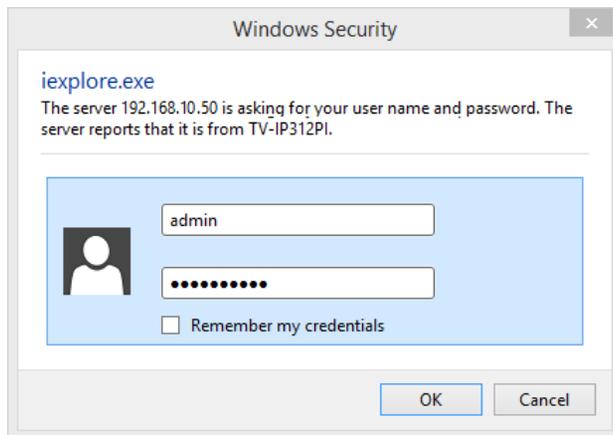
If the camera was not setup through the CD and you are accessing it the first time, you will be prompted to change password automatically.

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.
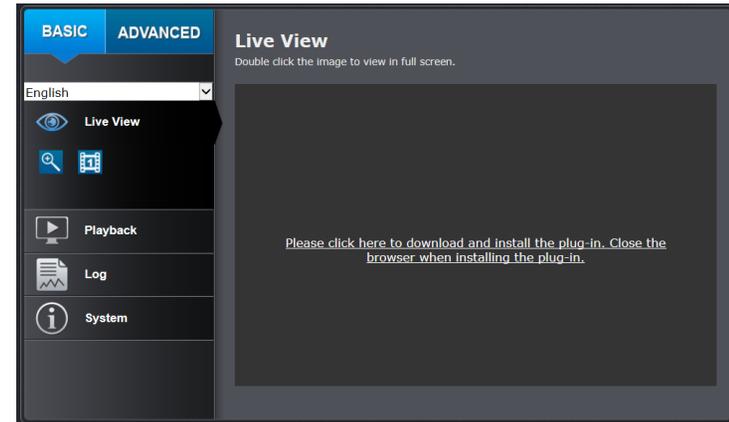
Permission request depends on the Internet security settings of your computer. Click **Allow** to install the plug-in.
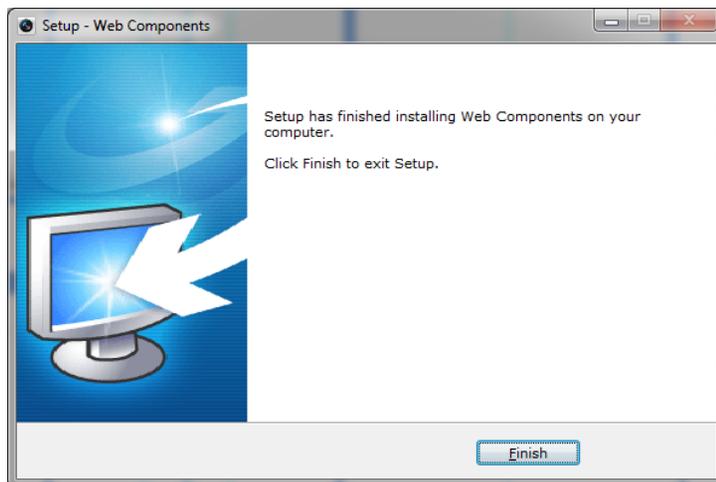

Note: for Mac systems, the plug-in file is stored on the CD or you can download the latest version from
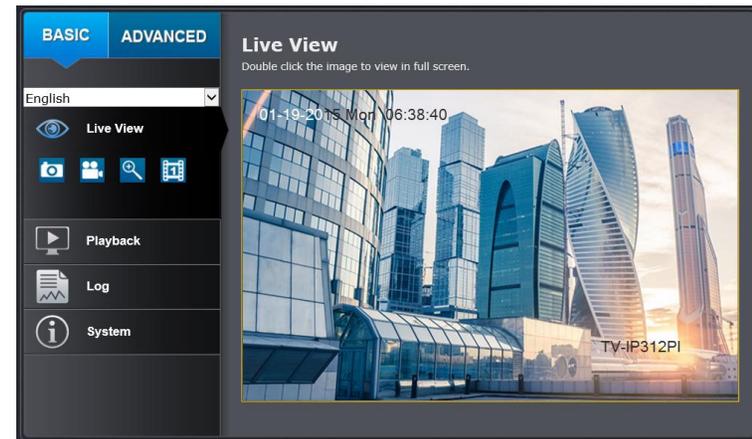http://www.trendnet.com/downloads/camera/mac/WebComponents.zip

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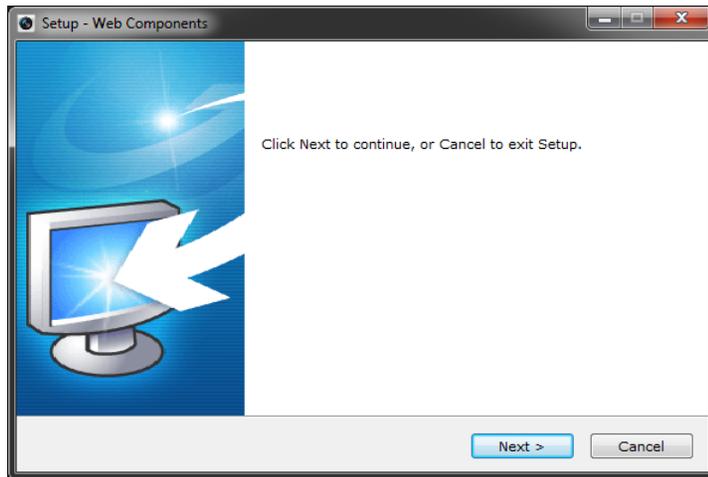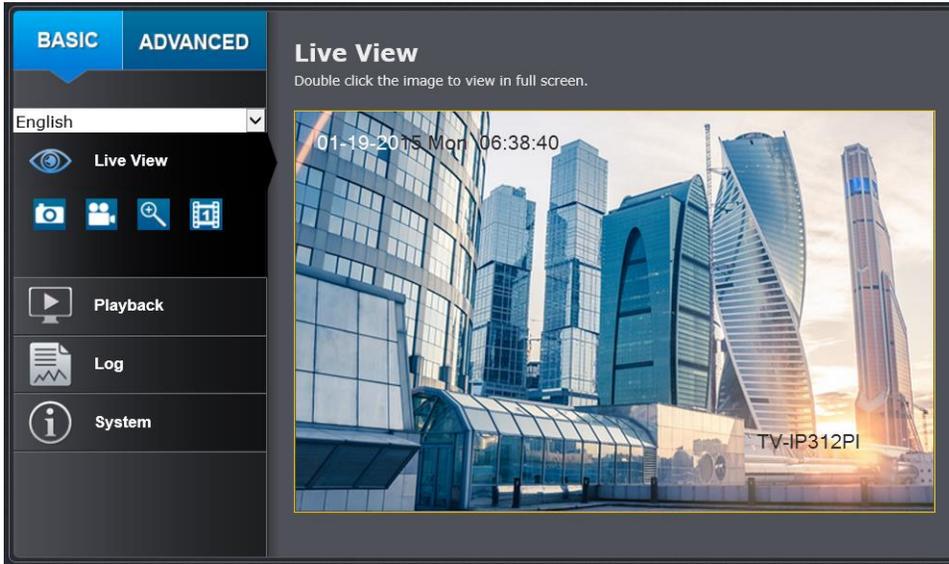

5. Click **Finish** to finish the installation.

6. Open the browser and login again. **Allow** the plug-in from TRENDnet if prompted. The Live View page will show and begin streaming video.

Basic Settings

Live View

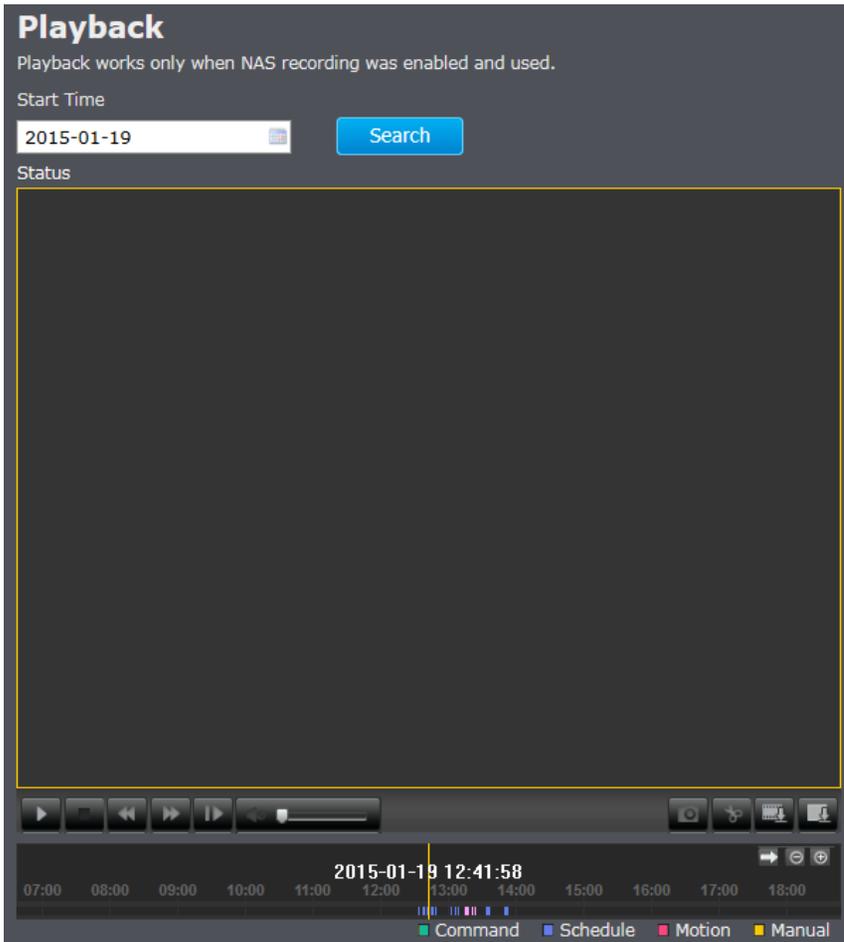After you log-in into the camera management page, you'll see the Live View page.

