

EDN228 Mini Dome Network Camera

2-Megapixel & WDR

User's Manual



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About this document

All the safety and operating instructions should be read and followed before the unit is operated. This manual should be retained for future reference. The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

Regulatory Notices

FCC Notice "Declaration of Conformity Information"

This equipment has been tested and found to comply with the limits for a Class A 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 or more 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.

Warning: Changes or modifications made to this equipment, not expressly approved by EverFocus or parties authorized by EverFocus could void the user's authority to operate the 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.

EverFocus Electronics Corp.

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EDN228 camera complies with CE and FCC.

Precautions

1. Do not install the camera near electric or magnetic fields.

Install the camera away from TV/radio transmitters, magnets, electric motors, transformers and audio speakers since the electromagnetic fields generated from these devices may distort the video image or otherwise interfere with camera operation.

2. Never disassemble the camera beyond the recommendations in this manual nor introduce materials other than those recommended herein.

Improper disassembly or introduction of corrosive materials may result in equipment failure or other damage.

3. Try to avoid facing the camera toward the sun.

In some circumstances, direct sunlight may cause permanent damage to the sensor and/or internal circuits, as well as creating unbalanced illumination beyond the capability of the camera to compensate.

4. Keep the power cord away from water and other liquids and never touch the power cord with wet hands.

Touching a wet power cord with your hands or touching the power cord with wet hands may result in electric shock.

5. Never install the camera in areas exposed to oil, gas or solvents.

Oil, gas or solvents may result in equipment failure, electric shock or, in extreme cases, fire.

6. Cleaning

For cameras with interchangeable lenses, do not touch the surface of the sensor directly with the hands. Use lens tissue or a cotton tipped applicator and ethanol to clean the sensor and the camera lens. Use a damp soft cloth to remove any dirt from the camera body. Please do not use complex solvents, corrosive or abrasive agents for cleaning of any part of the camera.

7. Do not operate the camera beyond the specified temperature, humidity or power source ratings.

Use the camera at temperatures within -10°C ~ 50°C / -14°F~122°F, and humidity between 20% and 80%; this device is not rated as submersible. The input power source is 12 VDC / PoE. Be sure to connect the proper + / - polarity and voltage, as incorrect polarity or too high a voltage will likely cause the camera to fail, and such damage is not covered by the warranty. The use of properly fused or Class 3 power limited type supplies is highly recommended.

8. Mounting

Use care in selecting a solid mounting surface which will support the weight of the camera plus any wind, snow, ice or other loading, and securely attach the camera to the mounting surface using screws and anchors which will properly support the camera. If necessary (e.g. when mounting to drop ceilings) use a safety wire to provide additional support for the camera.

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1. Introduction

The EDN228 is a 2-megapixel mini dome IP camera, providing 30 fps at 1920 x 1080 viewing resolution. The camera supports dual streams from H.264 & MJPEG video compression formats. The camera has a built-in micro SDHC card slot, providing local recording when the event was triggered. Power over Ethernet (IEEE 802.3af) supplies power to the camera via the network for easy installation with only one cable, eliminating the need for power cables and reducing installation costs. EDN228 conforms to ONVIF / PSIA for compatibility with other network video devices – even from other manufacturers. You can also use EverFocus Mobile Applications to remotely view the live views of the cameras through your handheld devices; or use EverFocus CMS to remotely manage multiple IP devices connected on the network.

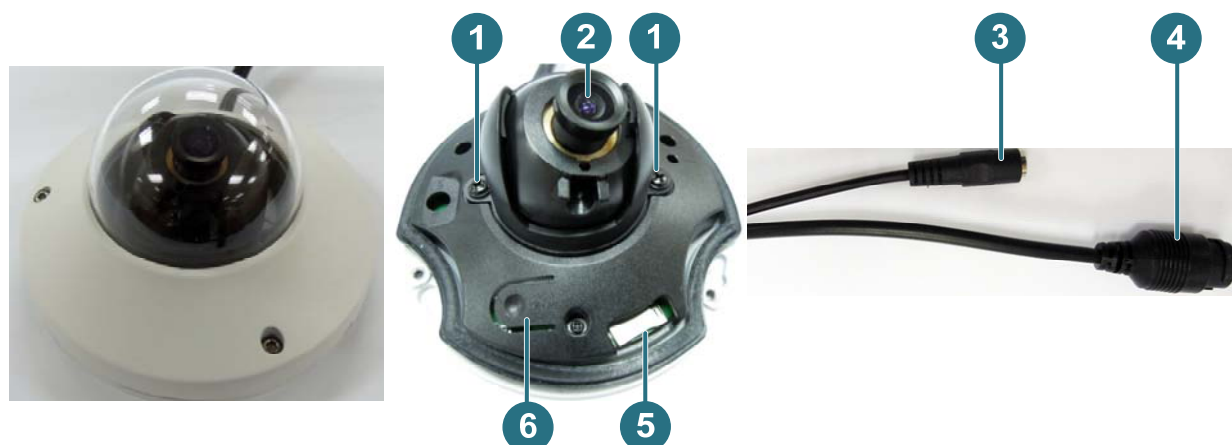
System Requirement

Before installing, please check that your computer meets these system requirements.

- Operating System: Microsoft Windows XP / Vista (32-bit) / 7 (32-bit)
- Microsoft Internet Explorer 7 or above

Note: For using the Internet Explorer, some settings are required. Please refer to *5.2 Settings for Microsoft Internet Explorer*.

2. Physical Description



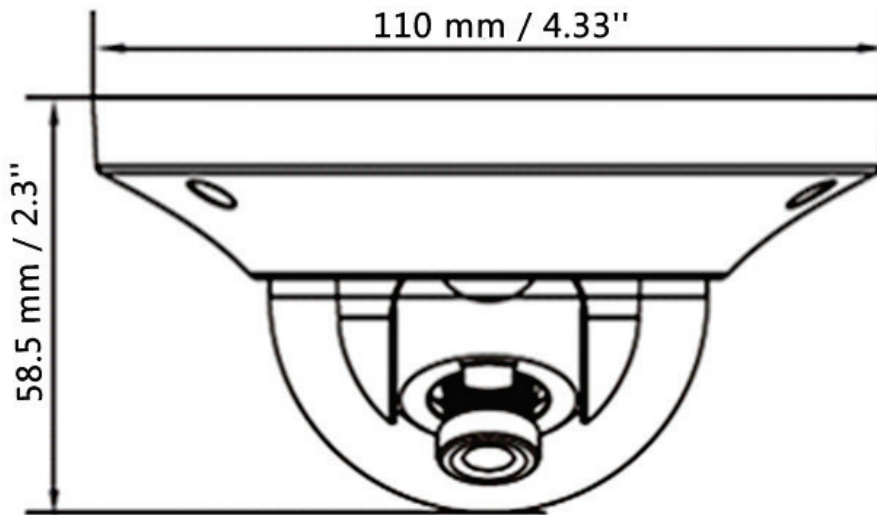
NO.	Item Name	Descriptions
1	Fix Screws	Used to adjust lens.
2	Lens	Fixed lens.
3	12 VDCable	Used to connect to a 12 VDC power supply.
4	RJ-45 Connector Cable	Used to connect to a LAN / PoE cable.
5	Micro SDHC / SDXC Card Slot	Insert a micro SDHC / SDXC card here.
6	Reset Button	Press the button to reset the camera.

Cable Connection



Cable Name	Description
Power Cable	Connects to the 12 VDC power source. You can optionally use the supplied Power Adapter Pigtail or a power adapter.
Power Adapter Pigtail	Connects one end to the Power Cable, and the other end to the 12 VDC power source (black wire to ground end; red to positive end).

2.1 Dimensions



3. Features

- 1/2.8" HD color CMOS image sensor delivers high resolution, and supports both H.264, MPEG-4 and M-JPEG in full frame rate
- Wide dynamic range
- Provides true day / night functionality with automatic IR filter operation
- Multi profiles settings for allows choice of image quality to fit the environment
- High performance noise filter improves image quality
- IDual power capability PoE or 12 VDC for flexible installation
- Supports live monitoring of video from mobile devices via MobileFocus / MobileFocus Plus apps (iOS and Android)
- ONVIF / PSIA compliant

4. Installation

4.1 Packing List

Please check that there is no missing item in the package before installing.

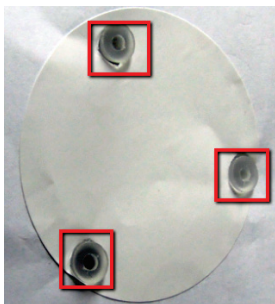
- Camera x 1
- Screw with Washer x 3
- Screw Anchor x 3
- Software CD x 1
- Quick Installation Guide x 1
- Hexagon Wrench x 1
- Power Adapter Pigtail x 1
- Cable Gland and Screw Cap x 1
(with one conduit on the inner stopper)
- Sticker x 1
- Waterproof Ring x 1

Note:

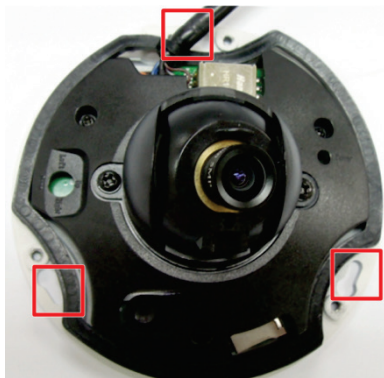
1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
2. Contact the shipper if any items appear to have been damaged in the shipping process.

4.2 Basic Installation

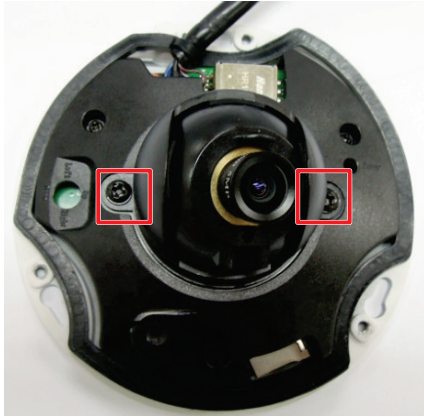
1. Before screwing the camera to the wall, stick the Sticker on the wall / ceiling to mark the position for installation. Drill three holes on the wall / ceiling according to the supplied Sticker and push the supplied three Anchors into the three holes on the wall / ceiling.



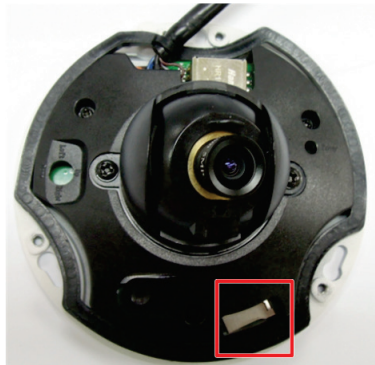
2. Unscrew the camera cover and screw the camera base to the ceiling / wall by using the supplied three Screws with Washers.



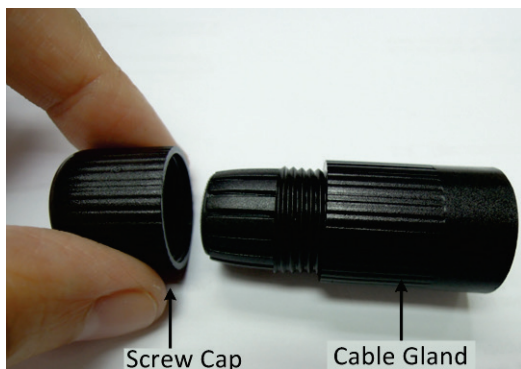
3. Loosen two Set Screws to adjust the lens.



4. Optionally insert the micro SDHC / SDXC card.



5. Connect the LAN / PoE cable to the camera.
 - a. Remove the Screw Cap from the Cable Gland.



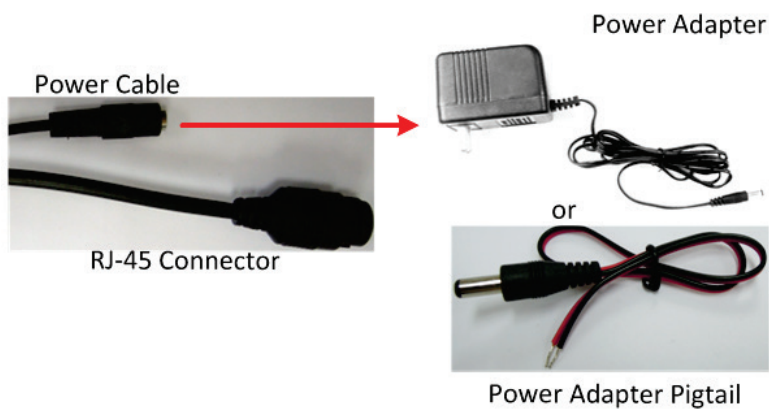
- b. Insert a RJ-45 network cable (without the RJ-45 connector on the one end) through the Cable Gland and Screw Cap.



- c. Place the Waterproof Ring into the LAN / PoE cable. Connect the RJ-45 cable to the RJ-45 Connector Cable. Tightly screw the Cable Gland and Screw Cap to the RJ-45 Connector Cable.



6. Optionally connect the camera to the 12 VDC power source using the supplied Power Adapter Pigtail or a power adapter.




7. Screw back the camera cover to the camera base.

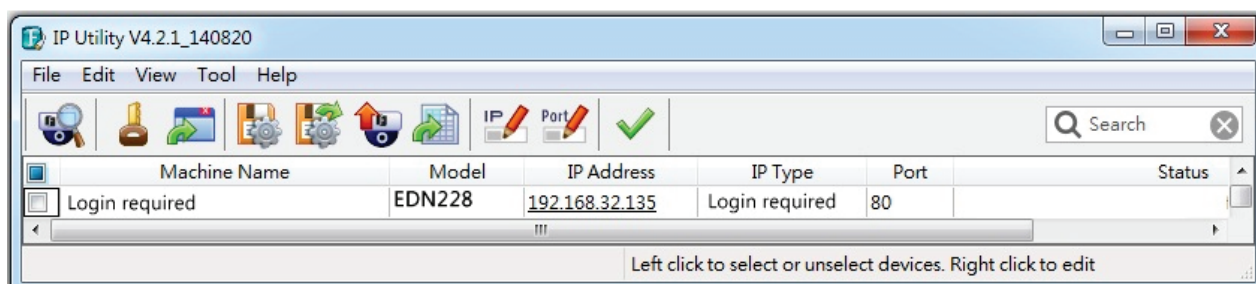
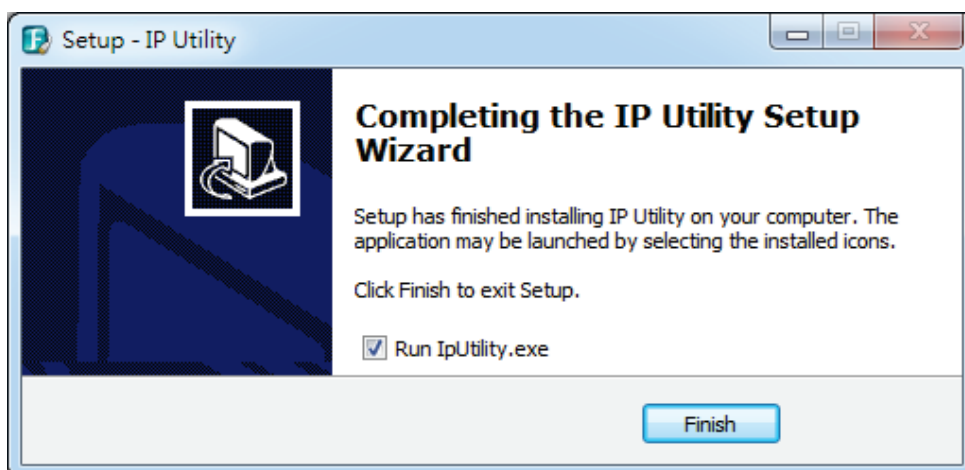
5. Accessing the User Interface

This section explains how to access the Web interface of the camera for configuration.

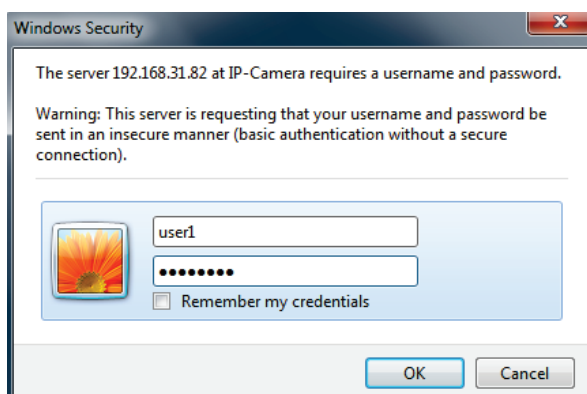
5.1 Checking the Dynamic IP Address

You can look up the IP address and access the Web interface of the camera using the **IP Utility (IPU)** software included in the software CD or from the Website of EverFocus (click [here](#) to download). Please connect the IP camera in the same LAN of your computer.

1. Save **IP Utility Setup AutoRun.exe**  in your computer. Double click the **.exe** file and follow the on-screen instructions. Check **Run IPUtility.exe** and click the **Finish** button, the IP Utility will be launched to search the IP devices connected in the same LAN automatically.




2. To access to the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the user ID is **user1** and the password is **11111111**.

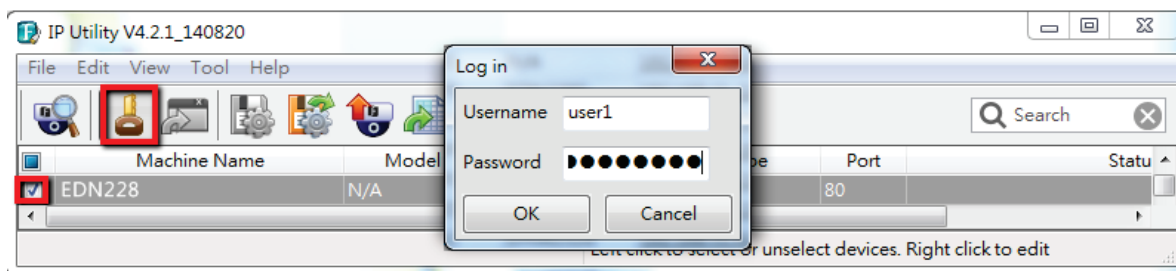


3. Click **OK**, the Live View window appears.

Note:

1. You might be required to download **ActiveX** for viewing the camera feed. If asked, click **Yes**.
2. To enable Remote Live View, Firmware Upgrade and ActiveX Prompt on Internet Explorer, some settings have to be complete. Please refer to *5.2 Settings for Microsoft Internet Explorer* in the *User's Manual*.

4. To optionally configure the Machine Name, IP Address, IP Type or Port Number using the IPU:
 - a. Log in the camera by checking the desired model and then click the **Log in**  icon. The Log in dialog box appears.




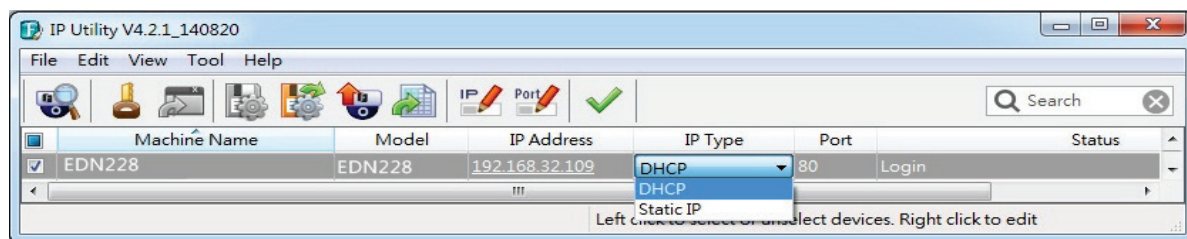
- b. Type the Username and Password. Click the **OK** button, the **Login** status displays.

	Machine Name	Model	IP Address	IP Type	Port	Status
<input checked="" type="checkbox"/>	EDN228	EDN228	192.168.32.135	DHCP	80	Login

Note:

1. The default user ID is **user1** and the default password is **1111111**.
2. If you select more than one camera that has the same user ID / password, you will be able to log in several cameras at once.

- c. Right click the column to configure the settings. Click the **Apply Changes**  button to apply and save the settings.



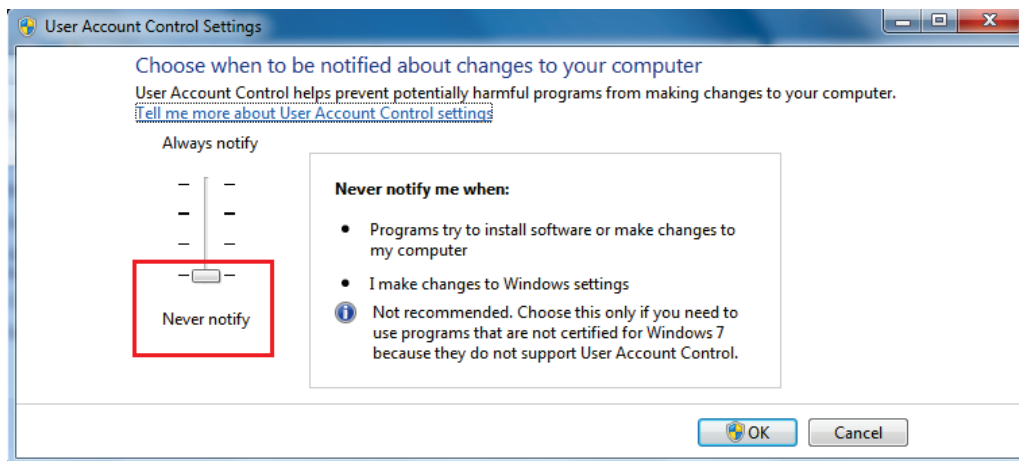
Note:

1. Most networks uses DHCP to assign IP address, if you are unsure of your network settings, please consult your network administrators for configuration details.
2. If you want to set up PPPoE, please refer to *6.1.1 Network*.

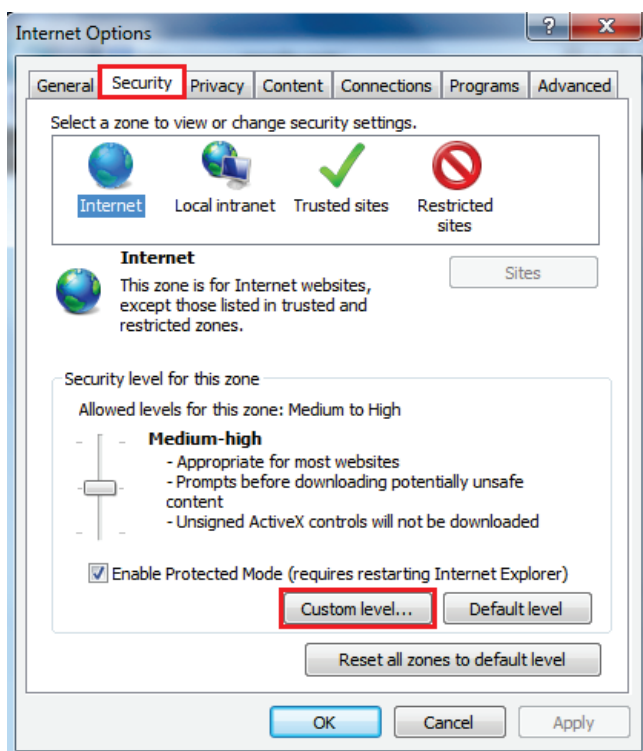
5.2 Settings for Microsoft Internet Explorer

To enable Remote Live View, Firmware Upgrade and ActiveX Prompt on Internet Explorer, some settings have to be complete. Please follow the steps below:

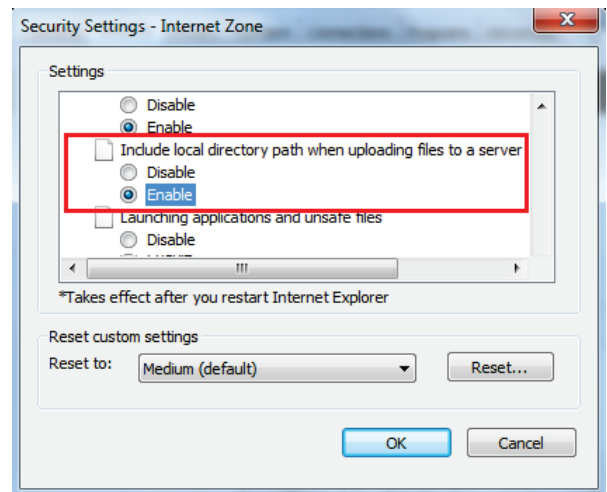
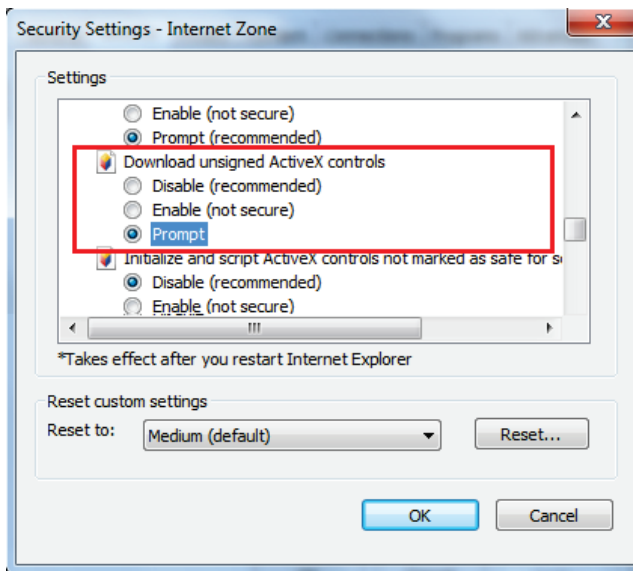
1. On the computer, click Start > Control Panel > System and Security > Action Center (click Change User Account Control Settings), the **User Account Control Settings** window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.



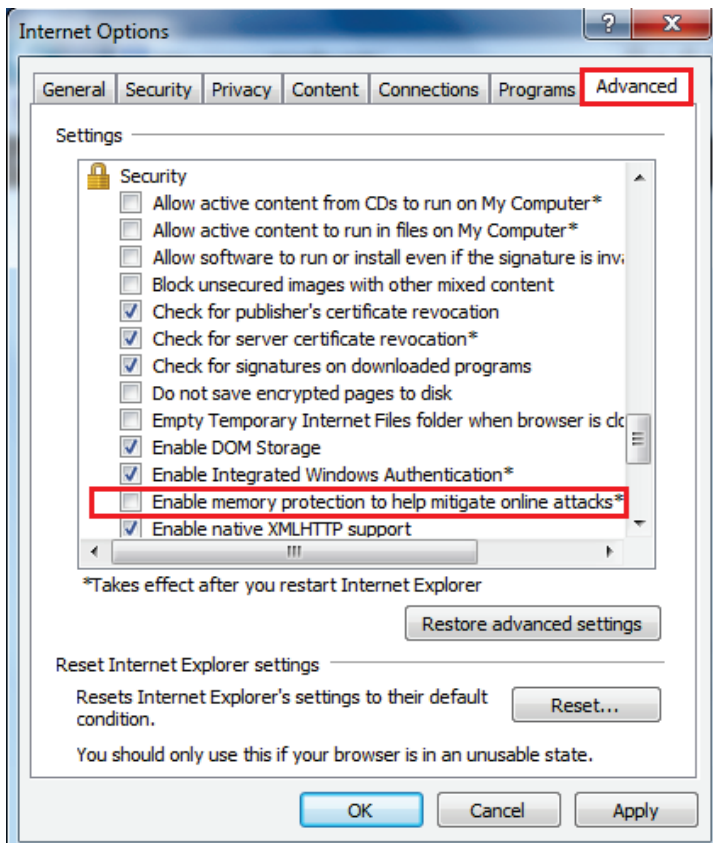
2. Open the Internet Explore, click Tools > Internet Options > Security Tab > Custom Level, the **Security Settings** windows appears.



3. In the **Download unsigned ActiveX controls** field, select **Prompt**. In the **Include local directory path when uploading files to a server** field, select **Enable**. Click **OK**.



4. In the Internet Options window, click the **Advanced** tab and then disable **Enable memory protection to help mitigate online attacks**. Click **OK**.

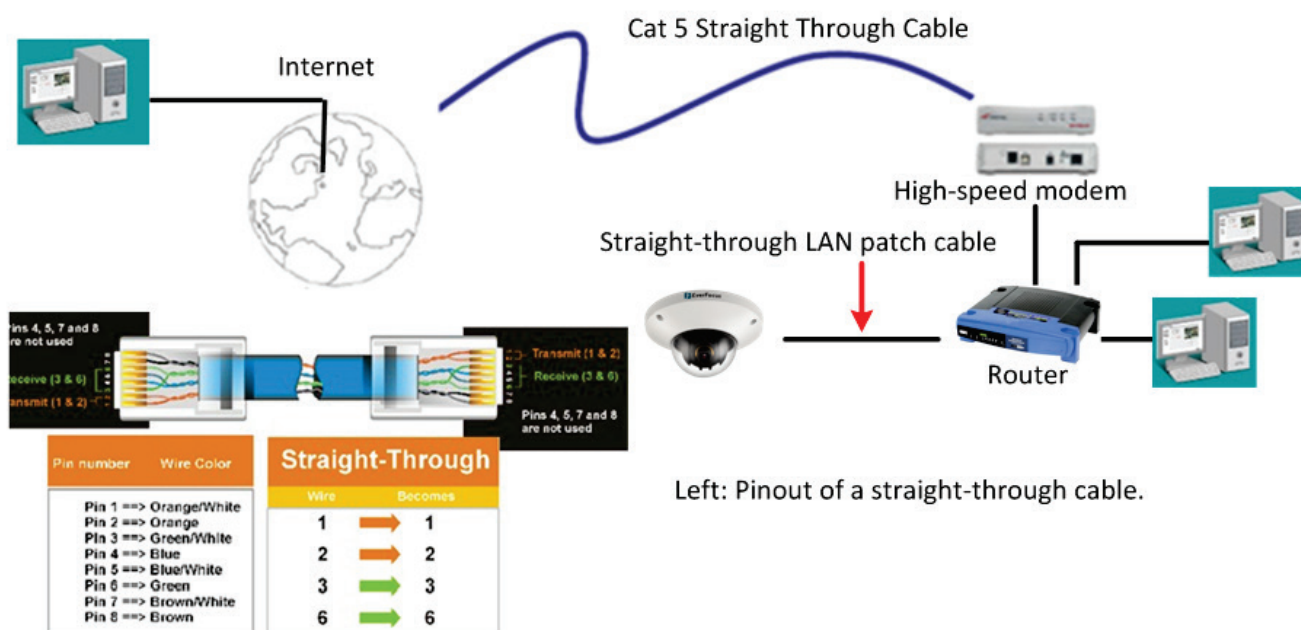


5.3 Connecting the Camera to the Network

There are three methods to connect the IP camera to the network: **Router or LAN Connection**, **Direct High-Speed Connection** and **One-to-One Connection**.

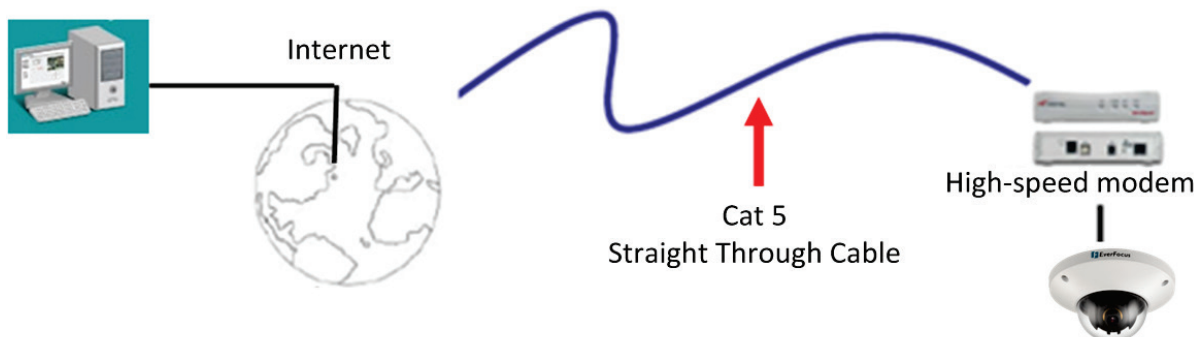
Router or LAN connection

This is the most common connection in which the IP camera is connected to a router and allows multiple users on and off site to see the IP camera on a LAN/WAN (Internet). The camera must be assigned an IP address that is compatible with its LAN. By setting up port forwarding on the router, you can remotely access the cameras from outside of the LAN via the Internet. To remotely access the Web interface of the IP camera, please refer to 6.1.1 DDNS. To set up port forwarding, please consult the manual of the router.



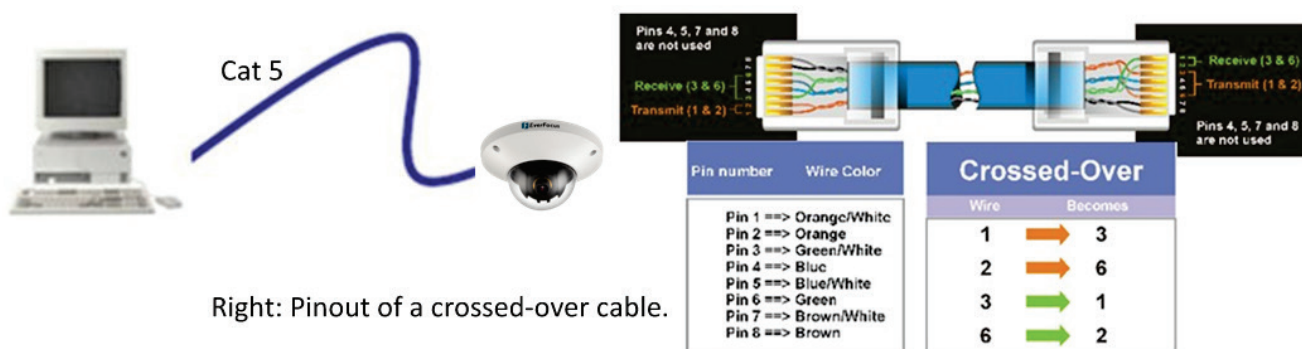
Direct High-Speed Connection

In a Direct High-Speed Connection, the camera connects directly to a modem without the need for a router. You need to set the static or dynamic WAN IP address assigned by your ISP (Internet Service Provider) in the camera's configuration web pages. To access the camera, just type "http://xxx.xxx.xxx.xxx", where xxx.xxx.xxx.xxx is the IP address given by your ISP. If you have a dynamic IP address, this connection may require that you use DDNS for a reliable connection. Please refer to 6.1.1 DDNS.

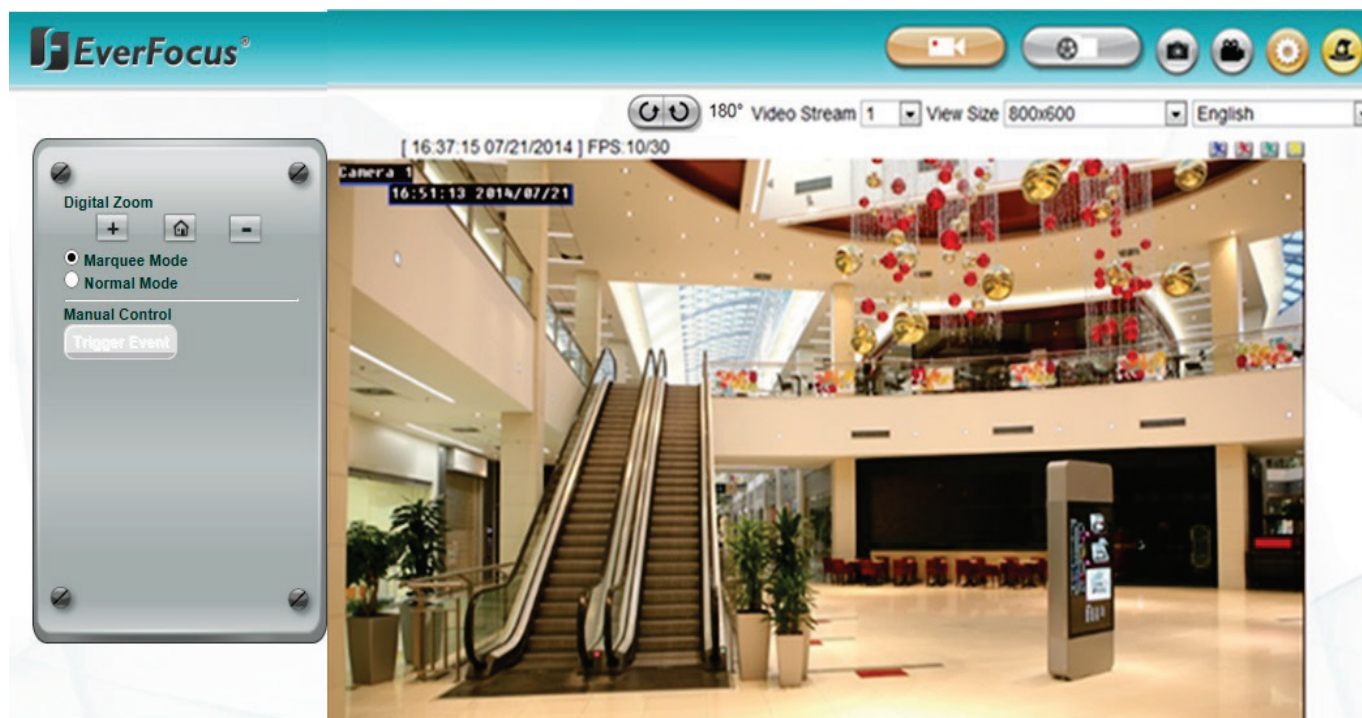


One-to-One Connection (Directly from PC to IP Camera)

You can connect directly without using a switch, router or modem. However, only the PC connected to the camera will be able to view the IP camera. You will also have to manually assign a compatible IP address to both the computer and the IP camera. Unless the PC has another network connection, the IP camera will be the only network device visible to the PC. See the diagram below:



5.4 Live View Window



1. Live View



Click the **Live View** button to display the Live View window. If you experience video feed lag time (if connected via Internet), you can reduce the resolution or limit the number of streams. See 6.2.1 *Streaming*.