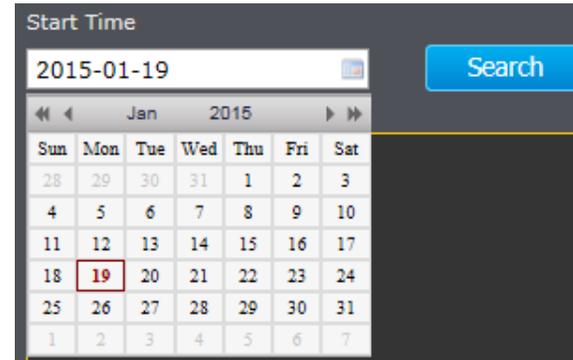| Multi-Language	Change your preferred language anytime
Snapshot	Click this icon to take a video snapshot
Recording	Click once to start recording. Click it again to stop recording. The status bar will indicate if it is in recording state or not
Zoom	Click once to enable zoom. Then, click and drag the 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
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 Capture succeeded.

Playback

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

Playback

Playback works only when NAS recording was enabled and used.

Start Time

| 2015-01-19 | 📅 | | Search |

Status

▶ ■ ◀◀ ▶▶ ▮▶ ◀ ▮▬▬▬▬   📷 ✂ 📥 📥

2015-01-19 12:41:58

07:00   08:00   09:00   10:00   11:00   12:00   13:00   14:00   15:00   16:00   17:00   18:00

➡ ⊖ ⊕

■ Command   ■ Schedule   ■ Motion   ■ Manual

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.

Start Time

| 2015-01-19 | 📅 | | Search |

◀◀ ◀	Jan	2015	▶ ▶▶

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

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.

➡ ⊖ ⊕

2015-01-19 12:41:58

11:00   12:00   13:00   14:00   15:00   16:00   17:00   18:00
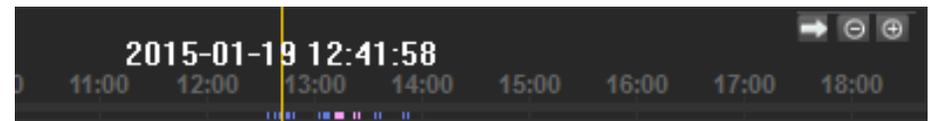
🖐	Click and drag the time line to move your time manually
⊕	Click this button to zoom in the scale
⊖	Click this button to zoom out of the scale

	Click this button to specify a specific time of the day.
	Set playback time × 00 00 00 → And the click [→] to confirm selection and then click **X** to close this dialog box.
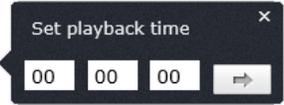
Play video

Use playback controls to play back the video recordings.
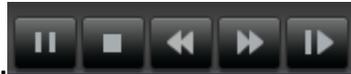
▶	Click this button to play the video
❚❚	Click this button to pause video playback
■	Click this button to stop playback
⏩	Click this button to increase playback speed*
⏪	Click this button to decrease playback speed*
⏯	Click to playback video frame by frame. Click again for the next frame.
	*There are 5 steps of playback speeds. You can choose from ¼, ½ , 1, 2, and 4 times of original speed.

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

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 camera will be saved on the network storage. You can search the relevant records and save to your local computer.

System

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

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.

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.
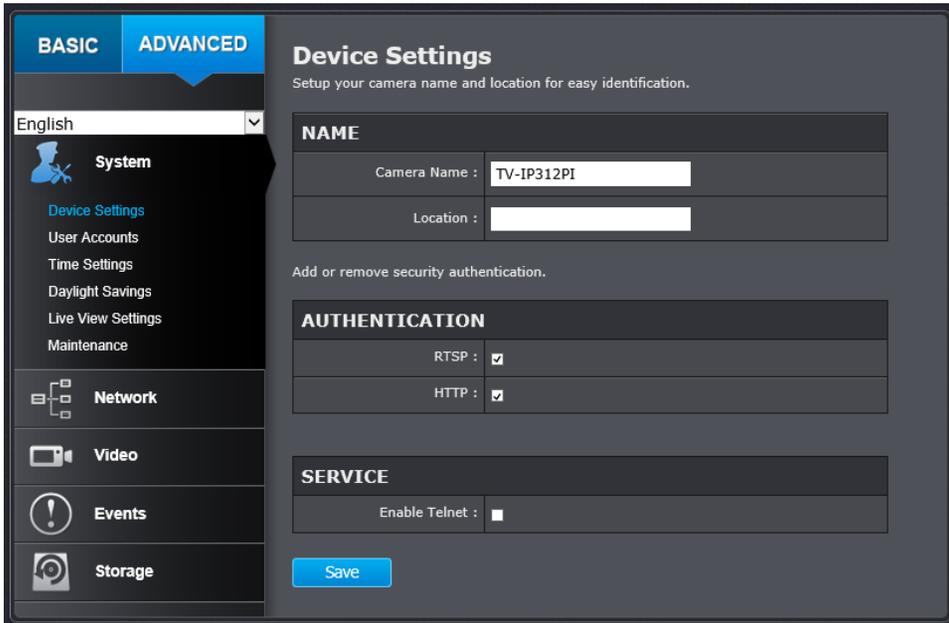
Names	
Camera Name:	Name of the camera. The camera name setup here can be discovered by other network camera software and OSD, On Screen Display. The default is the camera's model name:

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 16 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. User account could view but could not change any setting. ADD USER User Name: Guest Password: •••••• Confirm: •••••• OK Cancel
Modify:	To change a user's name and password, highlight the user by clicking on it. Then, click **Modify** button. You can change the user's name and password. You can also change the administrator's password. The administrator's name is fixed, you cannot change it. Click **OK** to save the changes. MODIFY USER User Name: Guest ✕ Password: ••••• Confirm: ••••• OK Cancel

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).
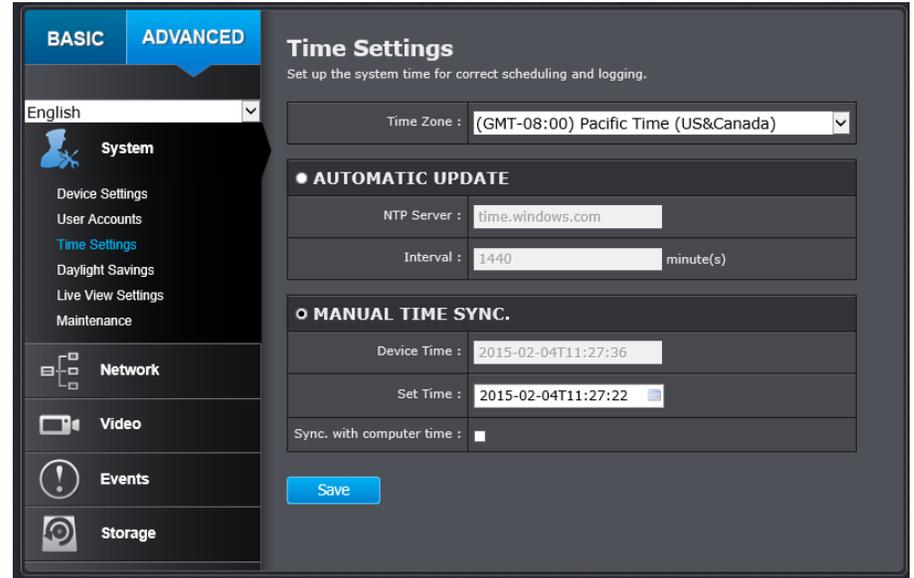
Time Zone	Select a time zone
Automatic Update	
NTP Server:	Specify a time server (NTP server) to synchronize with. (e.g. time.windows.com)
Interval:	The time interval that the camera will synchronize the time with NTP server. Default: 1440 minutes (24 hours).
Click **Save** to save the changes	
Manual 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.
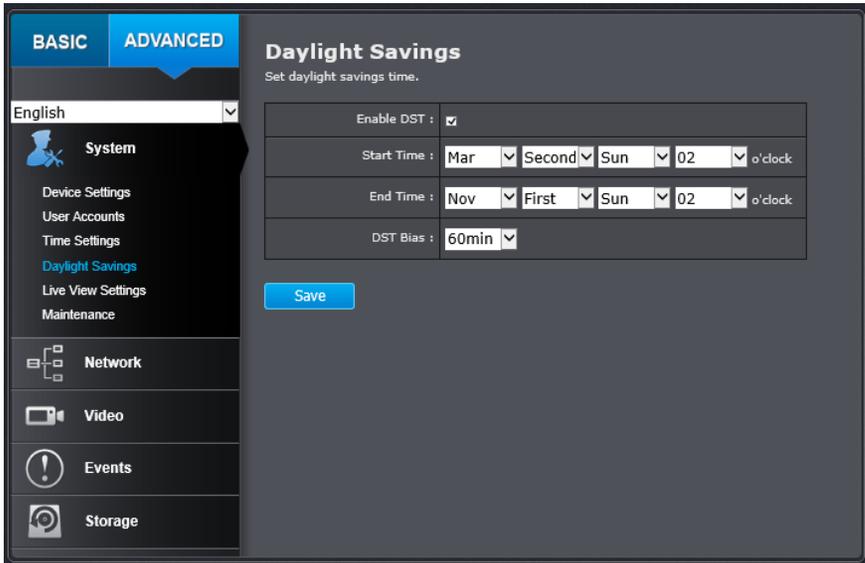
Daylight Saving	
Enable DST:	Check this box if your time zone has daylight savings
Start Time:	Enter the Month and Date that daylight savings starts
End Time:	Enter the Month and Date that daylight savings ends