2. Playback



Click the **Playback** button to play back the recorded data directly from the on-camera micro SD / SDHC card. For this function to become active, you have to insert a micro SD / SDHC card into the micro SD / SDHC card slot on the camera (see 6.2 *Setting up the Playback Function*). For the tested card brands, please refer to *Appendix A*.

3. Snapshot



Click the **Snapshot** button to take a snapshot. By default, the snapshot will be saved at C:\EverFocus\. To change the location, see *Record to Local* in 7.1.3 *Storage*.

Note: For Microsoft IE10 and above users, some settings have to be complete to enable this function (see *B. Snapshot/Record error message* in 10. *Troubleshooting*).

4. Record



Click the **Record** button to start / stop recording the current video stream. By default, this icon is only for one-minute video recording and the recordings will be saved at C:\EverFocus\. To change

the recording time, see *File Size* in 7.1.3 *Storage*. To change the location, see *Record to Local* in 7.1.3 *Storage*. To record long-period recordings, please set up a recording schedule (7.3.2 *Schedule Settings*). To change the source video stream and recording format, see *Recording and Snapshot Settings* in 7.1.3 *Storage*.

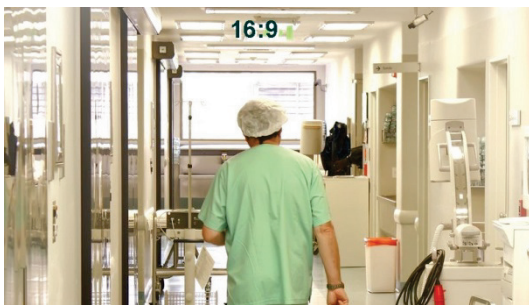
5. **Setting**

Click the **Setting** button to enter the Settings page (see 7. *Settings*).

6. **Wizard**

Click the **Wizard** button to enter the Setup Wizard.

7. **Hallway Display (9:16):** Click the **Rotate** button to rotate the live image. This function allows users to monitor vertically-oriented areas such as hallway, corridors and aisles.



Note: To achieve the best 9:16 display effect, it's recommended to:

1. Install the camera sideways by rotating the camera to the left or right by 90°.



2. Select a 16:9 View Size (e.g. 1920x1080 / 1024x768).
3. Use the Rotate button.

8. Video Stream

Select the Video Stream (Stream 1 and Stream 2) that will be displayed in the live view window on the bottom. (see 7.2.1 *Streaming*). The default setting is Stream 1 only. If extra streams required, EverFocus can customize the settings.

9. View Size

Use this to select the appropriate view size and shape of the live view window on the bottom. A smaller size might increase transmission speed and video quality.

10. Language

Click the Language drop-down list to select the desired language.

11. Digital Zoom

Click the zoom in / zoom out buttons or roll the mouse wheel to zoom in / out the camera live view. Click the Home button to go back to the home position.

Marquee Mode: Select this mode to drag around a portion of the live view window you want to zoom into with your mouse.

Normal Mode: Select this mode to set the zoom level in the magnified window. Clicking on the magnified image will re-center the image around that point.


12. Status Display (info line that can be placed above video box or at bottom of page)

This shows the name of the camera that is currently active or being configured, current date/time and current frame rate. You can activate these info displays in the Overlay Text Settings (see 7.1.4 *Display and Overlay*).

13. Event signal icons (above video screen)

When a motion event is triggered, a signal icon will appear at the top right of the Live View window to alert the user.

Alarm event icon  : When an alarm is triggered, this icon appears.

Motion detection icons  : The colors of these motion event icons correspond to the colors of the motion trigger areas you have configured in the Motion Settings (see 7.3.2 *Event*).

Recording icon  : When the camera is recording to a PC-based folder, this icon appears.


6. Playback

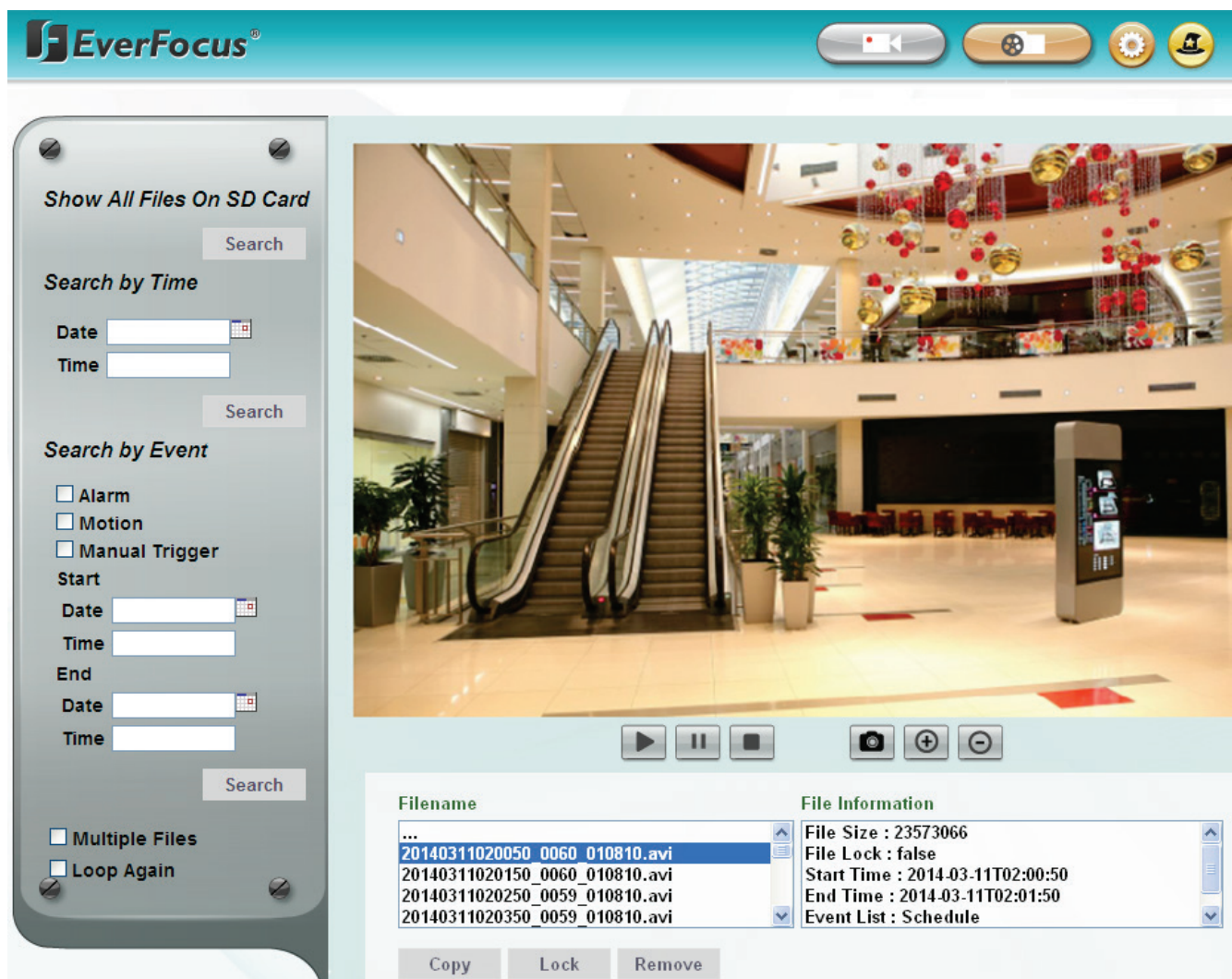
You can remotely play back the recordings stored in the on-camera micro SD card on the Web interface, or play back the recordings stored in the computer using the **ARV Viewer** included in the software CD.

Playback is designed as a quick way to check recent recordings that were triggered by Events that were configured to “Record to micro SD Card” in the Event Management (see 7.3.2 *Event*).

Note: The Playback page is only accessible once the on-camera micro SD card is inserted and active. Please refer to *Appendix A* for the tested card brands.

6.1 Remote Playback Using Playback Page

On the Live View Window, click the Playback button  to open the Playback page.



The screenshot displays the EverFocus web interface. On the left is a sidebar with search options: 'Show All Files On SD Card', 'Search by Time' (with date and time input fields), 'Search by Event' (with checkboxes for Alarm, Motion, and Manual Trigger, and start/end date and time input fields), and checkboxes for 'Multiple Files' and 'Loop Again'. The main area shows a live video feed of a shopping mall interior with escalators and festive decorations. Below the video are playback controls (play, pause, stop, full screen, zoom in, zoom out). At the bottom, there is a table with file information.

Filename	File Information
...	File Size : 23573066
20140311020050_0060_010810.avi	File Lock : false
20140311020150_0060_010810.avi	Start Time : 2014-03-11T02:00:50
20140311020250_0059_010810.avi	End Time : 2014-03-11T02:01:50
20140311020350_0059_010810.avi	Event List : Schedule

Below the table are buttons for 'Copy', 'Lock', and 'Remove'.


Search by File: Click the **Search** button to search for all recording files on the on-camera micro SD card. Search results will be displayed in the Filename area.


Search by Time: Click the **Date / Time** column and select the date and time from which you want to search until the present moment. Click **Search** to get your search results, which will be displayed in the Filename area.


Search by Event: Select the type of Event recordings you want to search for (Alarm, Motion, Manual Trigger) and then click the **Start Date / Time; End Date / Time** column to select the Start Time date/time and the End Time date/time of your search. Click **Search** to get your search results, which will be displayed in the Filename area.

Multiple Files: Check this box if you want the video player to play all the files in the selected folder. The files will be displayed in the Filename area.

Loop Again: Check this box if you want the video player to play the selected file over and over again.

Play: Once you have opened the file's folder and have clicked on the file to highlight it, its details will be displayed in the File Information area. You can now click **Play**  to play that specific file.

Pause: Click  to pause playing back.

Stop: Click  to stop playing back.

Snapshot: Click  to take a snapshot.

Zoom In: Click  to zoom in.

Zoom Out: Click  to zoom out.

Filename: This area will display a list of search results (recording files and folders). Folders (named with the recorded date) will be displayed first. Click on the folder and click on each subfolder until the recording files (.arv) in that folder is listed.

File Information: Click a file on the Filename list, the selected file information will be listed.

Copy: Click to copy the selected file to the computer-based folder of your choice. A browsing box will open so that you can search for the folder of your choice. You can use the ARV Viewer to play back the recordings recorded in your computer. For details on ARV Viewer, see *6.3 Playing Back Using ARV Viewer*.

Lock: Click to lock the selected file. This will protect that file from being overwritten during any overwrite procedure. The file will thus be saved on the micro SD card indefinitely. However, the file will still be deleted if the micro SD card is ever formatted.

Remove: Click to delete the selected file.

6.2 Setting Up the Playback Function

Note that the Playback function will not be activated until the user has inserted a micro SD card in the camera's micro SD card slot. The card may also have to be formatted in the Secure Digital Card field (see 7.1.3 Storage). For the tested card brands, please refer to *Appendix A*.



6.2.1 Inserting / Removing the micro SD Card

1. **To insert the micro SD card:** Remove the camera cover and insert the micro SD card into the micro SD card slot before powering on the camera.
2. **To remove the micro SD card:** Click the **Remove** button (Advanced tab > System Settings > Storage > Secure Digital Card) when the camera is powered on, the micro SD card information "micro SD card is not mounted" will display and the Remove button will change to **Attach**, and then you may remove the micro SD card. If you want to insert the micro SD card again, insert the micro SD card and then click the **Attach** button.

After inserting the micro SD card into the micro SD card slot, the **Playback** button on the Live View page should be activated. If not, click the **Refresh** button for the camera to detect the micro SD card. Then, the **Playback** button should be activated now.

NOTE: For the first-time user, click the **Format** button to format the card. All data on the disk will be deleted if the **Format** button is clicked.

6.2.2 Testing the Playback Function

1. To test the Playback function (this is not required), set up a “Manual Trigger” Recording Event by clicking Event Settings > Event.

Event Management

Name	Type	Notification	Enable
new event	IO	SD	Yes
new event1	manualTrigger	SD	No
new event2	VMD	SD	No
new event3	SR	SD	No
new event4	badvideo	SD	No

View 1 - 5 of 5

Event Name:

Event Trigger Type: Tampering Detection Motion Area1

☒ Enable This event This Trigger Type has already been enabled
☐ Enable Re-trigger minman interval between triggers second
☒ Enable Pre-trigger Buffer
☒ Enable Post-trigger Buffer

Notification Over

☐ Log
☐ Send Mail Notification
☐ Upload to FTP
☐ Record to micro SD Card
☐ Network Alarm

Create Remove Edit Cancel

Tamper Detection Settings

Tamper Duration Time second Apply Cancel

Trigger Options Settings

Pre-trigger Buffer second
 Post-trigger Buffer second


Apply Cancel

2. Give the event a name, like “1”.
3. In the “Event Triggered Type” field, click on Manual Trigger.
4. Below this, check “Enable This Event”, “Enable Post-trigger Buffer”, and “Record to micro SD Card”. For Alarm Input, Manual Trigger, and Tampering Detection trigger types, multiple events can be created on the Event List but only one event can be enabled. For example, if you create three Alarm Input trigger events, only one event under this trigger type can be enabled. The option of Enable This Event for the rest of two Alarm Input events will be grayed out and display “This Trigger Type has already been enabled.” To enable another

event under the same type, uncheck to disable the event first and check the desired event.

5. To save your settings, click the Create button, and the Event will be listed in the Event List.
6. Look at the “Post-trigger Buffer” at the bottom to make sure the buffer time is set to 10 seconds. Click the Apply button.
7. Click the LiveView button to go back to the Live View page.
8. Get ready to click the Trigger Event button on the Live View page. Before you do, see if you can find something in the view screen that will give you a visual time marker. For instance, if you can get your hand in front of the camera’s lens, get ready to count down on your fingers.
9. Click the Trigger Event button and slowly count down on your fingers in front of the lens (if you are able to do so – if not, try to find visual cues on the view screen that will help you to mark the moment you pushed the trigger). The recording period will be as long as the buffer time you selected – the default period is 10 seconds.
10. Click the Playback button to open the Playback page.
11. There are different ways to search for recording files on the camera’s micro SD card (i.e. the Playback memory). For a recent recording like your test event, simply click the “Search” button under the “Show All Files on micro SD Card” header.
12. If the micro SD card is active and formatted correctly, the recording folder’s name (the recording day’s date) will appear in the Filename area. Click on this folder to open it. If there are sub-folders, click on the bottom one (the most recent would be at the bottom) until you can click on a file that cannot open to another sub-level and shows data in the File Information area to the right. This would be the file of the most recent recording event.
13. To play this file, click the Play button below the video box. The test footage you have recorded should start playing. Play time should be 10 seconds if you left the Post-trigger Buffer as 10 seconds.

6.3 Playing Back Using ARV Viewer


You can play back the recordings stored in the computer using the **ARV Viewer**  included in the software CD. To store the recordings in the computer, please refer to Copy in *6.1 Remote Playback Using Playback Page*.

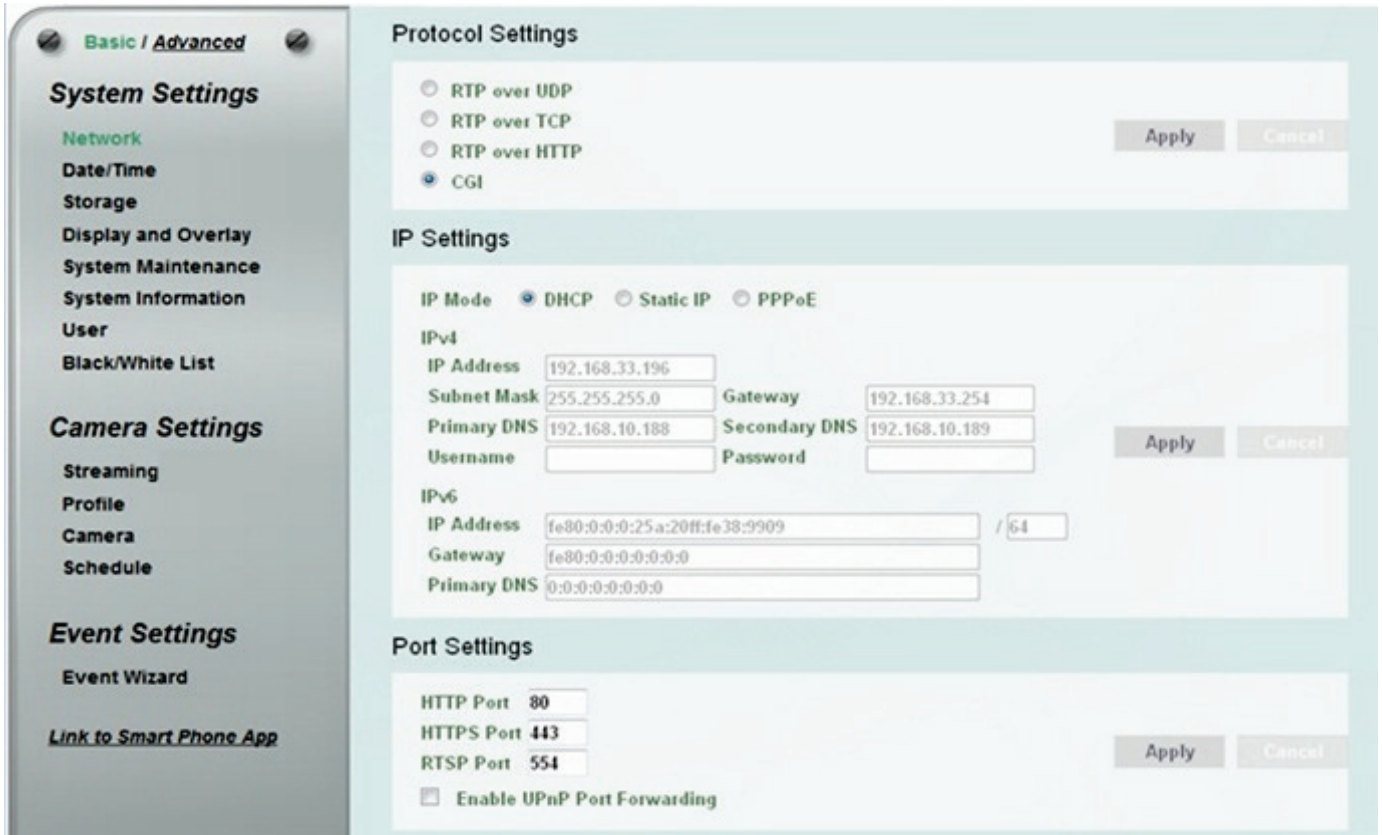


No	Item Name	Descriptions
1	Snapshot	Click to take and save a snapshot.
2	Load File	Click to load the recordings for playing back.
3	Convert ARV to AVI	Convert the recording from ARV format to AVI format.
4	Ceiling Mount	Click to enable the Ceiling Mount view modes on the right-side bar. Please refer to the View Mode Table below for more details.
5	Desk Mount	Click to enable the Desk Mount view modes on the right-side bar. Please refer to the View Mode Table below for more details.
6	Wall Mount	Click to enable the Wall Mount view modes on the right-side bar. Please refer to the View Mode Table below for more details.
7	Fisheye View	Click to display fisheye view.
8	Single View	Click to display single view.
9	Quad View	Click to display quad view.
10	Dual 180 Degree	Click to display dual 180 degree view.