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.
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.
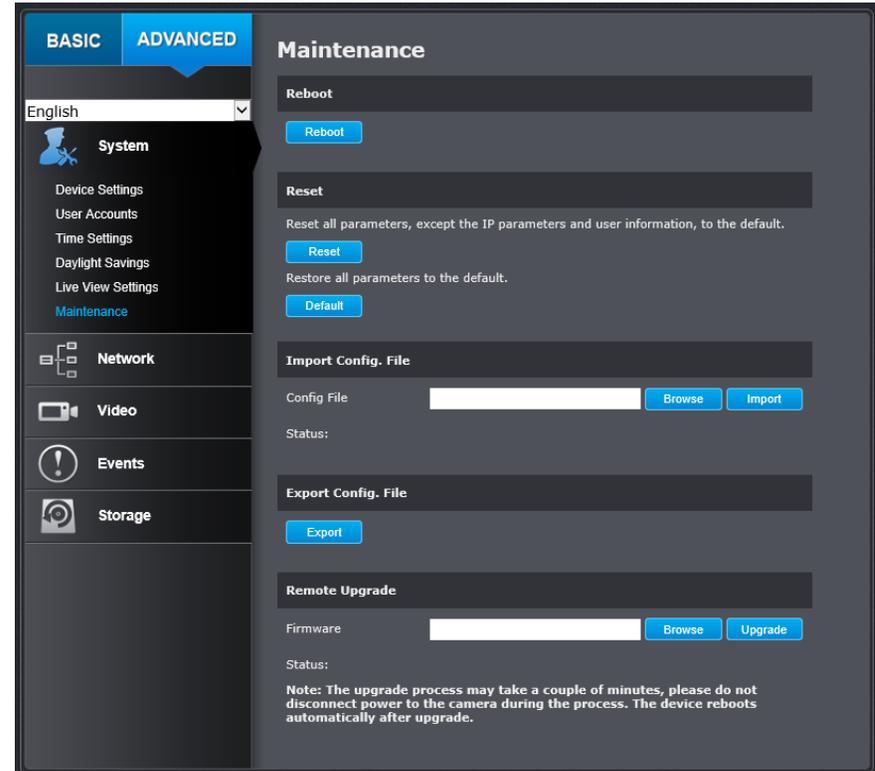
Reboot	
Reboot:	Click this button to reboot this camera.
Reset	
Reset:	Reset all camera parameters except the IP parameters and user information.
Default:	Load complete factory default settings to the camera.
Import Config. File	

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/

Network Settings

TCP/IP

Setup your basic IPv4 and IPv6 network settings on this page.
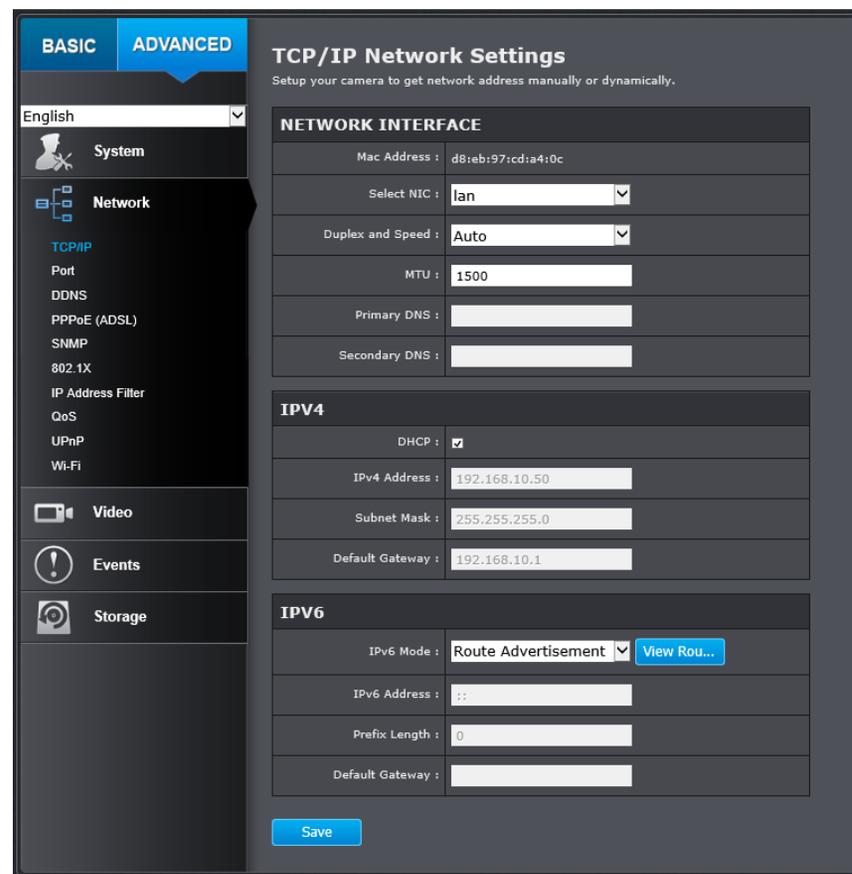
Network interface	
MAC Address:	Click this button to reboot this camera.

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.
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	

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.
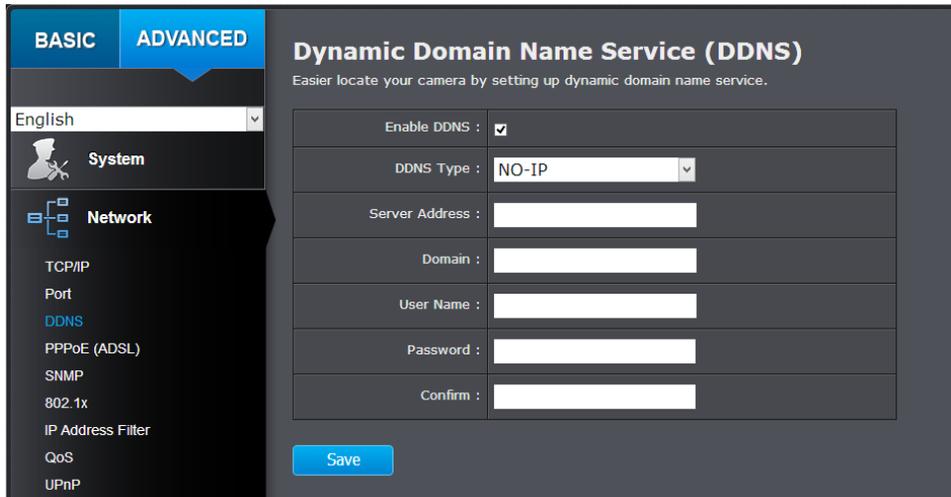
DDNS	
Enable DDNS:	Check this box to enable DDNS Service.
DDNS Type:	Select a DDNS service provider.
Server Address:	Enter the DDNS server address.
Domain:	Enter your registered domain name on selected DDNS service.
User Name:	Enter the account name.
Password:	Enter the password.
Click **Save** to save the changes	

PPPoE

Setup PPPoE (ADSL) connection to connect your camera with your ISP, Internet Service Provider.
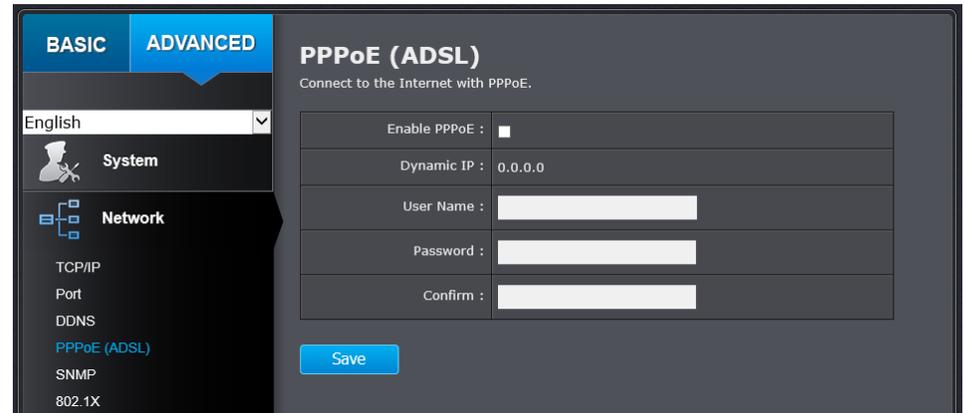
PPPoE (ADSL)	
Enable PPPoE:	Check this box to enable PPPoE connection.
Dynamic IP:	The IP address provided by ISP
User Name:	Enter the account name.
Password:	Enter the password.
Confirm:	Enter the password again.
Click **Save** to save the changes	

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.
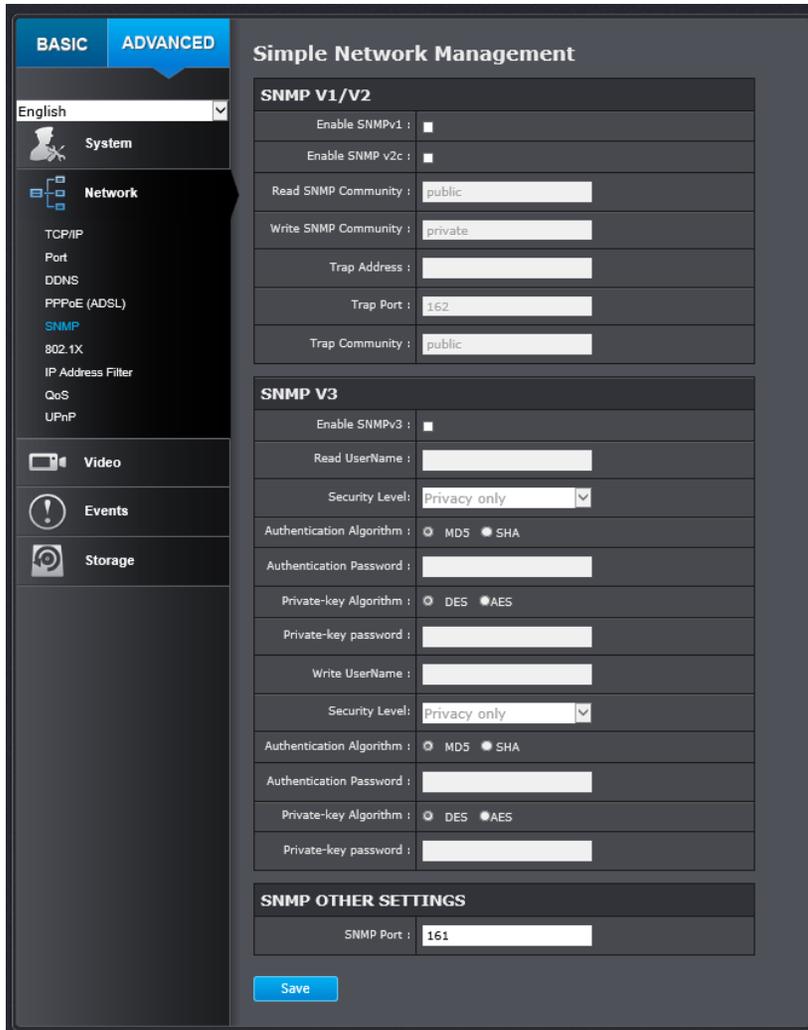
| SNMP V1/V2	
Enable SNMPv1:	Check this box to enable SNMP v1 management.
Enable SNMPv2c:	Check this box to enable SNMP v2c management.
Read SNMP Community:	Specify the password for access the SNMP community for read only access
Write SNMP Community:	Specify the password for access to the SNMP community 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.
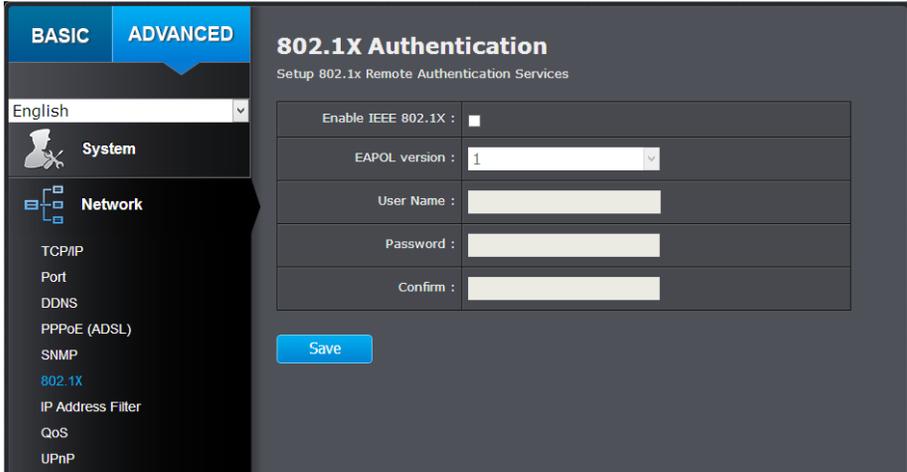
802.1X Authentication	
Enable IEEE 802.1X:	Check this box to enable 802.1X authentication service.
EAPOL version:	Extensible Authentication Protocol (EAP) over LAN (EAPoL). Choose version 1 or 2. This version number must matches to your 802.1X service EAPOL version.
User Name:	Enter the account name.
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.
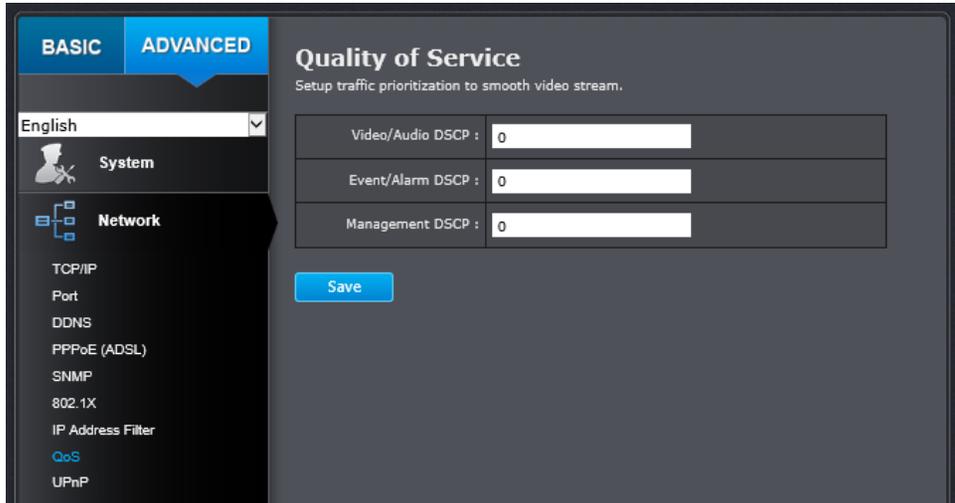
QoS	
Video/Audio DSCP:	Enter Video/Audio DSCP. Default: 0.
Event/Alarm DSCP:	Enter Event/Alarm DSCP. Default: 0.
Management DSCP:	Enter Management DSCP. Default: 0.
Click **Save** to save the changes	

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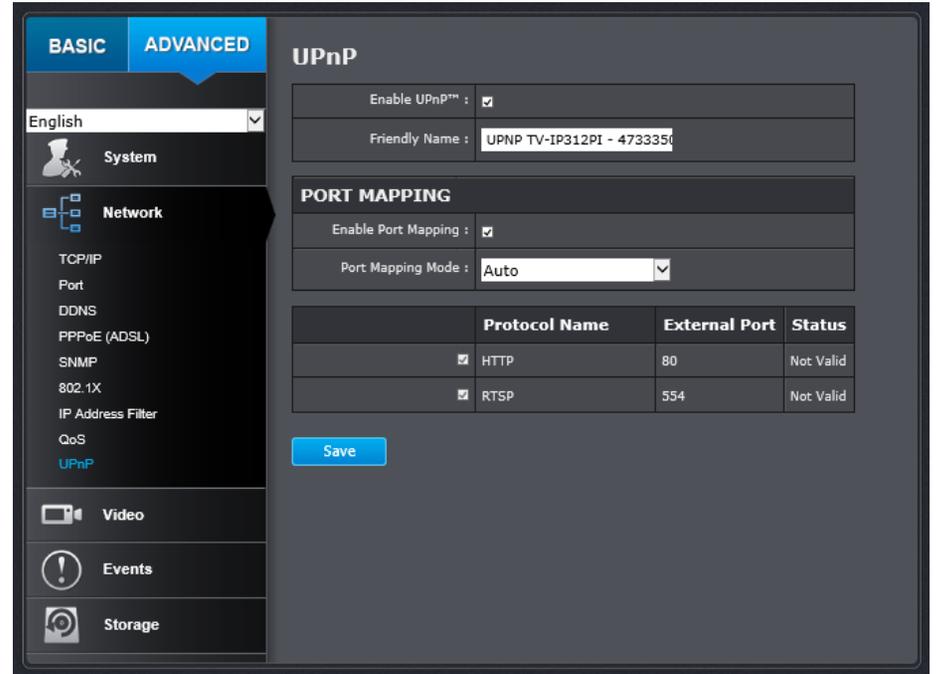
UPnP	
Enable UPnP:	Check this box to enable UPnP connection.
Friendly Name:	The name that will be appeared when searched.
Port Mapping	
Enable Port Mapping:	Check this box to enable UPnP connection.
Port Mapping Mode:	Choose Manual or Auto port mapping.
External Port:	Choose the port number for mapping.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

Video Settings

Video Format

Adjust the format of video.