11	360 Degree	Click to display 360 degree view.
12	Wall 180 Degree	Click to display 180 degree view.
13	Playback Time	Display the playback time.
14	Total Time of Recording	Display the total time of the recording.
15	Stop	Click to stop playing the recording.
16	Step Reverse	Click to display the previous frame.
17	Play	Click to play back the recording.
18	Pause	Click to pause the recording.
19	Step Forward	Click to display the next frame.
Note: No. 4 – 6 and No. 7 -12 are only available for Fisheye cameras.		

7. Settings

Click the **Setting**  button on the Live View Window to enter the setting submenu. There are two tabs: Basic and Advanced on the left-side bar. You can set up the basic camera settings in the **Basic** tab. To further set up comprehensive camera settings, click the **Advanced** tab, which includes all the settings to be configured. The chapters below describe the detailed information of the Advanced tab.



The screenshot shows the 'Advanced' tab of the 'System Settings' menu. The left sidebar lists various settings categories: System Settings (Network, Date/Time, Storage, Display and Overlay, System Maintenance, System Information, User, Black/White List), Camera Settings (Streaming, Profile, Camera, Schedule), Event Settings (Event Wizard), and a link to the Smart Phone App. The main content area is divided into three sections: Protocol Settings, IP Settings, and Port Settings.

Protocol Settings

- ☐ RTP over UDP
- ☐ RTP over TCP
- ☐ RTP over HTTP
- ☒ CGI

Buttons: Apply, Cancel

IP Settings

IP Mode: ☒ DHCP ☐ Static IP ☐ PPPoE

IPv4

IP Address: 192.168.33.196
Subnet Mask: 255.255.255.0
Gateway: 192.168.33.254
Primary DNS: 192.168.10.188
Secondary DNS: 192.168.10.189
Username:
Password:
Buttons: Apply, Cancel

IPv6

IP Address: fe80:0:0:25a:20ff:fe38:9909 / 64
Gateway: fe80:0:0:0:0:0:0:0
Primary DNS: 0:0:0:0:0:0:0:0

Port Settings

HTTP Port: 80
HTTPS Port: 443
RTSP Port: 554
☐ Enable UPnP Port Forwarding
Buttons: Apply, Cancel

7.1 System Settings

7.1.1 Network

Basic / Advanced

System Settings

Network

Date/Time

Storage

Display and Overlay

System Maintenance

System Information

User

Black/White List

Camera Settings

Streaming

Profile

Camera

Schedule

Image

Event Settings

Event Wizard

Event

Notification

Link to Smart Phone App

Protocol Settings

☐ RTP over UDP
☐ RTP over TCP
☐ RTP over HTTP
☒ CGI

Apply Cancel

IP Settings

IP Mode ☒ DHCP ☐ Static IP ☐ PPPoE

IPv4
 IP Address
 Subnet Mask Gateway
 Primary DNS Secondary DNS
 Username Password

Apply Cancel

IPv6

IP Address /
 Gateway
 Primary DNS

Port Settings

HTTP Port
 HTTPS Port
 RTSP Port
☐ Enable UPnP Port Forwarding

Apply Cancel

Multicast Settings

☐ Enable Multicast
 Port
 Multicast IP
 Time to Live

Apply Cancel

DDNS Settings

☐ Enable Service ISP
☒ www.everfocusddns.com
 IP Camera Name .everfocusddns.com Register
☐ www.sitelutions.com ☐ www.dyndns.com ☐ www.no-ip.com
 Record ID FQDN
 Username Password

Apply Cancel

HTTPS Settings

Create Certificated Mode ☐ Self-signed Certificated
☒ Certificate Request
 Country Name
 State or Province Name
 Locality Name
 Organization Name
 Organization Unit Name
 Common Name
 Email
 Validity Day
 Created Request Property Remove
 Install Signed Certificated Browse Upload
 Install Certificated Info Property Remove
 Property Information

Apply Cancel

QoS Settings

☐ Enable QoS/DSCP
 Live video :
 Live audio :
 Event/Alarm :
 Management :

Apply Cancel

【Protocol Settings】 You can transmit the data stream from the IP cameras using the RTSP (Real Time Streaming Protocol) on the network. The RTSP is a protocol that allows you to access video streams by using the compatible media players. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

- **RTP over UDP:** The RTSP protocol uses UDP for camera data stream transmission.
- **RTP over TCP:** The RTSP protocol uses TCP for camera data stream transmission.
- **RTP over HTTP:** The RTSP protocol uses HTTP for camera data stream transmission.
- **CGI:** use CGI for camera data stream transmission.

【IP Settings】 Enter the IPv4 / IPv6 details in this area, which applies to your system. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

■ **IPv4:**

IP Mode: Refer to the network administrator for these settings of the server. **Default: DHCP.**

- **DHCP:** This setting lets the system use an automatically assigned (dynamic) IP address. This address can change under certain circumstances. For instance, when the camera's network switch/hub has to be rebooted. Do not assign to the DHCP server the same IP addresses used for the other network cameras and PCs with unique IP addresses.
- **Static IP:** The user can manually set the Static IP address. This type of address is stable and cannot change, but the user has to make sure there are no address conflicts with other network-connected devices.
- **PPPoE:** This is a DSL-connection application. The ISP will ask the user to input a username and password. Contact your ISP for these details.

IP address: When DHCP is not used, the user needs to manually enter the IP address of the camera. Do not enter an IP address that is already used for your computer or other network cameras.

Subnet Mask: This field is used to set the subnet mask for your network, so that the IP camera will be recognized within the network. Example: 255.255.255.0. When DHCP is selected, the DHCP server will assign this value automatically.

Gateway: This field is used to set the gateway for your network so that the IP camera will be recognized within the network. When DHCP is selected, the DHCP server will assign this value automatically.

Primary DNS: Enter the IP address of the DNS server if this is provided by an ISP.

Secondary DNS: If your ISP provided you with a secondary DNS address, please enter it here.

Username: Enter the account's username (used only for PPPoE).

Password: Used only for PPPoE.

- **IPv6:** Enter the IPv6 details in this area, if this applies to your system.

【Port Settings】 Enter the HTTP, HTTPS and RTSP port numbers. Check the **Enable UPnP Port Forwarding** box to enable the UPnP function. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

Promoted by the UPnP Forum (Universal Plug and Play), the UPnP is a networking architecture providing compatibility among networked devices listed in the networked device table. Enable the UPnP function means you can directly connect the cameras listed in the networked device table by clicking on them.

Note:

1. For the UPnP function to work, an UPnP-enabled router is required.
2. The UPnP function may fail owing to the compatibility between the camera and the router.

【Multicast Settings】 Enable if required, fill in the setting options and click **Apply** to save. For more details, please refer to *Appendix Enabling the Multicast Function*.

Enable Multicast: Check the box to enable the Multicast function.

Multicast IP: Fill in the multicast IP address. IP addresses in the range of 224.0.0.0 through 239.255.255.255 are reserved for multicasting. For devices, you can use 225.x.x.x - 232.x.x.x and 234.x.x.x - 238.x.x.x. Click [here](#) for more details.

Port: Change the port number if necessary. The port number has set to 50000 by default.

Time to Live: Input a Time-To-Live (TTL) value. The TTL value specifies the number of routers (hops) that multicast traffic is permitted to pass through before expiring on the network.

【DDNS Settings】 This function can only be set up in the **Advanced** tab. DDNS (Dynamic Domain Name System) is a service used to map a domain name to the dynamic IP address of a network device. You can set up the DDNS service for remote access to the IP camera. DDNS assigns a domain name (URL) to the IP camera, so that the user does not need to go through the trouble of checking if the IP address assigned by DHCP Server has changed. Once the IP is changed, the IP camera will automatically update the information to the DDNS to ensure it is always available for remote access. Before enabling the following DDNS function, user should have applied for a host name from the DDS service provider's website. We support these four DDNS server providers: www.everfocusddns.com, www.sitelutions.com, www.dyndns.com, and www.no-ip.com

Note: We highly recommend that you use xxxx.everfocusddns.com for the simplicity of setting up your IP cameras.

- **Enable Service ISP:** Check this box to enable the DDNS function. You can either apply for a host name from **EverFocus** or **other DDNS server providers**.
 - **From EverFocus:** If you choose the EverFocus DDNS server, you can obtain a free host name from EverFocus. To obtain a free host name from EverFocus, type a desired host name in the textbox, click the **Register / Update** button, and then click the **Apply** button.

- **From other DDNS server providers:** To obtain a domain name from one of the three DDNS server providers, you have to register your name with the provider first, and then select the provider and fill in the required information. Please refer to the specific DDNS company's website for further information.

Record ID: Type the record ID if provided by the DDNS server provider.

FQDN: Type the fully qualified domain name applied from the DDNS server provider. For example, xxxx.dyndns.com

Username / Password: Type the login account of your DDNS server provider.

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

Note:

1. In order to support the full functionality of the camera, you must open the port numbers (80, 554, 443) on the router for remote access to the IP camera. This function is available on most routers in the market and is often known as "Port Forwarding". To set up Port Forwarding, please consult the manual of the router.
2. In certain router models, it is possible that you will not be able to access the camera using DDNS while inside the router's network. Please try using a PC located outside of your router's network.

Default Ports on All EverFocus IP Cameras:

HTTP: 80

RTSP: 554

HTTPS: 443

【HTTPS Settings】 This function can only be set up in the **Advanced** tab. Hypertext Transfer Protocol Secure (HTTPS) is a combination of the Hypertext Transfer Protocol and the SSL/TLS protocol that provides encrypted communication and secure identification of a network web server. Before using the HTTPS function for communication with the IP camera, a Certificate must be created first. There are two ways to create and install a certificate: **Self-Signed Certificated** and **Certificate Request**.

Self-Signed Certificated

Please note that even though self-signed certificates are free and offer some protection, true security is only implemented after the installation of a signed certificate issued by a certificate authority.

1. Select **Self-Signed Certificated** and fill in the following information.

Create Certificated Mode	
<input checked="" type="radio"/>	Self-signed Certificated
<input type="radio"/>	Certificate Request
Country Name	TW
State or Province Name	TPE
Locality Name	TPE
Organization Name	EF
Organization Unit Name	PM
Common Name	1
Email	everfocus@everfocus.c
Validity	7 Day

2. Click the **Apply** button. The subject line will be displayed in the Install Certificated Info field.

Install Certificated Info	Property	Remove

3. Click the **Property** button, a pop-up window appears to display the details of the certificate.

Property Information
Install Certificated Info Property Not Valid Before : Tue Sep 6 22:10:33 2011 Not Valid After : Tue Sep 13 22:10:33 2011 Subject : C=TW,ST=TPE,L=TPE,O=EF,OU=PM,CN=1 Certificated (PEM format) : -----BEGIN RSA PRIVATE KEY----- MIICXglBAAKBgQCyludiB5SKR0JaRUvxeZmZDorhDosOpDidwRYTo4Ylr5N/kAAI memxkCjQSiVh317WkMC2oOnS0P4gtNqvUDSz3iLtKSJUnjtoazZ8Yd57Q8b0Sbzg HXSB66JuoiT+7oB6x040EI2Ue32Im20wAsXxVV0Coq4FkhiRs2LzTkuf8QIDAQAB AoGARK/Rclyj/sMFfB6m5Mr2Dm4PcBvd09XJiLMYwJjmFjUhL7C8vbmCri5Z5DKA SjJVEYU++X7OL6z98KpeaYsZmWdfAa1cz7j06phgzlrFeoq6qtgXTkWZ4V8lgx8P 0rg5nZ4HyCTk/BYa4kHBBGsNWccDa+99Z3Ze0tbep/Js0xkCQQDnH6M8bhNlcaWy IzbNK/PLxgXFmevUuR2t3Rs8NRh0I23VI4BWivbVx6AbcoEqs8K6LywHzHFcJBBQ ZZt45qwPAKEAxc++t+1NSjW6Dgr2PnjT9sg8vL8NIZ0dqjDMEdVQM/NE+MZGUrMk PtZsz1Pk75M4QD9g9yCj1V8nnTC+/Yzz/wJBALveo7nDYFDdiGsbL5inWY0Sci6I Z2WK8+0YBcNzBWYAkW7nZLLzAHrVwfeNpCEp7eeZ4JiWPq8/QWOYtEAagVECCQDA 7k5ltd2cc6pz590kMVULbWFP9keZIRRJ2i4vdo4zHSI4Qap1HqRLZXfa/0hblovK -----END RSA PRIVATE KEY-----

4. To optionally create and install other certificates, remove the existing one by clicking the **Remove** button to erase the certificate.
5. On the Web page, change the address from "http://" to https:// in the address bar and press Enter on the keyboard. Some Security Alert dialogs will pop up. Click **OK** or **Yes** to enable HTTPS.

Create Certificate Request

You can apply for an official certificate from an issuing Certificate Authority.

1. Select **Certificate Request** and fill in the following information.

Create Certificated Mode	<input type="radio"/> Self-signed Certificated <input checked="" type="radio"/> Certificate Request
Country Name	TW
State or Province Name	TPE
Locality Name	TPE
Organization Name	EF
Organization Unit Name	PM
Common Name	1
Email	everfocus@everfocus.c
Validity	7 Day

2. Type the required Certificate information and then click the **Apply** button. The subject line will be displayed in the Created Request field

Created Request		Property	Remove
------------------------	--	-----------------	---------------

3. Click the **Property** button, a pop-up window appears to display the details of the certificate.

Property Information

Created Request Property

Subject : C=TW,ST=TPE,L=TPE,O=EF,OU=PM,CN=1

Certificated (PEM format) :

```
-----BEGIN CERTIFICATE-----
MIIDQzCCAqygAwIBAgIJA0wbJX1WmibSMA0GCSqGSIb3DQEBBQUAMHUxCzAJBgNV
BAYTAIRXMQwwCgYDVQQIEwNUUEUxDDAKBgNVBAcTA1RQRTLMakGA1UEChMCRUYx
CzAJBgNVBAsTAIBNMQowCAYDVQQDEwExMSQwlgYJKoZIhvcNAQkBFhVldmVyZm9j
dXNAZXZlcmZvY3VzLmMwHhcNMTEwOTA2MjlyNTEwWHcNMTEwOTEzMjlyNTEwWjB1
MQswCQYDVQQGEwJUVzEMMAoGA1UECBMDVFBFMQwwCgYDVQQHEwNUUEUxCzAJBgNV
BAoTAKVGMQswCQYDVQQLEwJQTTEKMAgGA1UEAxMBMTEkMCIGCSqGSIb3DQEJARYV
ZXZlcmZvY3VzQGV2ZXJmb2N1cy5jMIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKB
gQDGEUBQQIPWgIEqDZmtOWb/2Q+yAgF8roJgoiEwURY5vPH72acjVsEo4/+XeNIT
yxR8r1UeUviAduMXpnwNe04VhTKceC5eWkPEgyEebQtZITdPw+3GZije00SK5Ztp
hnhA0MwLJCMSKVMRFTaU3H/UmJkJKI+F5z3q+EqC0mRNwIDAQABo4HaMIHXMB0G
A1UdDgQWBBTh07oQ3ydr7X+fzBljxWAQ7ZTLBzCBpwYDVR0jBIGfMIGcgBTh07oQ
3ydr7X+fzBljxWAQ7ZTLB6F5pHcWdTELMakGA1UEBhMCVFcxDDAKBgNVBAgTA1RQ
RTEMMAoGA1UEBxMDVFBFMQswCQYDVQQKEwJFRjJELMakGA1UECjMCUE0xCjAIBgNV
```

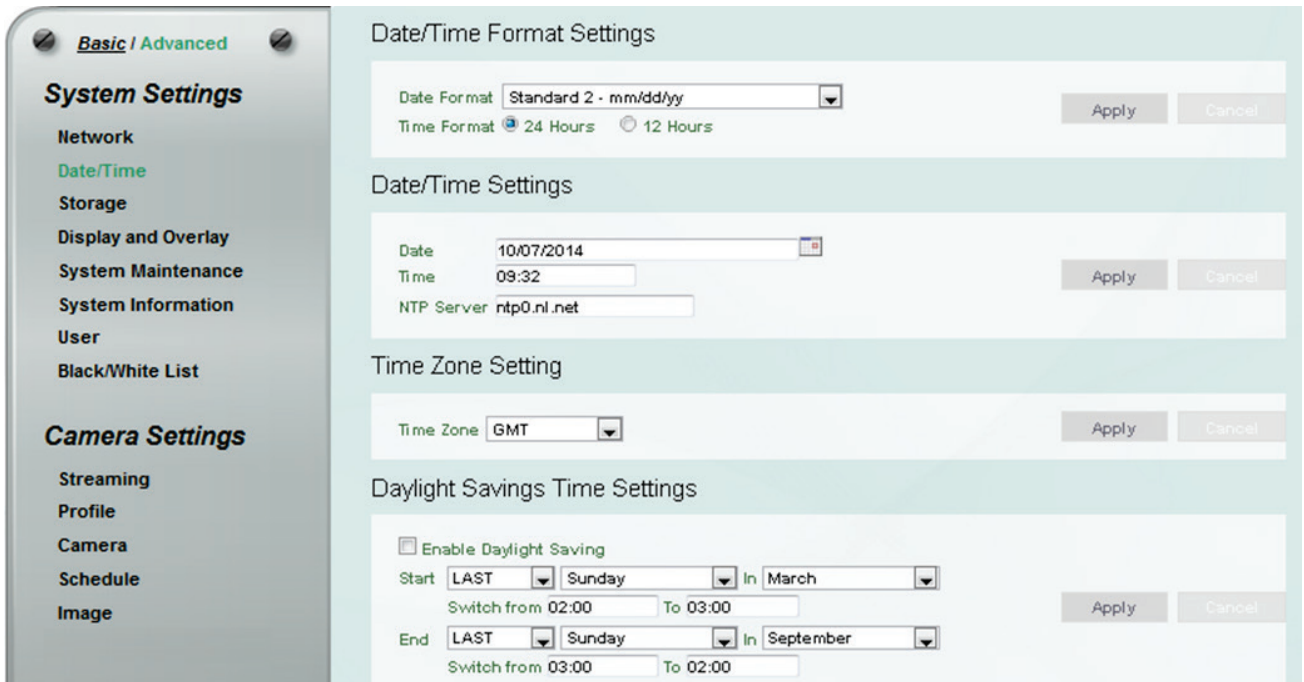
4. To optionally create and install other certificates or request, remove the existing one by clicking the **Remove** button to erase the certificate or request.
5. Copy the contents of the Certificate request (in PEM format) and paste it to the certificate request field on the Web page of the 3rd-party certification authority such as Symantec VeriSign. Wait for the certificate authority to issue an SSL/TLS certificate and then download the issued certificate on your computer.