Video Format	
Stream Type:	Select Main Stream (Normal) or Sub Stream
Video Encoding:	Choose the video stream you want to modify. Main stream supports H.264 only. Sub Stream supports H.264 and MJPEG.
Resolution:	Main Stream / Sub Stream

Bitrate Type:	Choose between variable bit rate or constant bit rate for video compression. The default is variable rate.
Video Quality:	Choose the video quality. The default is medium quality.
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.
Max. Bitrate:	Choose the maximum video sampling bit rate. Default: 4096
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	

Display Settings

Adjust video image quality, lightness, and color settings here.
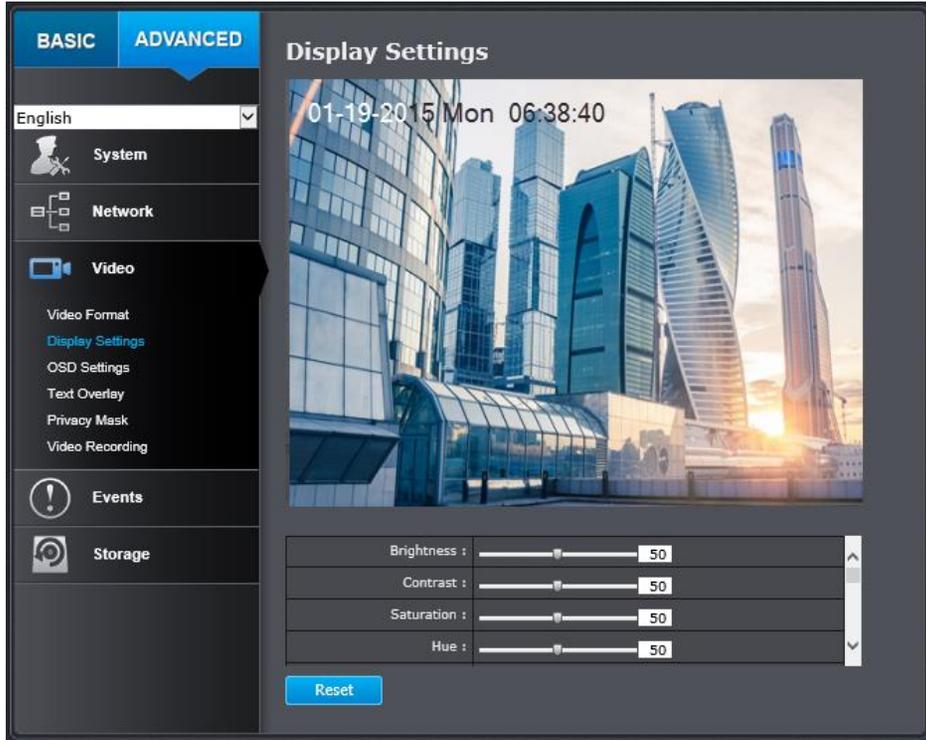
Display Settings	
Brightness:	Use the slider or enter a number (0-100) to adjust the image brightness. Default: 50
Contrast:	Use the slider or enter a number (0-100) to adjust the image contrast. Default: 50
Saturation:	Use the slider or enter a number (0-100) to adjust the color saturation. The greater number means the color will be more saturated. Default: 50
Hue	

Display Settings	
Sharpness:	Use the slider or enter a number (0-100) to adjust the image sharpness. Default: 50
Smart IR:	Smart IR can adjust the strength of infrared lights at night depending on the distance of an object to

	maintain the maximum IR light distance and while maintaining a clear picture when object is close by. Default: On.
Max. Exposure Time:	Adjust this value for exposure time for each picture. You can choose a value between 1/3 second to 1/100,000 second. The default value is 1/30 second exposure time for each picture. 1/3 1/6 1/12 **1/30** 1/60 1/120 1/150 1/200 1/250 1/500 1/750 1/1000 1/2000 1/4000 1/10000 1/100000
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. 50hz **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**:
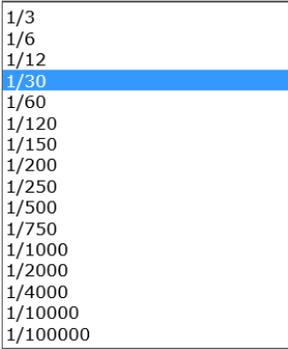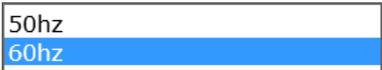
	The image will be black and white. **Night** mode can increase the sensitivity in low light conditions. **Auto:** In **Auto** mode, the day mode and night mode can switch automatically according to the light condition of environment. **Schedule:** Use quick selection or enter the time down below. Click **OK** to confirm the time you want to set. Day Night **Auto** Schedule
Sensitivity:	Adjust the light sensor sensitivity.
Switch Time:	The time delayed to switch between Day/Night modes. Longer switch time can prevent unnecessary mode flipping if an object is blocking the light source temporarily. Range: 5-120 seconds, default: 5 seconds.
Mirror:	Select from OFF or ON option to set the correct direction of the camera view.
D-WDR: **D-WDR Level**	This Digital Wide Dynamic Range feature helps to improve the image quality under limited light source. Higher value brings brighter images. D-WDR : Enabled D-WDR Level : 10
White Balance:	Choose a corresponding light source to fit the environment.
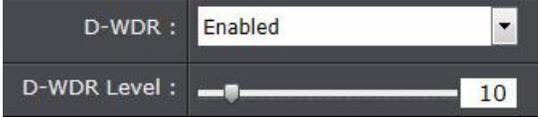
	Automatic Locked Incandescent Lamp(3000K) Warm Light Lamp(4000K) Natural Light(5500K) Fluorescent Lamp(6500K)
Digital Noise Reduction:	Enable or disable noise reduction.
Noise Reduction Level:	**Noise Reduction Level:** Adjust the effect of digital noise reduction. Range: 0-100%, default : 100%

On Screen Display (OSD) Settings
You can display the camera name and the time the video is shooting on the screen.

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	

Text Overlay

Display extra information on the screen over the image.

Privacy Mask

Create a masking area to keep your privacy. You can create up to four independent masking areas by clicking and dragging on the screen.
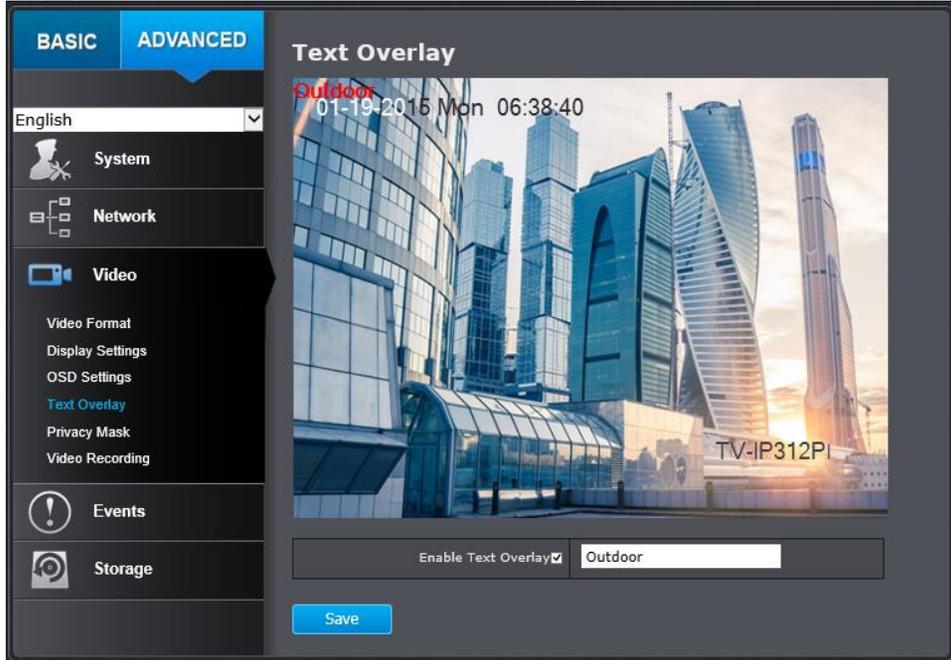
Text Overlay	
Check Box:	Check this box to enable text overlay.
Text Field:	Enter the text you want to display. You can enter your local language if you want. The text field allows maximum 44 English letters or 20 non-English characters.
Click **Save** to save the changes	
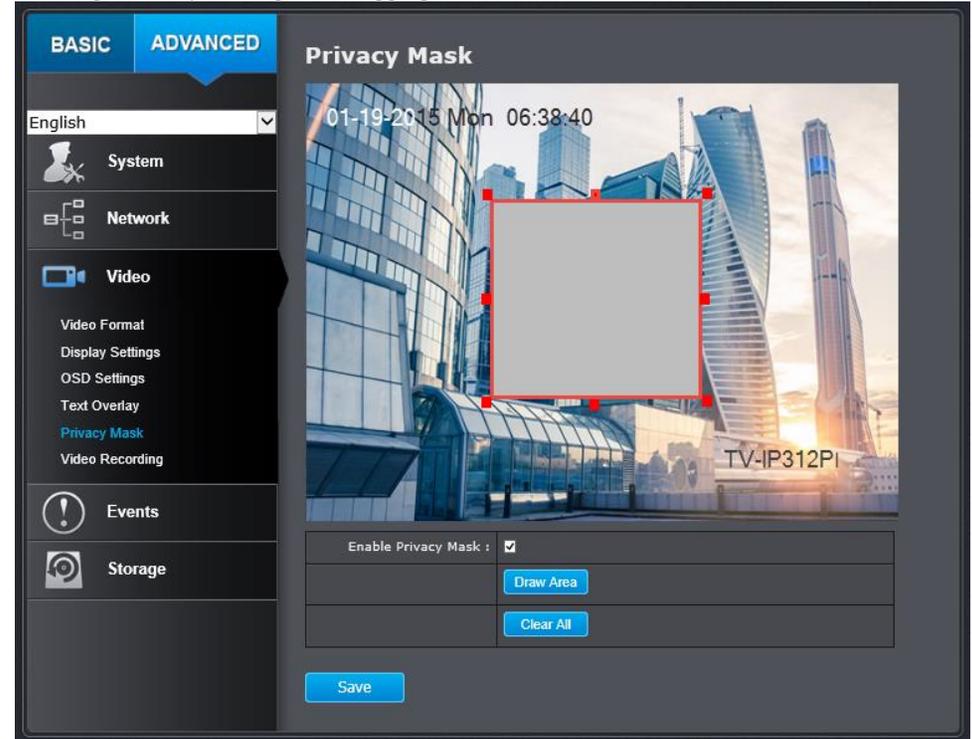
Privacy Mask	
Enable Privacy Mask:	Check this box to enable privacy masking.
Draw Area:	Click this button to start drawing a privacy area.
Stop Drawing:	Click this button to stop drawing.
Clear All:	Click this button to clear all the mask areas.
Click **Save** to save the changes	

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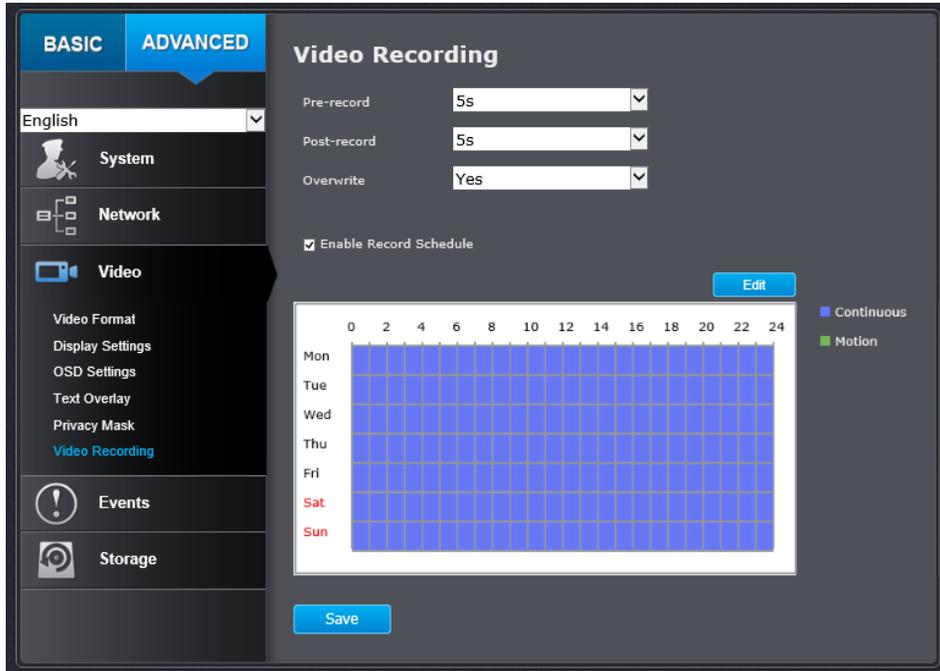
Video Recording	
Pre-record:	Recording time before trigger event.
Post-record:	Recording time after trigger event.
Overwrite:	Select Yes to allow older recordings to be overwritten.
Enable Record Schedule:	Check this box and then click **Save** to enable video recording.
Edit:	Click **Edit** to edit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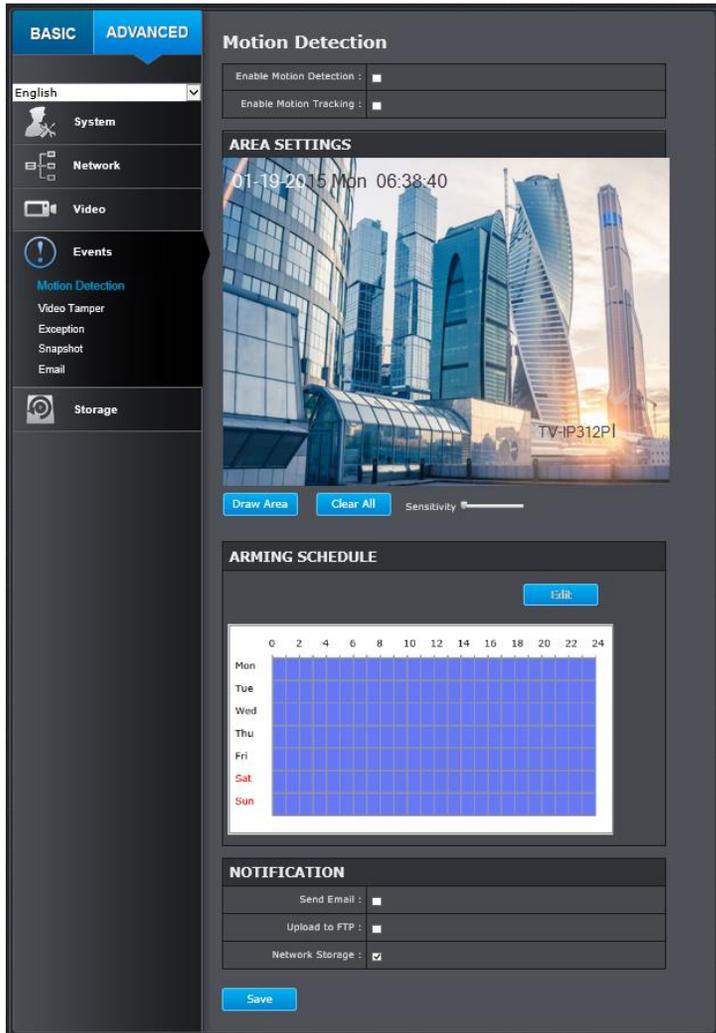
Event

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.

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.
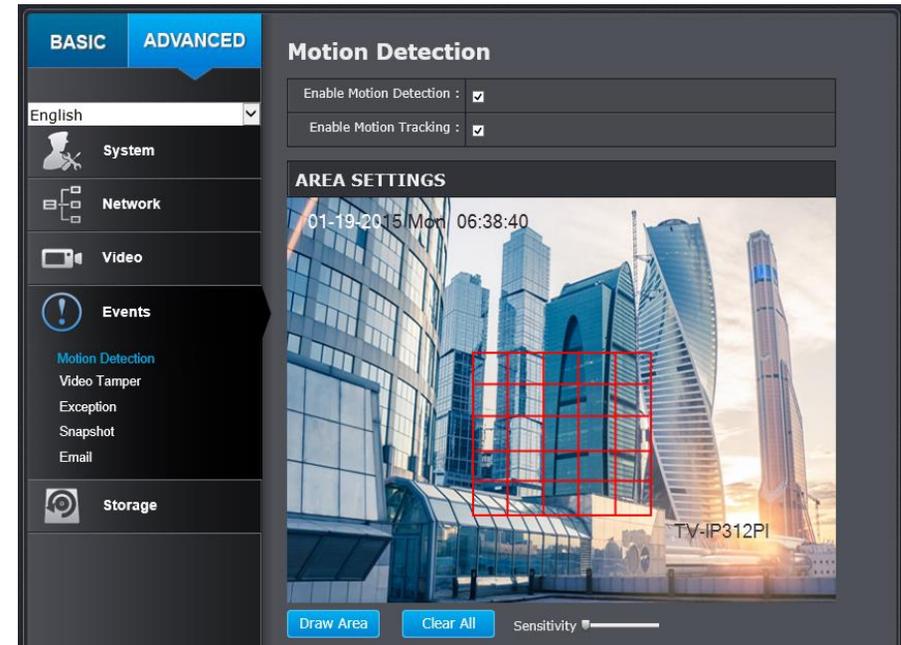
Notification

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

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.

Tampering Event	
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.
Click **Save** to save the settings.	