6. In the Install Signed Certificated field, click the **Browse** button to search for the issued certificate, and then click the **Upload** button to import the certificate. Once the certificate has been uploaded, this field will show the subject line of the certificate.

【QoS Settings】 This function can only be set up in the **Advanced** tab used to set up the priority of package transimission. Adjust the value from 0 – 64 for Live video, Live audio, Event/Alarm and Management. The higher the value, the higher the priority. Click **Apply** to save the changes.

7.1.2 Date / Time

You can set up the system's time on this page.



The screenshot shows the 'Date/Time' settings page in the EverFocus web interface. On the left is a sidebar with a menu containing 'Basic / Advanced' (selected), 'System Settings', 'Network', 'Date/Time' (highlighted), 'Storage', 'Display and Overlay', 'System Maintenance', 'System Information', 'User', 'Black/White List', 'Camera Settings', 'Streaming', 'Profile', 'Camera', 'Schedule', and 'Image'. The main content area is titled 'Date/Time Format Settings' and contains four sections: 1. 'Date/Time Format Settings' with a 'Date Format' dropdown set to 'Standard 2 - mm/dd/yy' and a 'Time Format' section with radio buttons for '24 Hours' (selected) and '12 Hours'. 2. 'Date/Time Settings' with a 'Date' field showing '10/07/2014' with a calendar icon, a 'Time' field showing '09:32', and an 'NTP Server' field showing 'ntp0.nl.net'. 3. 'Time Zone Setting' with a 'Time Zone' dropdown set to 'GMT'. 4. 'Daylight Savings Time Settings' with a checkbox for 'Enable Daylight Saving' (unchecked), a 'Start' section (LAST Sunday in March) with a 'Switch from' time of 02:00 to 03:00, and an 'End' section (LAST Sunday in September) with a 'Switch from' time of 03:00 to 02:00. Each section has 'Apply' and 'Cancel' buttons.

【Date/Time Format Settings】 Select the desired Date / Time format and then click the **Apply** button. To enable displaying the date and time information on the Live View Window, you have to check the **Date/Time** box in the Overlay Text Settings (see 7.1.4 *Display and Overlay*).

【Date/Time Settings】

- **Date:** Set the date by clicking the calendar. Click **Apply** to save the setting.
- **Time:** Click time to set desired hour and minute. Click **Apply** to save the setting.
- **NTP:** Enter the Network Time Protocol server, if applicable. The camera's time will be automatically adjusted by synchronizing with the NTP server. Click **Apply** to save the setting.

【Time Zone Setting】 Set the time zone of the camera's location. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Daylight Savings Time Settings】 Click **Enable Daylight Saving** to enable this schedule, and select the dates when the region's daylight saving period begins and ends. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

7.1.3 Storage

You can configure the recording path / format, source video stream and micro SD card settings on this page.

The screenshot shows the 'Advanced' tab of the 'System Settings' page. The 'Storage' section is active. It contains three main configuration areas:

- Record to Local:**
 - Export Folder: C:\EverFocus\
 - File Size: 1 Minutes
 - Enable Overwrite: ☐
 - Note: If the remaining hard disk capacity is less than 50 MB (50~2000), system will stop recording or start overwriting.
- Secure Digital Card:**
 - Notification: 0%
 - Event Recording: Event Recording
 - Enable Overwrite: ☐
 - micro SD Card Information: No micro SD Card found
 - Buttons: Remove, Format, Refresh
 - Notes: To avoid micro SD Card damage, please press this button to remove or insert the micro SD Card while the camera powered on to avoid micro SD Card damage. Format micro SD Card. Note: All data saved on the micro SD Card will be erased when micro SD Card is formatted. Please do not turn off the power of the EDN268 network camera during the formatting process. Click only when the micro SD card is not detected. The camera will detect the micro SD card again after clicking the Refresh button.
- Recording and Snapshot Settings:**
 - Source Video Stream: Stream 1
 - Recording Format: ARV

【Record to Local】 This function can only be set up in the **Advanced** tab. You can configure the storage path for storing the recordings / snapshot on your PC.

- **Export Folder:** Type the storage path for storing the recordings / snapshot.
- **File size:** The user can limit the size of each recorded file here (in minutes). Once you click the **Record** button on the Live View window, the camera will start recording the live stream to your computer. When a single recording file exceeds the time you set, the system will create a new file to save that data to.
- **Enable Overwrite:** Check the box for overwriting recording/snapshot file when the disk storage capacity is full. The user can set the storage capacity limitation in the in-sentence box below the Enable Overwrite setting: "If the remaining hard disk capacity is less than ____ MB (50~2000),... "

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Secure Digital Card】

- **Notification:** Select the percentage of storage space that should be left on the card before the camera notifies you of the impending storage shortage or overwrite.
- **Event Recording:** Select the location where you want the camera to send the impending storage shortage text notification to.
- **FTP Back Up Only:** Select to send the impending storage shortage text notification to the FTP server entered in the FTP Repository Settings (see 7.3.3 *Notification*).
- **Event Recording:** Select to send the impending storage shortage text notification to the checked locations in the Event Management (see 7.3.2 *Event*).



- **Both:** Select to send the impending storage shortage text notification to the FTP or the selected locations in the Event Management (see 7.3.2 *Event*).
- **Enable Overwrite:** Check the box for overwriting files when the micro SD card is full.
- **Micro SD Card Information:** If a micro SD card has been inserted to the micro SD card slot of the camera, the micro SD card information will be displayed in this field.
- **Remove:** Click before removing the card from the system (6.2.1 *Inserting / Removing the micro SD Card*).
- **Format:** For the first-time user, click to format the card. All data saved on the micro SD card will be removed if the card is formatted (6.2.1 *Inserting / Removing the micro SD Card*).
- **Refresh:** Click the button when the micro SD card is not detected.

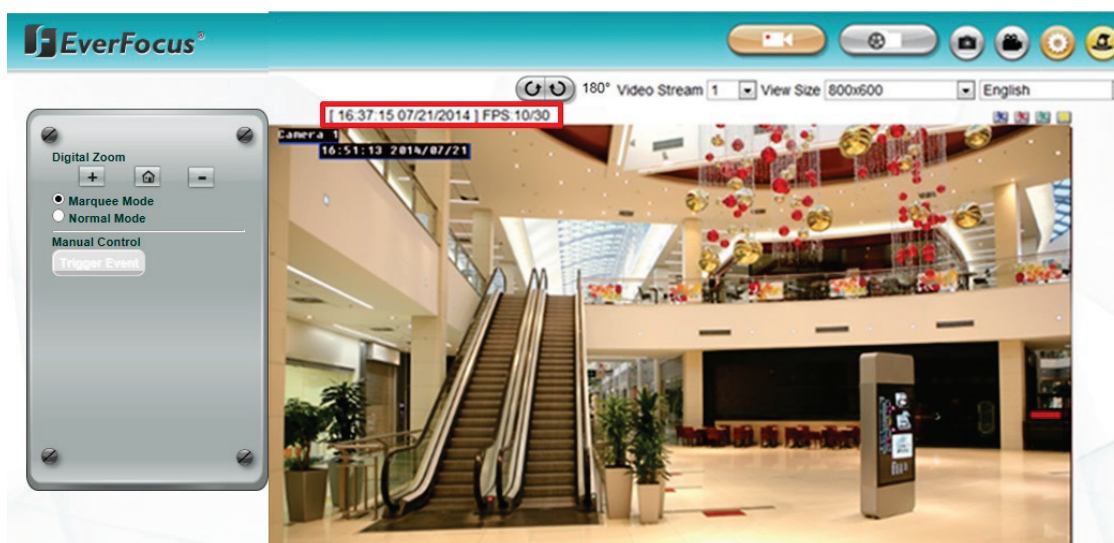
Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Recording and Snapshot Settings】 Select the desired video stream and recording format. The video stream can be configured in 7.2.1 *Streaming*. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

7.1.4 Display and Overlay

You can configure the recording path / format, source video stream and micro SD card settings on this page.

【Overlay Text Settings】 Check the boxes to display the information on the Live View Window. The information will only be displayed on the Live View Window and will not be displayed on the live view video images nor snapshots. To change the foreground color of the text, directly click on the box and then select a color. Select a position where you want the information to be displayed on the Live Window. To change the Machine Name, see *Machine Name* in 7.1.5 System Maintenance. To change the day and time setting, see 7.1.2 Date / Time. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.



【Video Overlay Settings】 Check the boxes to enable displaying video title or date/time on the live view video images. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.



- **Show video title in video and snapshots:** Check the box to enable displaying video title on the live view video images and snapshots. To change the title, type a name in the **Video Title** column.
- **Enable Video OSD:** Check the box to enable displaying date/time information on the live view video images. Select the desired Date/Time format.
- **Position:** Select a position where you want the video title or date/time information to be displayed on the live view video images.

【Live View Layout Settings】 Check the box if you want to show One Push button on the Live View Window. Uncheck this box to hide the buttons. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

7.1.5 System Maintenance

Basic / Advanced

System Settings

- Network
- Date/Time
- Storage
- Display and Overlay
- System Maintenance**
- System Information
- User
- Black/White List

Camera Settings

- Streaming
- Profile
- Camera
- Schedule
- Image

Event Settings

- Event Wizard
- Event
- Notification

[Link to Smart Phone App](#)

Machine Name

Name Apply Cancel

Language Settings

Language Remove

New Language Browse Upload Apply Cancel

Maintenance

Reboot Reboot the IP camera.

Restore Resets all parameters, except for the IP, time zone and daylight saving parameters, to the original factory settings.

Initialize Resets all parameters to the original factory settings

Save Configuration Server

Save Save all the current settings to a configuration file.

Load Configuration Server

☐ Video ☐ Network ☒ All Select an item to apply its parameters in the configuration file.

Browse Upload Use a saved config. file to return the unit to a previous configuration.

Video Format

Format Apply Cancel

Upgrade Firmware

Browse Upload Upgrade the EDN228 with the latest firmware.

Note: Do not disconnect power to the unit during upgrade. The unit will reboot automatically after the upgrade has completed. (1-5 minutes.)

【Machine Name】 If required, enter a new name for the machine. This name will be visible in the Machine Name field of the IP Utility software, which is included in the software CD or from the Website of EverFocus (click [here](#) to download. Please refer to 5. Accessing the User Interface). Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

Machine Name	Model	IP Address	IP Type	Port	Status
EDN228	EDN228	192.168.32.135	Login required	80	

Left click to select or unselect devices. Right click to edit

【Language Settings】 Select the language to be displayed on the Web interface of the IP camera. The default language is English.

To add a new language not listed in the current Language list, click the **Browse** button to locate the new language file (.evb) on your computer and then click the **Upload** button. Updated language files might be available on the manufacturer's website. Contact your vendor if required.

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

Note: Uploading a new language file will cause the system to reboot automatically. Please create a new network connection to the IP camera when the reboot is complete.

【Maintenance】

- **Reboot:** Click to reboot the unit without changing any of the settings. Use this function if the unit is not behaving as expected.
- **Restore:** Click to restart and reset most of the current settings to their factory default values. The only settings that will not be changed to default are: IP Settings and DDNS Settings.
- **Initialize:** This function can only be set up in the **Advanced** tab. This button should be used with caution. Clicking this button will return all of the camera's settings, including the IP address, to the factory default values. The camera will then have to be reconfigured.

【Save Configuration Server】

Save: To make a backup file of the machine's current configurations, click this button to save all the configurations to a configuration file. This will enable the user to reload these configuration settings if the settings are changed and there is unexpected behavior.

【Load Configuration Server】

Select **Video** to apply only the video parameters from the configuration file to the system. Select **Network** to apply only the network parameters from the configuration file to the system. Select **All** to apply all the parameters from the configuration file to the system.

Browse: Click the **Browse** button to locate the saved config. File.

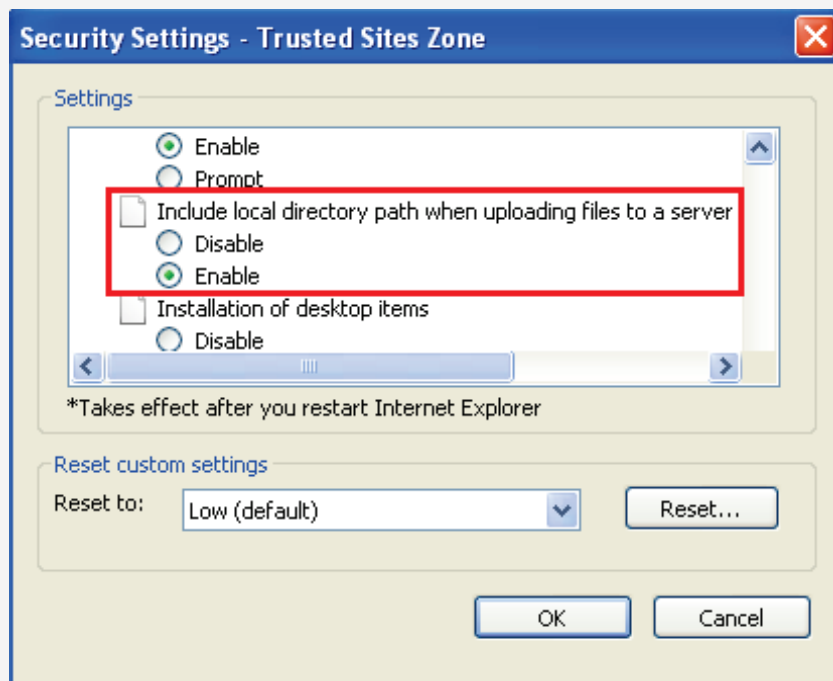
Upload: Click the **Upload** button to restore the system based on the selected parameters (Video, Network or All).

【**Video Format**】 Select NTSC or PAL for your local scanning system. Click **Apply** to save the setting.

【**Upgrade Firmware**】 This function can only be set up in the **Advanced** tab. Click the **Browse** button to find a previously prepared firmware upgrade file. Click the **Upload** button to install the new firmware.

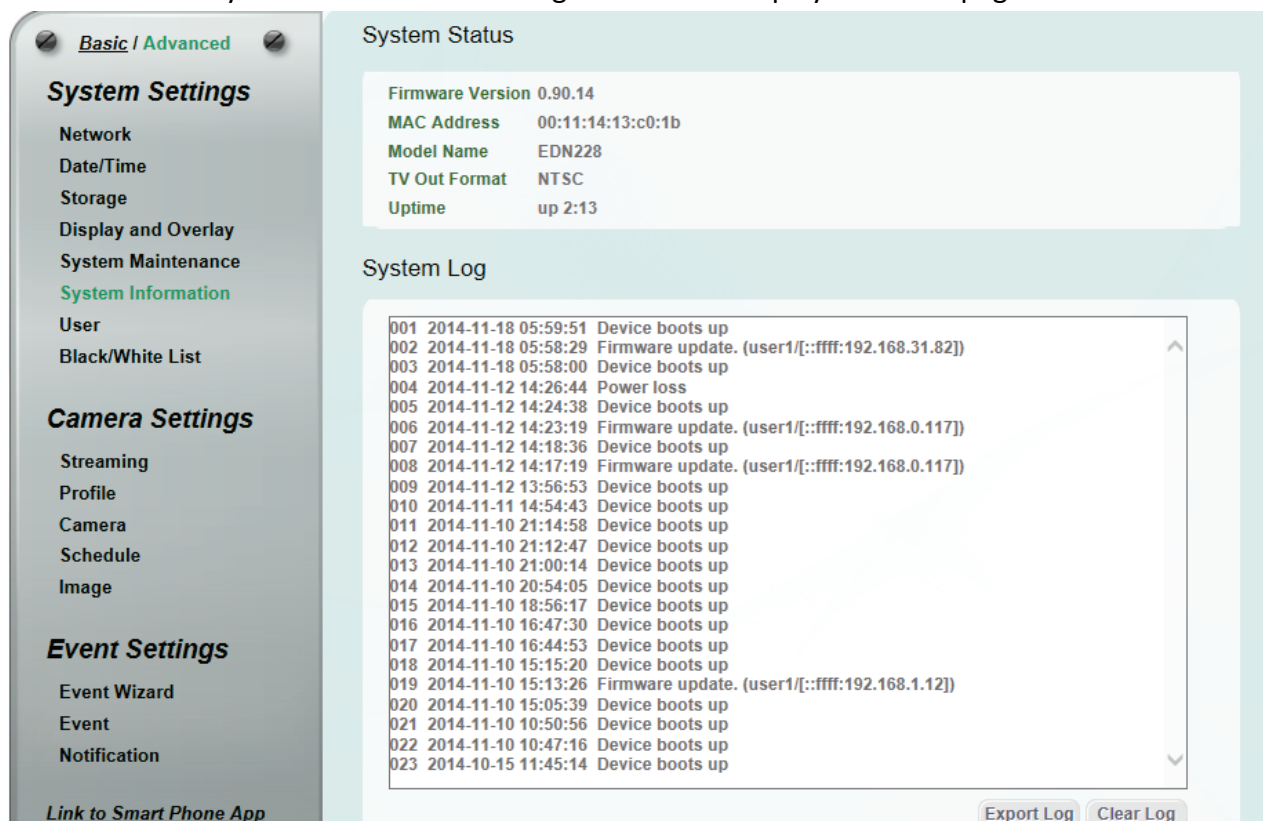
Note:

1. Do not disconnect power to the unit during the upgrade sequence. The unit will reboot automatically after the upgrade has completed (1-5 minutes).
2. During the upgrade process, all event recording actions will be stopped. Event recording actions will resume after the camera is rebooted.
3. If the “File Error, Please re-login!!” warning message appears when upgrading the firmware, please try the following instructions:
 - a. Go to Internet Explorer > Tools > Internet Option > Security > Custom.
 - b. Find and enable the **Include local directory path when uploading files to a server**.