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	

Exception

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

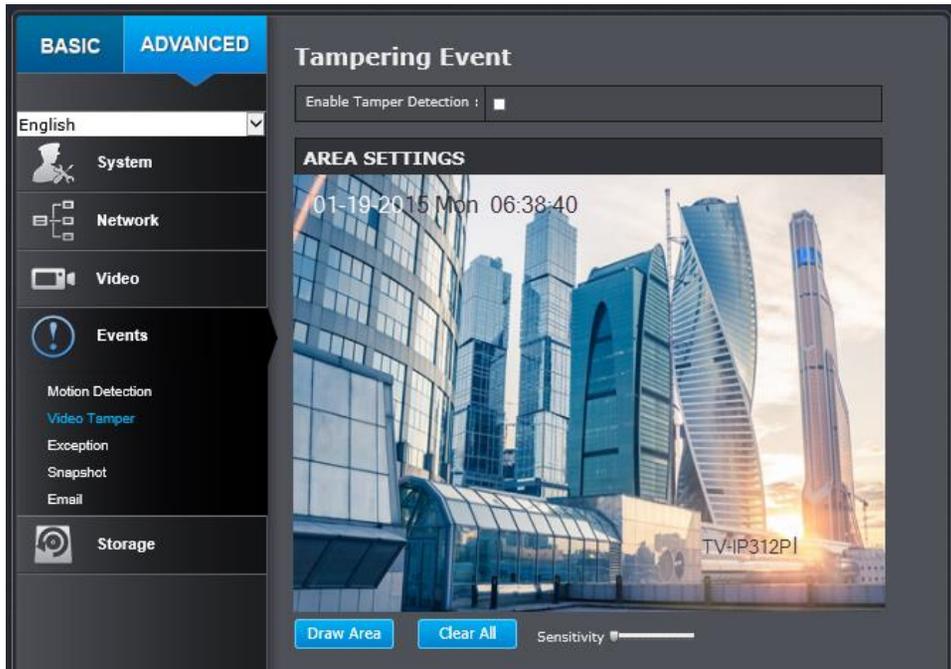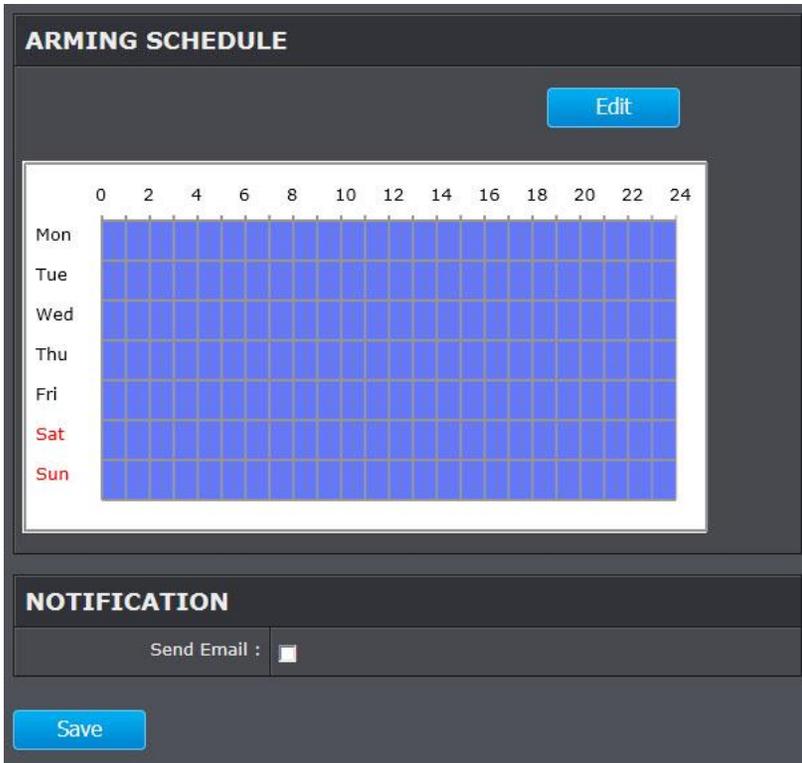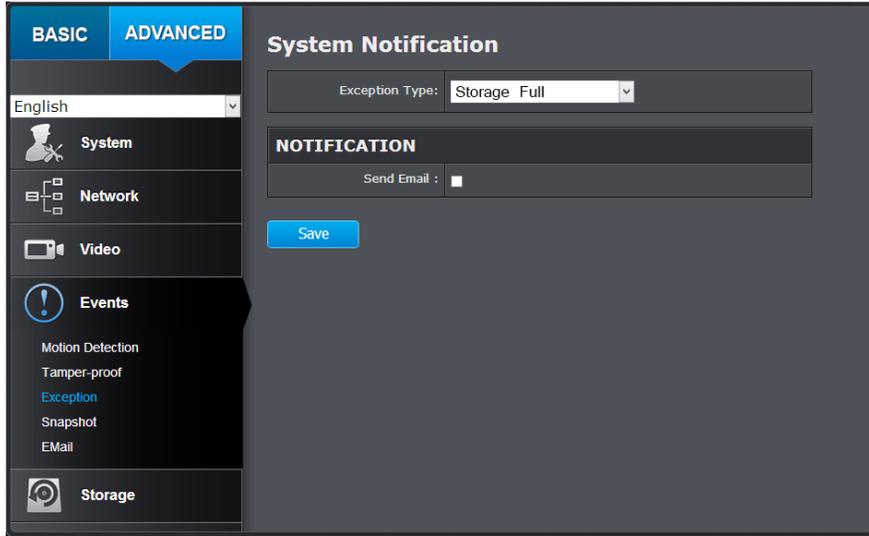| Notification	
Exception Type:	First choose the exception type, then choose the corresponding action.
Send Email:	Check this box to send an e-mail notification when motion is detected. Go to Events / Email to setup email account information.
Click **Save** to save the changes	

Snapshot

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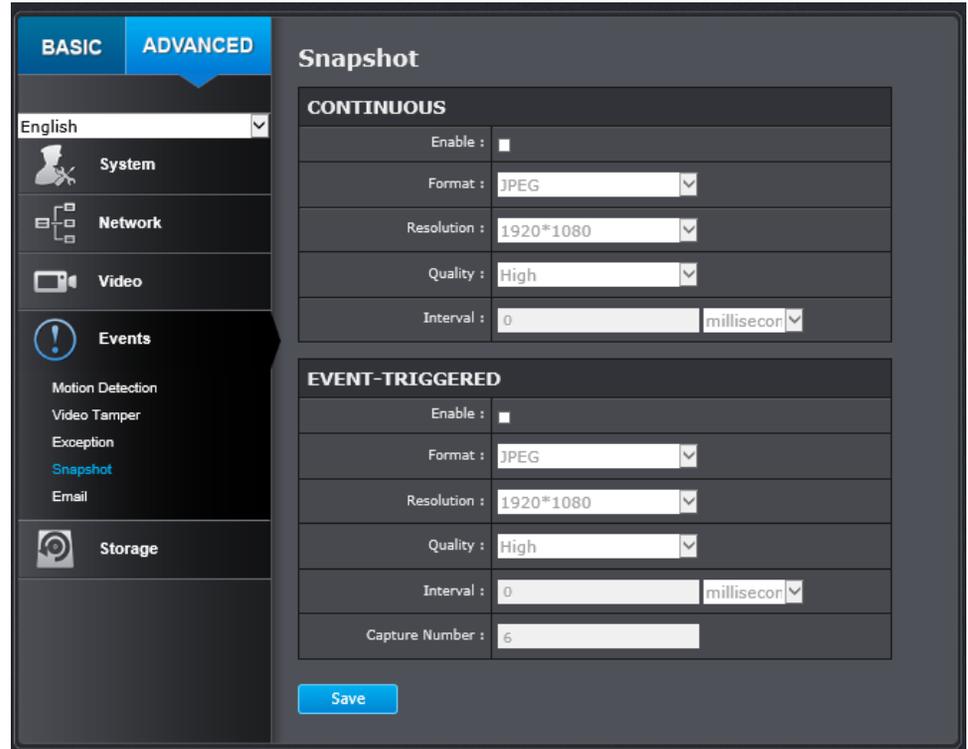
Continuous	
Enable:	Check this box to continuously take snapshots.
Format:	Save snapshots in JPEG format
Resolution:	Uses the same resolution set in **Video Format** for the snapshot resolution.
Quality:	Choose a compression quality for snapshots.
Interval:	State the time interval between snapshots.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

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 **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.
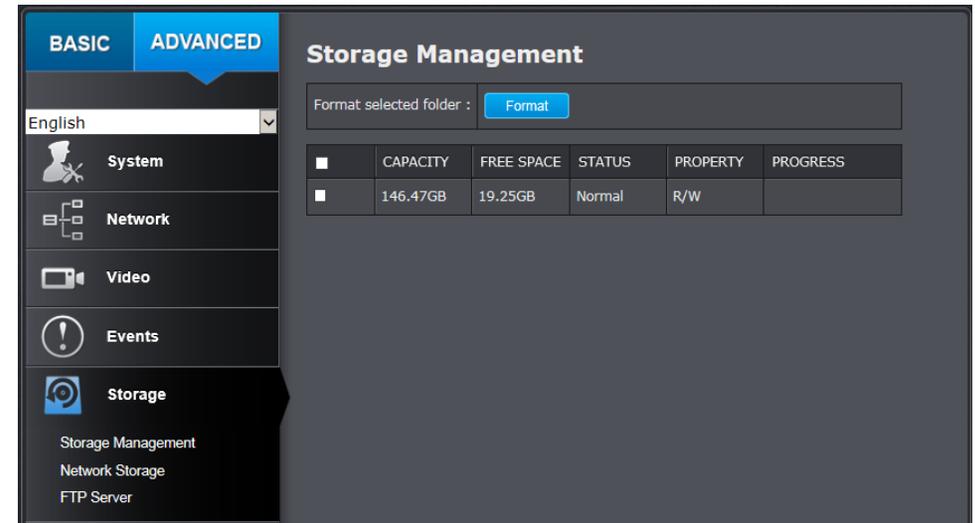
*Micro SD slot is located at the opposite side of the lens under a protective black strip. (Please make sure the environment is dry and clean when opening the dome cover)

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 Mac 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 t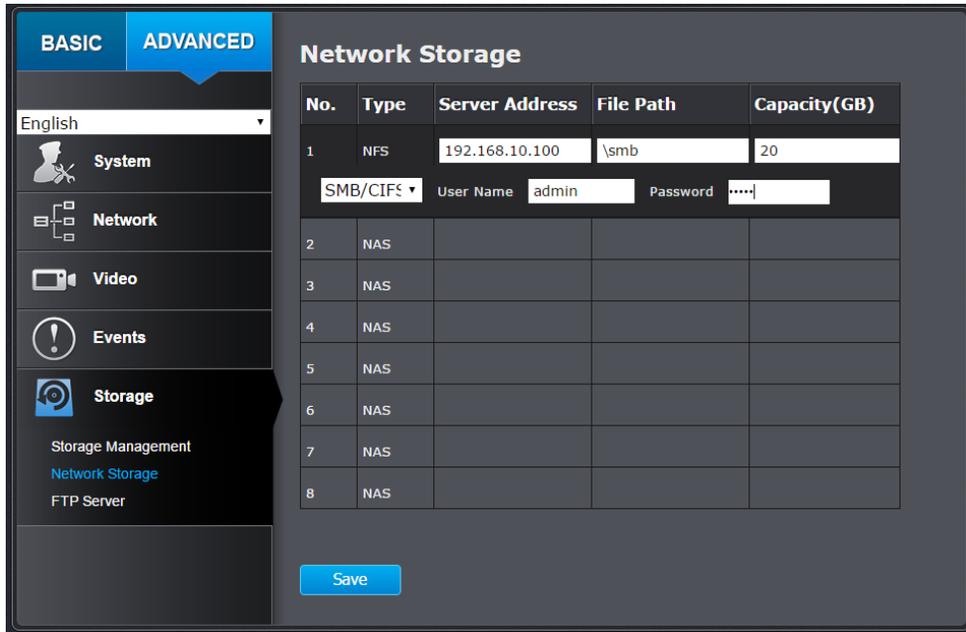hen the next when the first one is full. Click on the entry to change the settings and click **Save** to save the settings.

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.
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**.
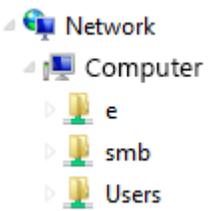
Click **Save** to save the changes

FTP Server
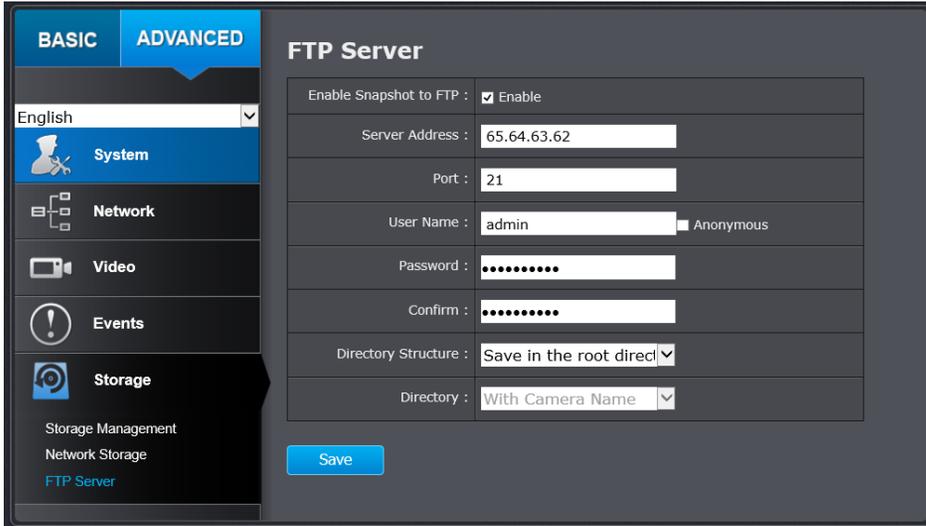
FTP	
Enable Snapshot to FTP:	Check this box if you want to store snapshots on the FTP.
Server Address:	Enter the FTP server IP address.
Port:	Enter the service port number of the FTP server.
User Name/Anonymous:	Check Anonymous if the FTP server does not require authentication. Enter the **User Name** 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.

	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	

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

Troubleshooting

1. **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.

2. **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.

3. **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.

4. **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.

5. **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.

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

    Google's security settings may prevent the TV-IP312PI 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.
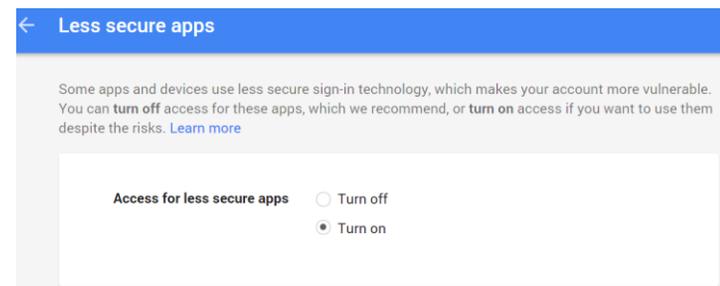
Federal Communication Commission Interference Statement

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 55022: 2010   Class A
EN 611000-3-2: 2006 + A1: 2009 + A2: 2009
EN 611000-3-3: 2013
EN 50130-4: 2011

This product is herewith confirmed to comply with the Directives.

Directives

EMC Directive 2004/108/EC

RoHS Directive 2011/65/EU

REACH Regulation (EC) No. 1907/2006

Česky [Czech]	TRENDnet tímto prohlašuje, že tento TV-IP312PI je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2004/108/ES.
Dansk [Danish]	Undertegnede TRENDnet erklærer herved, at følgende udstyr TV-IP312PI overholder de væsentlige krav og øvrige relevante krav i direktiv 2004/108/EF.
Deutsch [German]	Hiermit erklärt TRENDnet, dass sich das Gerät TV-IP312PI in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2004/108/EG.
Eesti [Estonian]	Käesolevaga kinnitab TRENDnet seadme TV-IP312PI vastavust direktiivi 2004/108/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, TRENDnet, declares that this TV-IP312PI is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/.
Español [Spanish]	Por medio de la presente TRENDnet declara que el TV-IP312PI cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2004/108/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑTRENDnet ΔΗΛΩΝΕΙ ΟΤΙTV-IP312PI ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2004/108/ΕΚ.
Français [French]	Par la présente TRENDnet déclare que l'appareil TV-IP312PI est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2004/108/CE.
Italiano[Italian]	Con la presente TRENDnet dichiara che questo TV-IP312PI è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2004/108/CE.
Latviski [Latvian]	AršoTRENDnetdeklarē, ka TV-IP312PI atbilstDirektīvas 2004/108/EK un 2006/95/EK būtiskajāmprasībām un citiemar to saistītajiemnoteikumiem.

Lietuvių [Lithuanian]	Šiuo TRENDnet deklaruoja, kad šis TV-IP312PI atitinka esminius reikalavimus ir kitas 2004/108/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart TRENDnet dat het toestel TV-IP312PI in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2004/108/EG.
Malti [Maltese]	Hawnhekk, TRENDnet, jiddikjara li dan TV-IP312PI jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2004/108/KE.
Magyar [Hungarian]	Alulírott, TRENDnet nyilatkozom, hogy a TV-IP312PI megfelel a vonatkozó alapvetõ követelményeknek és az 2004/108/EK.
Polski [Polish]	Niniejszym TRENDnet oświadcza, że TV-IP312PI jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2004/108/WE.
Português [Portuguese]	TRENDnet declara que este TV-IP312PI está conforme com os requisitos essenciais e outras disposições da Directiva 2004/108/CE.
Slovensko [Slovenian]	TRENDnet izjavlja, da je ta TV-IP312PI v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2004/108/ES.
Slovensky [Slovak]	TRENDnettýmtovyhlasuje, že TV-IP312PI spíñazákladnépožiadavky a všetkypríslušnéustanoveniaSmernice 2004/108/ES.
Suomi [Finnish]	TRENDnet vakuuttaa täten että TV-IP312PI tyyppinen laite on direktiivin 2004/108/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar TRENDnet att denna TV-IP312PI står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2004/108/EG.

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-IP312PI – 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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Product Warranty Registration

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