7.1.6 System Information

You can see the system information and log information displayed on this page.



System Status

Firmware Version	0.90.14
MAC Address	00:11:14:13:c0:1b
Model Name	EDN228
TV Out Format	NTSC
Uptime	up 2:13

System Log

001	2014-11-18 05:59:51	Device boots up
002	2014-11-18 05:58:29	Firmware update. (user1/[::ffff:192.168.31.82])
003	2014-11-18 05:58:00	Device boots up
004	2014-11-12 14:26:44	Power loss
005	2014-11-12 14:24:38	Device boots up
006	2014-11-12 14:23:19	Firmware update. (user1/[::ffff:192.168.0.117])
007	2014-11-12 14:18:36	Device boots up
008	2014-11-12 14:17:19	Firmware update. (user1/[::ffff:192.168.0.117])
009	2014-11-12 13:56:53	Device boots up
010	2014-11-11 14:54:43	Device boots up
011	2014-11-10 21:14:58	Device boots up
012	2014-11-10 21:12:47	Device boots up
013	2014-11-10 21:00:14	Device boots up
014	2014-11-10 20:54:05	Device boots up
015	2014-11-10 18:56:17	Device boots up
016	2014-11-10 16:47:30	Device boots up
017	2014-11-10 16:44:53	Device boots up
018	2014-11-10 15:15:20	Device boots up
019	2014-11-10 15:13:26	Firmware update. (user1/[::ffff:192.168.1.12])
020	2014-11-10 15:05:39	Device boots up
021	2014-11-10 10:50:56	Device boots up
022	2014-11-10 10:47:16	Device boots up
023	2014-10-15 11:45:14	Device boots up

[Link to Smart Phone App](#)

[Export Log](#) [Clear Log](#)

【System Status】 Displayed the system information. The values cannot be changed on this page. The Uptime represents the period since the camera has been powered on. For example, up 3:08 represents the camera has been powered on for 3 hours and 8 minutes.

【System Log】 Displayed the sequence number, date, time and event messages of the log event. The log will display the last 256 log events. Click the **Export Log** button to export the system log event list into a “.txt” file and select the location where the exported log file will be saved to. Click the **Clear Log** to erase all the log data from the camera. The system will be required to reboot after clicking the Clear Log button.

7.1.7 User

The system administrator can create up to ten user accounts on this page.

User Management

Account	Authority	Description	Status	Enable micro SD (
user1	Supervisor	user1	Active	Yes
user2	Guest	user2	Disable	No
user3	Guest	user3	Disable	No
user4	Guest	user4	Disable	No
user5	Guest	user5	Disable	No
user6	Guest	user6	Disable	No
user7	Guest	user7	Disable	No
user8	Guest	user8	Disable	No
user9	Guest	user9	Disable	No
user10	Guest	user10	Disable	No

View 1 - 10 of 10

Account:
 Password:
 Confirm Password:
 Authority:
 Description:
 Status:
☐ Enable micro SD Card

Create Remove Edit Cancel

Anonymous Settings

☐ Anonymous viewer login
 Note: To protect your camera from begin taken over by unauthorized persons, make sure the "Anonymous viewer login" button IS NOT checked/selected.

Apply Cancel

【User Management】 The system has automatically created ten user accounts.

To set up an user account:

1. Highlight a user account and its information will be displayed in the field below the account list.
2. Revise the account name, password and description. Select an authority level for the user account.

The default setting is Supervisor when using user1 account to log in.

- **Administrator:** The only difference between a supervisor and administrator is that a supervisor can edit an administrator's account and password, but an administrator cannot edit the supervisor's account and password. The supervisor and administrators all have unrestricted access to the Setting submenus and can determine the registration of all other users.

- **User:** A user can not only view the live view but also view/configure the below camera settings.

View	Configure
System Settings	
Network	Network > Protocol Settings
Date/Time	Date/Time > Date/Time Format Settings
Storage > Record to Local	Storage > Record to Local
Display and Overlay > Overlay Text Settings	Display and Overlay > Overlay Text Settings
Display and Overlay > Video Overlay Time Stamp Settings	Display and Overlay > Video Overlay Time Stamp Settings
System Maintenance > Language Settings	System Maintenance > Language Settings
System Information	System Information > Export Log
Camera Settings	
Streaming	-
Camera	-
Schedule	-
Image	-

- **Guest:** The lowest level of access, which only allows the user access to the live view page.
3. Select **Active** or **Disable** to active or disable the user account.
 4. Click the **Edit** button to save the changes.

Create : The button is only activated when the number of list is less than ten. Enter the account information and click the **Create** button, the new account will be listed in the account list.

Remove : Highlight an account and then click the **Remove** button to remove the highlighted account.

Edit : Highlight an account and enter the account information in the boxes below the account list. Click the **Edit** button and the account will be edited.

Cancel : Click the button to cancel the changes and return to the previous settings.

☐ **Enable micro SD Card** : Click to enable micro SD card.

【Anonymous Settings】 Check the box to allow the unauthorized persons to log in the camera. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

7.1.8 Black /White List

Use this page to specify IP addresses that are allowed / denied to access this camera. By default, any IP address can access the camera.

Note: The Allowed IP addresses only become relevant when the Denied items contain a **Network** or **Range**, and the supervisor wants to allow one or more IP addresses within that excluded range or network. In such a scenario, the user would enter the excluded range or network for the Denied items, and enter the exceptions for the Allowed items.

Black/White Management

Black/White List							
Permiss	Mask	IPv4 Address	IPv4 From	IPv4 End	IPv6 Address	IPv6 From	IPv6 End
deny			192.168.12.1	192.168.12.1			
allow			192.168.12.1	192.168.12.1			

View 1 - 2 of 2

IP Type:
 Permission Type:
 Rule:
 IP Address From:

Create Remove
 Edit Cancel

- **IP Type:** Select IPv4 or IPv6 from the drop-down list.
- **Permission Type:** Select **Deny** to deny the IP addresses configured below from accessing the camera. The **Allow** option is only relevant if you've set up at least one Deny item configured with Network or Range network rule from the Rule drop-down list.
- **Rule:** Select a network rule and then fill in the IP information in the below boxes.
 - **Single:** Type a single IP address in the IP Address field below.
 - **Network:** Type the IP address and subnet mask in the field below.
 - **Range:** Type a range for the IP addresses.
- **IP Address From:** Type an IP address here.

Create : Set up the IP information and click the **Create** button, the created IP information will be listed in the Black/White list.

Remove : Highlight an item in the list and then click the **Remove** button to remove the highlighted item.

Edit : Highlight an item in the list and set up the IP information in the boxes below the Black/White list. Click the **Edit** button and the item will be edited.

Cancel : Click the button to cancel the changes and return to the previous settings.

7.2 Camera Settings

You can configure camera related settings, such as video / audio, region of interest and privacy mask.

7.2.1 Streaming

The screenshot displays the 'Basic / Advanced' settings menu for an EverFocus camera. The 'Camera Settings' section is active, showing 'Streaming' as the selected option. The 'Stream Settings' panel is visible, showing configurations for Stream 1 and Stream 2. Stream 1 is enabled with H.264 format, 1920x1080 resolution, 30 frame rate, and 3M constant bit rate. Stream 2 is also enabled with H.264 format, 720x480 resolution, 30 frame rate, and 1M constant bit rate. The 'Region of Interest Settings' panel shows 8 areas, all with quality set to 10. The 'Privacy Mask Settings' panel shows 3 areas, with Area 1 enabled and set to black.

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[Link to Smart Phone App](#)

Stream Settings

☒ Streaming Preview

Stream 1

☒ Enable Stream 1

Format: **H.264**

Resolution: **1920x1080**

Frame Rate: **30**

Bit Rate:

☒ Constant Bit Rate **3M** Bit/s

☐ Variable Bit Rate **High**

Stream 2

☒ Enable Stream 2

Format: **H.264**

Resolution: **720x480**

Frame Rate: **30**

Bit Rate:

☒ Constant Bit Rate **1M** Bit/s

☐ Variable Bit Rate **High**

Region of Interest Settings

☐ ROI Draw Tool

Area 1 Quality: **10**

Area 2 Quality: **10**

Area 3 Quality: **10**

Area 4 Quality: **10**

Area 5 Quality: **10**

Area 6 Quality: **10**

Area 7 Quality: **10**

Area 8 Quality: **10**

Privacy Mask Settings

☐ Privacy Mask Draw Tool

Color: **Color**

Level: **Black**

☒ Enable Area 1

☐ Enable Area 2

☐ Enable Area 3

Apply **Cancel**

【Stream Settings】 This IP camera can output three video streams simultaneously. For each of these streams, the user can set the compression format, resolution, bit rate, and frame rate individually. Stream 1 is always enabled for live view. To enable/disable Stream1 or Stream2, check the **Enable Stream 1 / Enable Stream 2** box.

Note: If you connect to the camera via the Internet and experience a delay (lag time) in the video feed, try to reduce the number of streams and the quality and resolution of the streams – but keep the frame rate at its maximum.

Format: Select the encoding format – H.264, MJPEG or MPEG4.

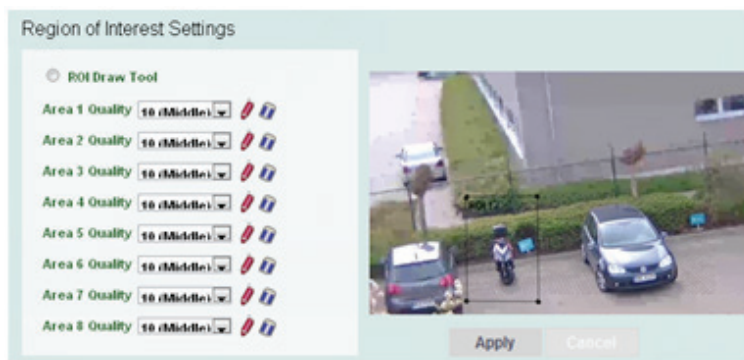
Resolution: Select the most suitable resolution for your needs.

Frame Rate: This function can only be set up in the **Advanced** tab. Select from 1 to 30 fps.


Bit Rate: This function can only be set up in the **Advanced** tab. If required, select whether you want the stream to stream a **Constant Bit Rate** or a **Variable Bit Rate**, and set the values of whichever option you choose.

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Region of Interest Settings】 This function can only be set up in the **Advanced** tab. The Region of Interest (ROI) function allows users to set up multiple regions within an image with better quality and less distortion than the rest of the image. You can also use this function together with the Digital Zoom function on the Live View window to get a better image result. Up to eight ROIs can be configured in this field.




To set up an ROI region:

1. Enabled the **ROI Draw Tool** and click the **Draw** button .
2. On the left-side live image, move the cursor to the position where you want the ROI rectangle to start and then click. Move the cursor to the position (diagonally opposing corner) where you want the ROI rectangle to end and then click.
3. Select a quality value for the ROI from the Quality drop-down list.
4. Click the **Apply** button to apply the settings, or click the **Cancel** button to reset without saving the settings.

【Privacy Mask Settings】 This function can only be set up in the **Advanced** tab. The Privacy Mask can block out sensitive areas from view, covering the areas with colored or black and white boxes in both live view and recorded clips. This feature is useful when users' don't want the sensitive information visible. Up to four Privacy Masks can be configured.

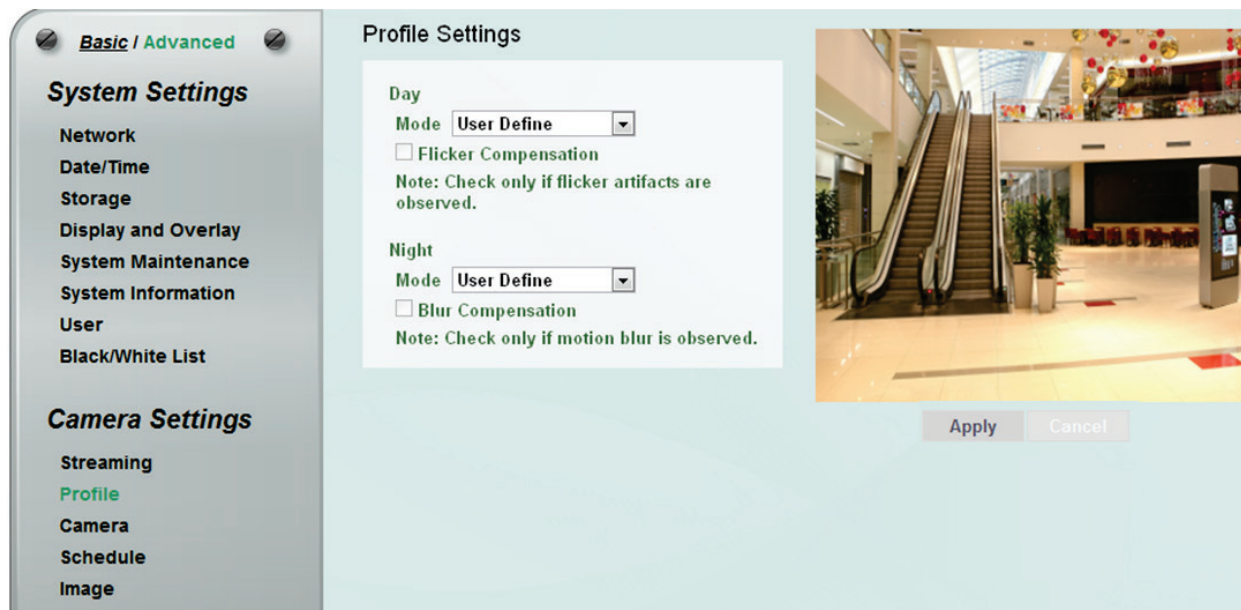


To set up a Privacy Mask:

1. Enabled the **Privacy Mask Draw Tool**.
2. From the Color drop-down list, select **Color** to make the masks appear as colored rectangles on the screen; or select **B/W** to make the masks appear as gray rectangles on the screen.
3. Select a color if you select **Color** from the color drop-down list. Select a level of grayness if you select B/W from the color drop-down list.
4. Check the **Enable** box to enable the configured privacy mask.
5. Click the **Draw** button  and move the cursor on the left-side live image.
6. Move the cursor to the position where you want the mask rectangle to start and then click. Move the cursor to the position (diagonally opposing corner) where you want the mask rectangle to end and then click.
7. Click the **Apply** button to apply the settings, or click the **Cancel** button to reset without saving the settings.

7.2.2 Profile

The Profile Settings is designed with four camera modes, which can be applied in various scenes to enhance image quality. You can apply different camera modes to the daytime and nighttime.



【Day Mode】 Select a camera mode and then click the **Apply** button to save the settings.

- **Vivid:** Select Vivid mode to have images with optimized contrast ratio. You can further configure the camera settings on the Camera setup page if required. Note that selecting the Vivid mode will lock (grayed-out) some Camera Settings on the Camera setup page such as **Exposure Settings (AE)**, **Noise Reduction Settings** and **Monitor Settings**.
- **Standard:** Select Standard mode to have images with system configured settings. You can further configure the camera settings on the Camera setup page if required. Note that selecting the Standard mode will lock (grayed-out) some Camera Settings on the Camera setup page such as **Exposure Settings (AE)**, **Noise Reduction Settings** and **Monitor Settings**.
- **More Detail:** Select More Detail mode to enhance the dark parts of the images. You can further configure the camera settings on the Camera setup page if required. Note that selecting the More Detail mode will lock (grayed-out) some Camera Settings on the Camera setup page such as **Exposure Settings (AE)**, **Noise Reduction Settings** and **Monitor Settings**.
- **User Define:** Select User Define mode to customize the camera settings. You can configure all the camera settings on the Camera setup page.

Flicker Compensation: Check the box to enable the Flicker Compensation function. Please enable this function only if flicker artifacts are observed.

【Night Mode】 Select a camera mode and then click the **Apply** button to save the settings.

- **Vivid:** Select Vivid mode to have images with optimized contrast ratio. You can further configure the camera settings on the Camera setup page if required. Note that selecting the Vivid mode will lock (grayed-out) some Camera Settings on the Camera setup page such as **Exposure Settings (AE)**, **Noise Reduction Settings** and **Monitor Settings**.
- **Standard:** Select Standard mode to have images with system configured settings. You can further configure the camera settings on the Camera setup page if required. Note that selecting the Standard mode will lock (grayed-out) some Camera Settings on the Camera setup page such as **Exposure Settings (AE)**, **Noise Reduction Settings** and **Monitor Settings**.
- **More Detail:** Select More Detail mode to enhance the dark parts of the images. You can further configure the camera settings on the Camera setup page if required. Note that selecting the More Detail mode will lock (grayed-out) some Camera Settings on the Camera setup page such as **Exposure Settings (AE)**, **Noise Reduction Settings** and **Monitor Settings**.
- **User Define:** Select User Define mode to customize the camera settings. You can configure all the camera settings on the Camera setup page.

Blur Compensation: Check the box to enable the Blur Compensation function. Please enable this function only if motion blur is observed.

7.2.3 Camera

Basic / Advanced

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Event Settings

- Event Wizard
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Day/Night Settings

Mode: **Day**

D/N Level: 0 46

☒ Day Profile ☐ Night Profile

Exposure Settings

Mode: **Auto**

Shutter (Manual): 1/60

AGC (Manual): 0 46

Slow Shutter: **OFF**

AGC: 0 46

Flickerless: 60Hz

Backlight Compensation Settings

BLC Mode: **OFF**

BLC Edit Mode: **Enable** **Disable**

Features

Noise Reduction

2D DNR: **Manual**

Level: 0 100

3D DNR: **Auto**

Strength: 0 100

Stabilizer: 0 100

Wide Dynamic Range

Mode: **OFF**

Level: **Low**

Black Level: 0 46

Monitor Type

Type: **Vivid**

Digital Zoom: + -

Apply Cancel

【Day/Night Settings】

- **Mode:** Select a mode from the drop-down list.
 - **Auto:** Select to let the camera automatically switch to Night mode when the light levels fall to a specified level, and back to Day mode when the light levels rise to a specified level.
 - **Day:** Select to keep the camera in Day mode, even in nighttime.
 - **Night:** Select to keep the camera in Night mode, even in daytime.
 - **Schedule:** Select to let the camera to switch to Day mode or Night mode based on the day and night schedule settings (see 7.2.4 Schedule).

Day Profile/ Night Profile: Select **Day Profile** to configure the following settings for daytime and select **Night Profile** to configure the following settings for nighttime. Click the **Apply** button to save the settings.

Note: Some settings in the Exposure Settings / Features may be grayed-out. To configure all the settings, select **User Define** from the Day Mode / Night Mode drop-down list (see 6.2.2 Profile).

【Exposure Settings】 This function can only be set up in the **Advanced** tab and can only be activated when you select **User Define** from the Day Mode / Night Mode drop-down list (see 7.2.2 *Profile*). This setting is used to adapt to the amount or type of light used by the camera. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

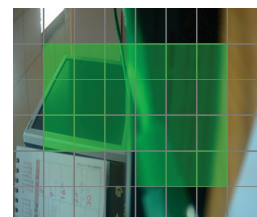
- **Mode:** Select a mode from the drop-down list.
 - **Auto:** Selecting Auto for the camera to automatically adjust the Shutter based on the measured light level.
 - **ALC (Shutter Priority):** Selecting ALC (Automatic Light Control) allows the camera circuitry to either take bright spots more into consideration (peak), bringing out detail in bright areas, or less into consideration (average) bringing out detail in shadows.
 - **Manual:** Select this option to manually set up the IRIS, Shutter (Manual) and AGC (Manual) values.
- **Shutter (Manual):** The function is only activated if you select **ALC** or **Manual** in the Mode field. If enabled, this setting lets you set the shutter speed yourself (measured in fractions of a second).
- **AGC (Manual):** The function is only activated if you select **Manual** in the Mode field. Set the Auto Gain Control limit here. The lower the AGC level, the lower the video signal and the noise.
- **Slow Shutter:** The function is only activated if you select **Auto** in the Mode field.
- **AGC:** The function is only activated if you select **Auto** or **ALC** in the Mode field. Set the Auto Gain Control limit here. The lower the AGC level, the lower the video signal and the noise.
- **Flickerless:** The function is only activated if you select **Auto** in the Mode field. Choose between OFF, 50HZ or 60HZ.

【Backlight Compensation Settings】 Backlight Compensation Settings is used to make the subject appear clearer when it is set against a bright background. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

OFF: Select to switch Back Light Compensation functions off.

ON (BLC): This option is useful when the background of the subject is very bright and the subject itself is dark. The BLC will measure the light of the image center and the lens iris will automatically set for optimal image quality.

BLC Edit Mode: Click the **Enable** button, the BLC grids appear on the image. Click on the grids to enable / disable the BLC function. The selected grids (in green) will be applied with the BLC function.



【Features】 This function can only be set up in the **Advanced** tab. Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

Noise Reduction (NR): This limits the amount of digital “video noise” that is usually found in any video stream, and helps to reduce file size. Select **Manual /Auto** to enable / disable the Noise Reduction function. Slide the Level bar to set up the level. The higher the level, the more the reduction.

2D DNR: Select Manual to enable the 2D DNR function and use the slide bar to set up the level. The greater the value, the more the reduction. Select Auto for the system to automatically adjust to the optimal 2D DNR value.

Level: Slide bar to set up 2D DNR level.

3D DNR: Select Manual to enable the 3D DNR function and use the slide bar to set up the level. The greater the value, the more the reduction. Select Auto for the system to automatically adjust to the optimal 3D DNR value. You can further set up the following two settings. You can reach optimal results once two settings are balanced.

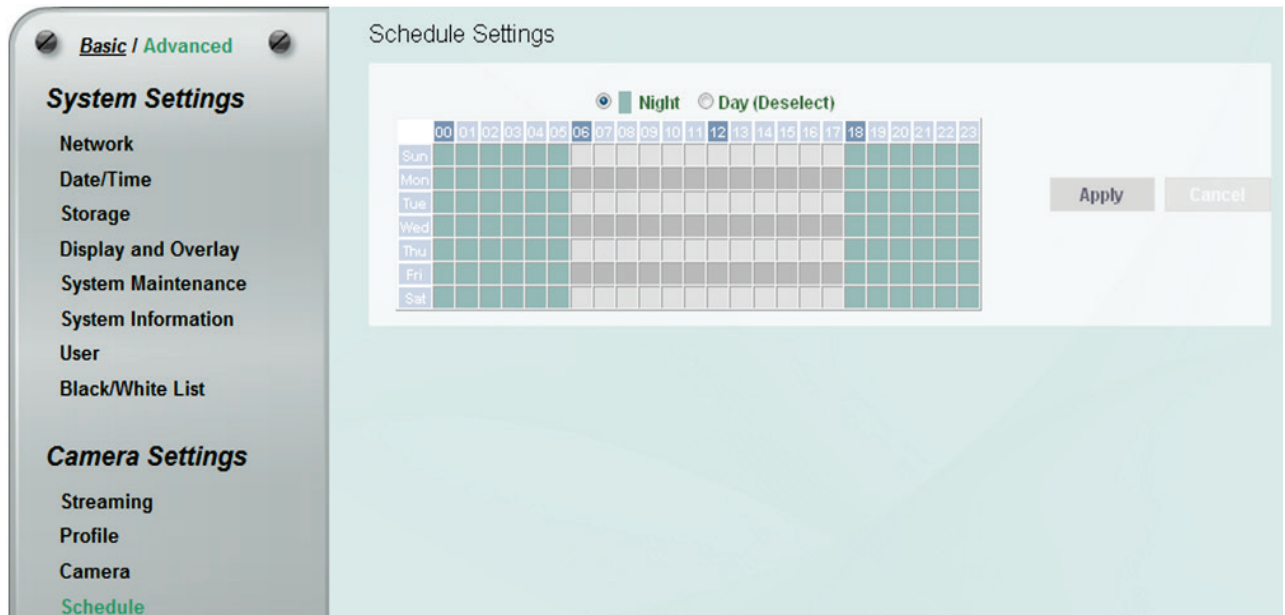
Strength: The greater the value, the greater the strength is, the more the reduction, and the lower the image sharpness.

Stabilizer: The greater the value, the greater the stabilizer is, the more the reduction, and the streaking phenomenon appeared.

- **Wide Dynamic Range (WDR):** The WDR function provides clearer images when both of the very bright and dark areas simultaneously appear on the camera view. There are three value options: OFF, ON and Auto. Note that when WDR is ON, some parts of the image may appear solarized. This is normal for WDR, and is not a camera malfunction.
- **Black Level:** Slide the Level bar to set up the level (0 – 46).
- **Monitor Type:** Users can use this field to optimize video quality of the monitor. Choose Vivid, Standard, or Neutral from the drop down list.

7.2.4 Schedule

The Schedule setup page is designed for users to configure the daytime and nighttime of each day. The Schedule setting is only functional if you select **Schedule** from the D/N Mode drop-down list on the Camera setup page.

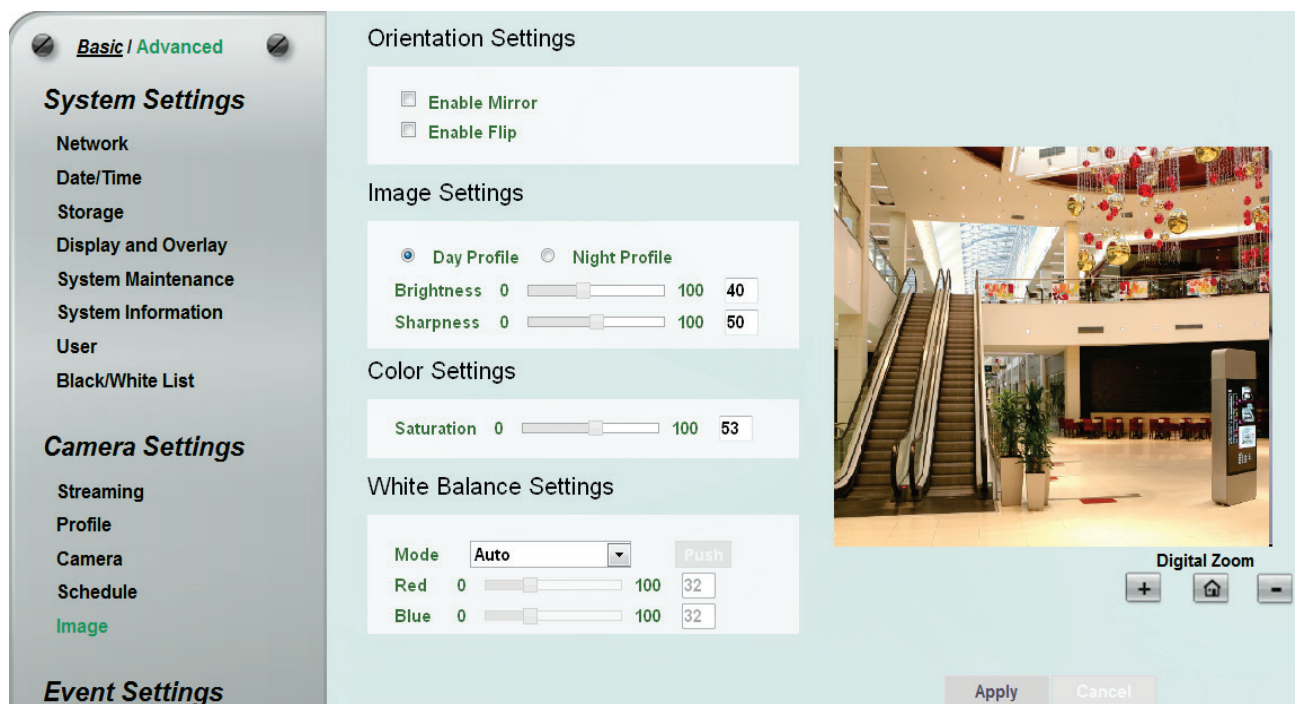


Select **Night** and then move the cursor on the desired time square, click and drag the cursor over the time squares to configure them to the Night mode (green color). Select **Day** and then move the cursor on the desired time square, click on the time squares to configure them to the Day mode (gray color).

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

7.2.5 Image

This function can only be set up in the **Advanced** tab.




【Orientation Settings】

- **Enable Mirror:** Check the box to enable the mirror function. The image will be rotated horizontally around a vertical axis.
- **Enable Flip:** Check the box to enable the flip function. The image will be rotated vertically around a horizontal axis.

【Image Settings】 Select **Day Profile** or **Night Profile** and then adjust the slide bars below to configure the **Brightness** and **Sharpness** for daytime or nighttime.

【Color Settings】 Slide the bar to adjust the saturation.

【White Balance Settings】 Select a mode that delivers the best image quality for the camera's light environment.

- **Auto:** Select to let the camera automatically adjust the White Balance. In the Auto mode the camera computes the white balance value output using color information from the entire screen. It outputs the proper value using the color temperature radiating from a black subject based on a range of value from 3000 to 7500K.
- **Manual:** Select to adjust the Red and Blue values yourself in the fields below this field.
- **One Push:** Select to enable the **Push** button  next to the Mode drop-down field.

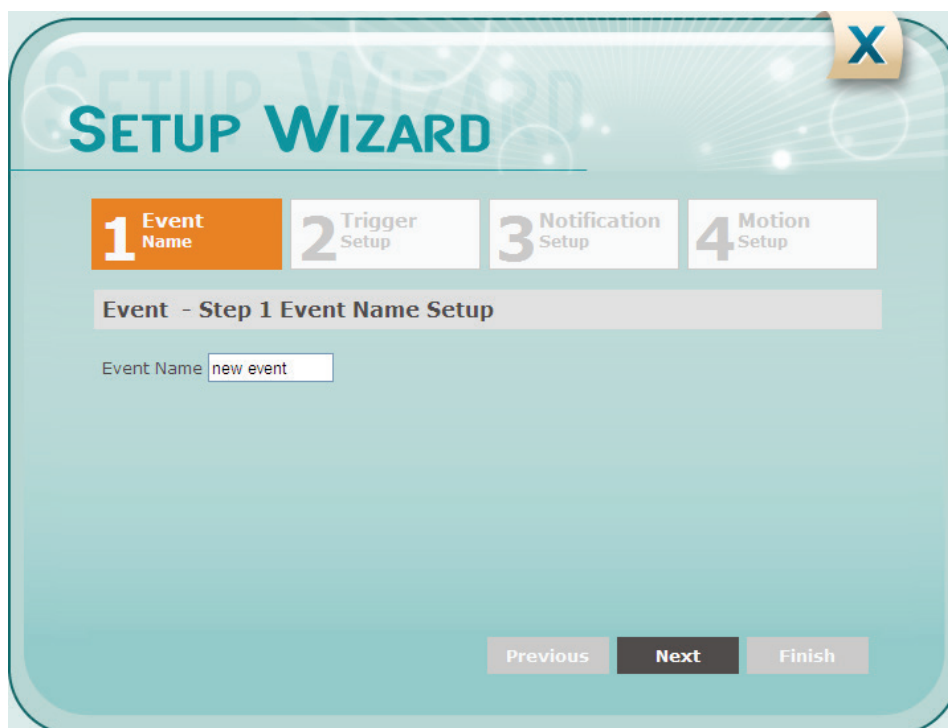
This will allow you to force the camera to readjust the white balance every time you push the Push button. The lens will hold the same focal position until the next trigger command is received. This function helps to prevent incorrect focusing in dark environments.

7.3 Event Settings

You can set up the Motion Detection event or Tampering Detection event to automatically notify the users when an event occurs. You can also set up a schedule to automatically record the videos when an event occurs.

7.3.1 Event Wizard

The Event Wizard allows users to easily configure the event settings. Follow the on-screen instructions to complete the event settings.



SETUP WIZARD

1 Event Name 2 Trigger Setup 3 Notification Setup 4 Motion Setup

Event - Step 1 Event Name Setup

Event Name

Previous **Next** Finish

7.3.2 Event

This function can only be set up in the **Advanced** tab. Except the Event Wizard, you can also configure the event settings along with the Recording Schedule on this page.

The screenshot displays the 'Event Management' interface. On the left is a sidebar with navigation menus for 'System Settings', 'Camera Settings', and 'Event Settings'. The 'Event Settings' menu is expanded, showing 'Event Wizard', 'Event' (selected), and 'Notification'. Below this is a link to a 'Smart Phone App'.

The main content area is titled 'Event Management' and contains several sections:

- Event List:** A table showing three events: 'new event1' (Manual Trigger, SD, Yes), 'new event' (Manual Trigger, SD, No), and 'new event2123' (Tampering De, SD, Yes). A 'View 1 - 3 of 3' indicator is at the bottom right.
- Event Configuration:** Fields for 'Event Name' (new event), 'Event Trigger Type' (Manual Trigger), and 'Motion Area' (Area1). Checkboxes for 'Enable This event' (checked), 'Enable Re-trigger' (10 second), 'Enable Pre-trigger Buffer' (checked), and 'Enable Post-trigger Buffer' (checked). A red warning message states: 'This Trigger Type has already been enabled'. Buttons for 'Create', 'Remove', 'Edit', and 'Cancel' are on the right.
- Notification Over:** Checkboxes for 'Log', 'Send Mail Notification', 'Upload to FTP', 'Record to micro SD Card', and 'Network Alarm'.
- Tamper Detection Settings:** A field for 'Tamper Duration Time' (10 second) with 'Apply' and 'Cancel' buttons.
- Trigger Options Settings:** Fields for 'Pre-trigger Buffer' (10 second) and 'Post-trigger Buffer' (10 second) with 'Apply' and 'Cancel' buttons.
- Schedule Settings:** A calendar grid for selecting days and times. Legend: Event (red), Schedule (blue), Event + Schedule (yellow), Deselect (grey). Buttons for 'Apply' and 'Cancel' are on the right.
- Motion Settings:** Configuration for four areas (Area 1 to Area 4). Each area has a color-coded box, an 'Enable' checkbox, and a 'Sensitivity' dropdown (all set to 'S(Normal)'). To the right is a video preview showing the camera's field of view with the four motion areas overlaid. Buttons for 'Apply' and 'Cancel' are at the bottom.

【Event Management】 You can set up the events such as Motion Detection or Tampering Detection to automatically notify the users when an event occurs.

Event Name: Type an event name.

- **Event Trigger Type:** Select an event for the to-be-specified-below reaction/s.
 - **Manual Trigger:** Select this option if you want to manually trigger the alarm by clicking the **Trigger Event** button on the Live View Page.
 - **Motion Detection:** Select this option to trigger the to-be-specified-below reaction/s when motion events occur. You have to pre-configure the Motion Settings for this function to work.
 - **Schedule Recording:** Select this option if you want the Schedule Recording periods configured in the Schedule Settings to activate this event. In this scenario, a preconfigured event reaction like a log entry will list the start and end times of each period. Actual recording will only be triggered if the event is preconfigured to do so.
 - **Tampering Detection:** Select this option if you want the camera's tampering detection sensor to trigger the to-be-specified-below reaction/s. You can set up the tamper duration time in the Event Trigger Settings field below.
- **Enable This Event:** Check the box to activate the event. For the Tampering Detection trigger type, multiple events can be created on the Event List but only one event can be enabled. For example, if you create three Tampering Detection trigger events, only one event under this trigger type can be enabled. The option of **Enable This Event** for the rest of two Tampering Detection events will be grayed out and display "This Trigger Type has already been enabled." To enable another event under the same type, uncheck to disable the event first and check the desired event.
- **Enable Re-trigger minimum interval between triggers xx second:** Check the box to set a minimum time after the event is triggered before the event can be triggered again.
- **Enable Pre-trigger Buffer:** Check the box if you want the Event reaction (as selected in the "Notification Over" field below) to be the activation of the video recording function, and if you want the recording to include the video feed from the time period (configurable in the Schedule Settings field) just before the Event trigger occurred.
- **Enable Post-trigger Buffer:** Check the box if you want the Event reaction (as selected in the Notification Over field) to be the activation of the video recording function, and if you want the recording to include the video feed from a time period (configurable in the Schedule Settings field) just after the Event trigger occurred.

Notification Over: Select the desired notification types from the following items.

- **Log:** Check the box if you want the camera to list the event's details in its log if the event is triggered.
- **Send Mail Notification:** Check the box if you want the camera to send an email text notification and one image file to the email address entered in the SMTP Settings field (see 7.3.3 *Notification*).

- **Upload to FTP:** Check the box if you want the camera to upload the recordings to the FTP server entered in the FTP Repository Settings (see 7.3.3 *Notification*).
- **Record to micro SD Card:** Check the box if you want the camera to start recording its video feed (when the event occurs) on an on-camera micro SD Card (if such a card has been inserted).

Note: The recording will only be as long as the combined Pre- and Post-trigger Buffers, so make sure you enable at least one of these buffers, especially the Post-trigger Buffer.

- **Network Alarm:** Check the box if you want the camera to send a network alarm signal (when the event occurs) to the CMS servers. Note that you have to configure the Network Alarm Settings for this function to work (see 7.3.3 *Notification*).

Create : Set up the Event information and click the **Create** button, the created Event information will be listed in the Event List.

Remove Highlight an item in the Event List and then click the **Remove** button to remove the highlighted item.

Edit : Highlight an item in the Event List and edit the Event information on the left-side. Click the **Edit** button and the item will be edited.

Cancel : Click the button to cancel the changes and return to the previous settings.

【Tamper Detection Settings】

- **Tamper Duration Time:** Set up a duration time between 10 and 120 seconds.

【Trigger Options Settings】

- **Pre-trigger Buffer:** Select the duration for the buffer. This will determine the amount of footage (length of time) before the event trigger moment that will be included in an event-triggered video recording, if that buffer and video recording has been enabled in the Event Management field.

☒ **Enable Pre-trigger Buffer**

- **Post-trigger Buffer:** Select the duration for the buffer. This will determine the amount of footage (length of time) after the event trigger moment that will be included in an event-triggered video recording, if that buffer and video recording has been enabled in the Event Management field.

☒ **Enable Post-trigger Buffer**


Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Schedule Settings】 Users can configure the recording schedule here. Select the desired recording types among the options below. Click and drag the cursor on the time block, which will be applied with the selected recording type.


- **Event Recording (Red):** Select for the camera to activate all the Event Recording set up in the Event Management field (Event Trigger Type), except the Schedule Recording.
- **Schedule Recording (Green):** Select for the camera to activate only the Schedule Recording set up in the Event Management field (Event Trigger Type).
- **Event + Schedule (Yellow):** Select for the camera to active both of the configured Event and Schedule Recordings.
- **Deselect (Grey):** Select for the camera to stop recording.

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Motion Settings】 Use this page to configure up to four areas in which motion will be detected.

When a motion is detected by the camera, the motion detection icon  will appear at the top right corner on the Live page to alert the user. This function can also be linked with correctly configured Events to trigger Event reactions like the activation of video recording periods, snapshots, etc.

To set up the Motion area:

1. Check the **Enable** box to enable the selected area.
2. Select a sensitivity value of the motion detection sensor function.
3. Click the **Draw** button  and move the cursor on the left-side live image.
4. Move the cursor to the position where you want the motion rectangle to start and then click. Move the cursor to the position (diagonally opposing corner) where you want the motion rectangle to end and then click.
5. Click the **Apply** button to apply the settings, or click the **Cancel** button to reset without saving the settings.

7.3.3 Notification

This function can only be set up in the **Advanced** tab.

Basic / Advanced

System Settings

- Network
- Date/Time
- Storage
- Display and Overlay
- System Maintenance
- System Information
- User
- Black/White List

Camera Settings

- Streaming
- Profile
- Camera
- Schedule
- Image

Event Settings

- Event Wizard
- Event
- Notification**

[Link to Smart Phone App](#)

SMTP (Email) Settings

SMTP Server

SMTP Port

☐ Authentication

Username

Password

Receiver Address

(use ; to separate addresses)

Sender Address

☒ Attach Image

☐ SSL Connection

Send Test Email

FTP Repository Settings

FTP Server

FTP Port

Recording Path

Username

Password

☐ PASV Mode

Test FTP Server

SNMP Settings

☐ Enable SNMP v1/v2/v2c

Read-Only Community

Read-Write Community

Trap Community

Trap Address

☐ Enable SNMP v3

Read-Only Username

Read-Only Auth. Method

Read-Only Auth. Key

Read-Only Privacy Method

Read-Only Privacy Key

Read-Write Username

Read-Write Auth. Method

Read-Write Auth. Key

Read-Write Privacy Method

Read-Write Privacy Key

Network Alarm Settings

Protocol

Port No

Unique ID

Server 1

Server 2

Server 3

【SMTP (Email) Settings】 This area is for configuring the mail server that is used to send e-mail text notifications and one image file from the camera to predefined addresses via SMTP. Note that to enable e-mail notification function, you have to check the **Send Mail Notification** box in the Event Management field (see 7.3.2 Event).



- **SMTP Server:** Enter the IP address or the host name of the SMTP server used to send e-mails.
- **SMTP Port:** Enter the port number for SMTP. The default is 25.
- **Authentication:** Check the box if the SMTP server requires authentication (user/password).
- **Username:** Input the user's login ID if the SMTP server requires authentication.
- **Password:** Input the user's login password if the SMTP server requires authentication.
- **Receiver Address:** Input the e-mail addresses for receiving an e-mail message when events occur. Please use “;” to separate multiple addresses.
- **Sender Address:** Input the sender's e-mail address, so that the receiver can recognize the sender when an event message is received.
 - **Attach Image:** Check the box if you want to attach an image when events occur.
 - **SSL Connection:** Check the box to enable the SSL function. Enable this function means you can access the camera through the SSL protocol that provides communication security over the Internet.
- **Send Test Email:** Click the **Test** button to send a testing email to the assigned address.

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【FTP Repository Settings】 This area is for configuring the FTP server that is used to send alarm recordings from the camera to the preconfigured FTP server. Note that to enable uploading recordings to the FTP server function, you have to check the **Upload to FTP** box in the Event Management field (see 7.3.2 *Event*).



- **FTP Server:** Enter the IP address or the host name of the FTP server.
- **FTP Port:** Enter the port number for the FTP server. Default is 21.
- **Recording Path:** Assign the recording path.
- **Username:** Set FTP User's name.
- **Password:** Set FTP password.
- **PASV mode:** Check the box to enable Passive mode. Passive mode is normally enabled. If a connection cannot be established, uncheck "PASV Mode".
- **Test FTP Server:** Click the **Test** button to send a testing file to the assigned FTP server.

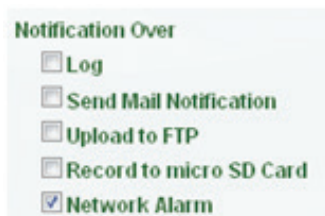
Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

Note: If the camera lost connection to the FTP server, the recordings will be automatically uploaded to the micro SD card on the camera. Once the connection between FTP server and camera has re-established, the camera will resume uploading recordings to the FTP server. However, the recordings uploaded to the micro SD card during the disconnection period will not be uploaded to the FTP server.

【SNMP Settings】 The default values for SNMP v1/v2/v2c and SNMP v3 are already filled in. Click either of the Enable buttons to enable either of the two. Make your changes as desired. Click on the Trap Address field to enter the digits, if required.

Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

【Network Alarm Settings】 This function works with EverFocus CMS software. The camera can send a network alarm signal (when the event occurs) to the CMS servers. To establish the connection between the camera and CMS servers, the protocol and port number should match with each other. For more details, please refer to the CMS user's manual. Note that to enable the Network Alarm function, you have to check the **Network Alarm** box in the Event Management field (see 6.3.2 Event).



Click **Apply** to apply the changes or **Cancel** to cancel the changes and return to the previous settings.

7.4 Link to Smart Phone App

You can access camera live view or take a snapshot via your smart phone. This page is designed for users to download the mobile app to your mobile phone by scanning the QR code.

Basic / Advanced

System Settings

- Network
- Date/Time
- Storage
- Display and Overlay
- System Maintenance
- System Information
- User
- Black/White List

Camera Settings

- Streaming
- Profile
- Camera
- Schedule
- Image


Event Settings

- Event Wizard
- Event
- Notification


[Link to Smart Phone App](#)

Link to Smart Phone App


iPhone [Mobilefocus](#)



iPhone [Mobilefocusplus](#)



Android [Mobilefocus](#)



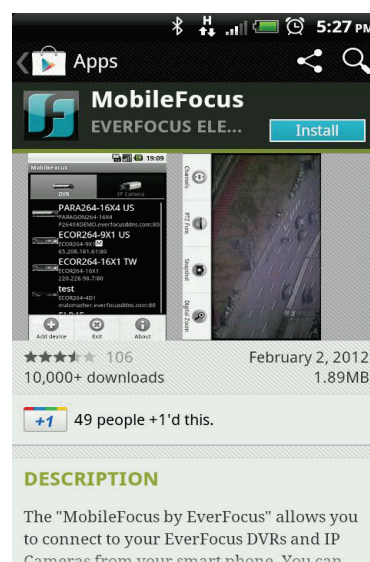
MobileFocus for iPhone



MobileFocusPlus for iPhone



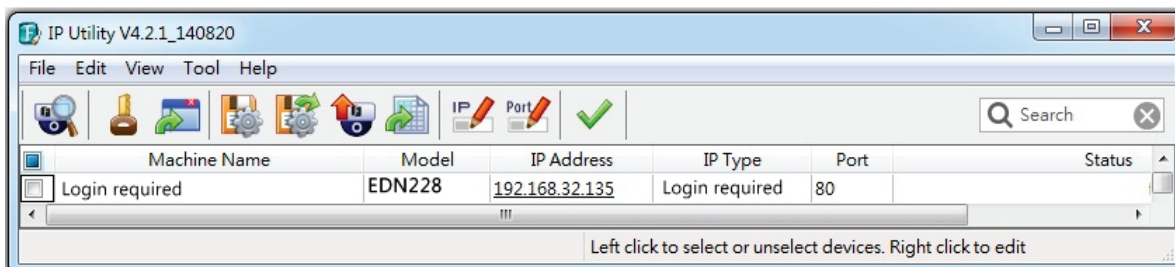
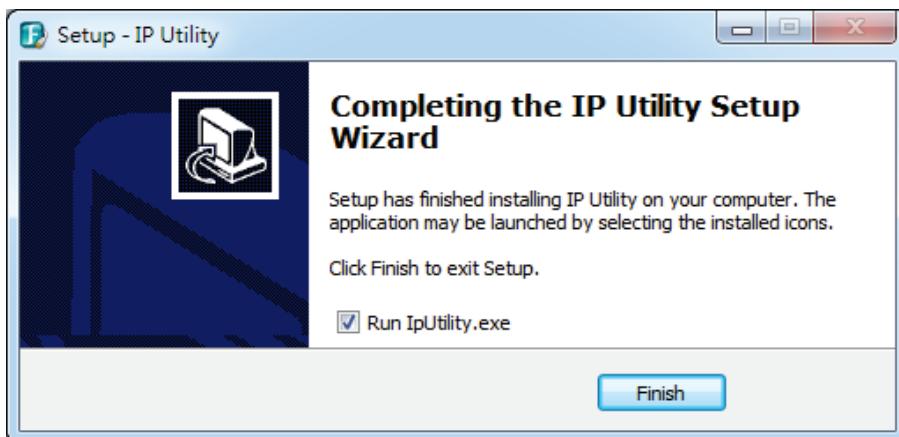
MobileFocus for Android-based smart phone



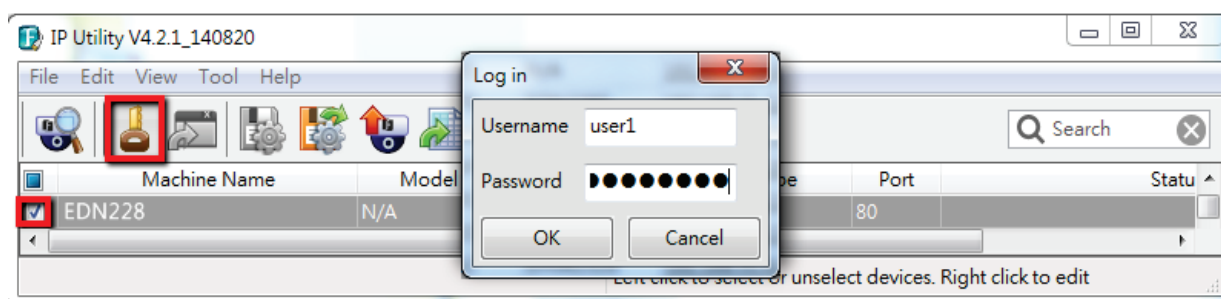
8. Upgrading Firmware Using IP Utility

You can upgrade the Firmware using the **IP Utility** software included in the software CD or from the Website of EverFocus (click [here](#) to download).

1. Save **IP Utility Setup AutoRun.exe** in your computer. Double click the **.exe** file and follow the on-screen instructions. Check **Run IPUtility.exe** and click the **Finish** button, the IP Utility will be launched to search the IP devices connected in the same LAN automatically.



2. Log in the camera by checking the desired model and then click the **Log in** icon. The Log in dialog box appears.



3. Type the Username and Password. Click the **OK** button, the **Login** status displays.

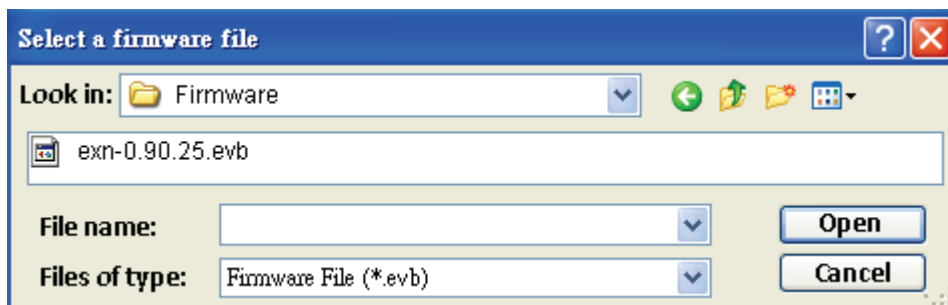
	Machine Name	Model	IP Address	IP Type	Port	Status
<input checked="" type="checkbox"/>	EDN228	EDN228	192.168.32.135	DHCP	80	Login

Note:

1. The default user ID is user1 and the default password is 11111111.
2. If you select more than one camera that has the same user ID / password, you will be able to log in several cameras at once.

3. Up to 10 cameras can be simultaneously upgraded to the latest firmware. If you connect the cameras to a PoE switch, please make sure the Power Consumption of the PoE switch is sufficient.

4. Click the **Upgrade Firmware** button , a browsing window appears.



5. Select the **firmware file (.evb)** and then click **Open**. The IPU will automatically upgrade the firmware. The camera will reboot once the upgrade process is complete.

	Machine Name	Model	IP Address	IP Type	Port	Status
<input checked="" type="checkbox"/>	EDN228	N/A	192.168.32.109	DHCP	80	Success

9. Specifications

Model		EDN228
Camera		
Image Sensor		1/2.8" SONY Progressive Scan CMOS Sensor
Megapixel		2 MP
Min. Illumination		Color: 0.2 Lux at F1.4 B/W: 0.05 Lux at F1.4
Electronic Shutter		8.5 ~ 1/60,000sec.
Scanning System		NTSC / PAL
WDR		Yes
BLC		Yes
Gain Control		Yes
White Balance		Yes
Lens		
Lens Type		Fixed Lens
Focal Lens		3.6 mm / 6 mm
Aperture Ratio		F1.4
Day / Night		True Day / Night with IR cut filter
Video		
Video Compression		H.264 / MJPEG / MPEG4 (optional)
Resolution	NTSC	1920 x 1080, 1280 x 1024, 1280 x 720, 1024 x 768, 720 x 480, 704 x 480, 640 x 480, 352 x 240, 320 x 240, 160 x 120
	PAL	1920 x 1080, 1280 x 1024, 1280 x 720, 1024 x 768, 720 x 576, 704 x 576, 640 x 480, 352 x 288, 320 x 288, 160 x 120
Frame Rate		30 fps at 1920 x 1080
Network		
Interface		10BASE-T / 100BASE-TX auto-negotiation, RJ-45 socket Support MDI / MDI-X auto crossover function
Supported Protocols		TCP / IP, IPV6, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, SNMP, FTP, HTTP, HTTPS, PPPoE, UPnP, Bonjour, RTP, RTSP, RTCP, UDP, IGMP, SSL, ICMP, ARP, ONVIF, PSIA, QoS
Bandwidth control		Min. 256 k Byte / sec adjustable

Connector	Power	12 VDC, PoE
	Ethernet	RJ-45
General		
Power Source		12 VDC / PoE (IEEE802.3af)
Max. Power Consumption		5W Max.
Operating Temperature		-10°C ~ 50°C / -14°F~122°F
Humidity		20% ~ 80% (no condensation)
Safety		CE, FCC
Dimensions (Φ x H)		58.5 x 110 mm / 2.3" x 4.33"
Weight		300g / 0.66lbs
Language		Czech, Dutch, English, French, German, Japanese, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Traditional Chinese

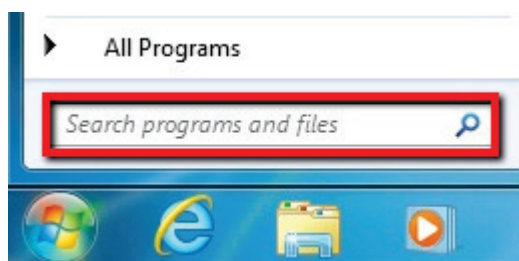
10. Troubleshooting

Error messages pop up

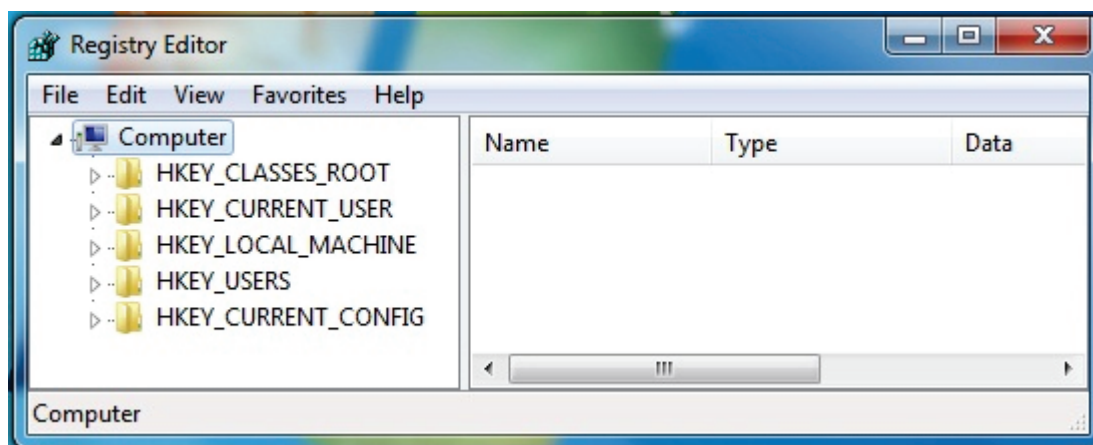
A. When these error messages pop up, follow the steps below to fix the problem.



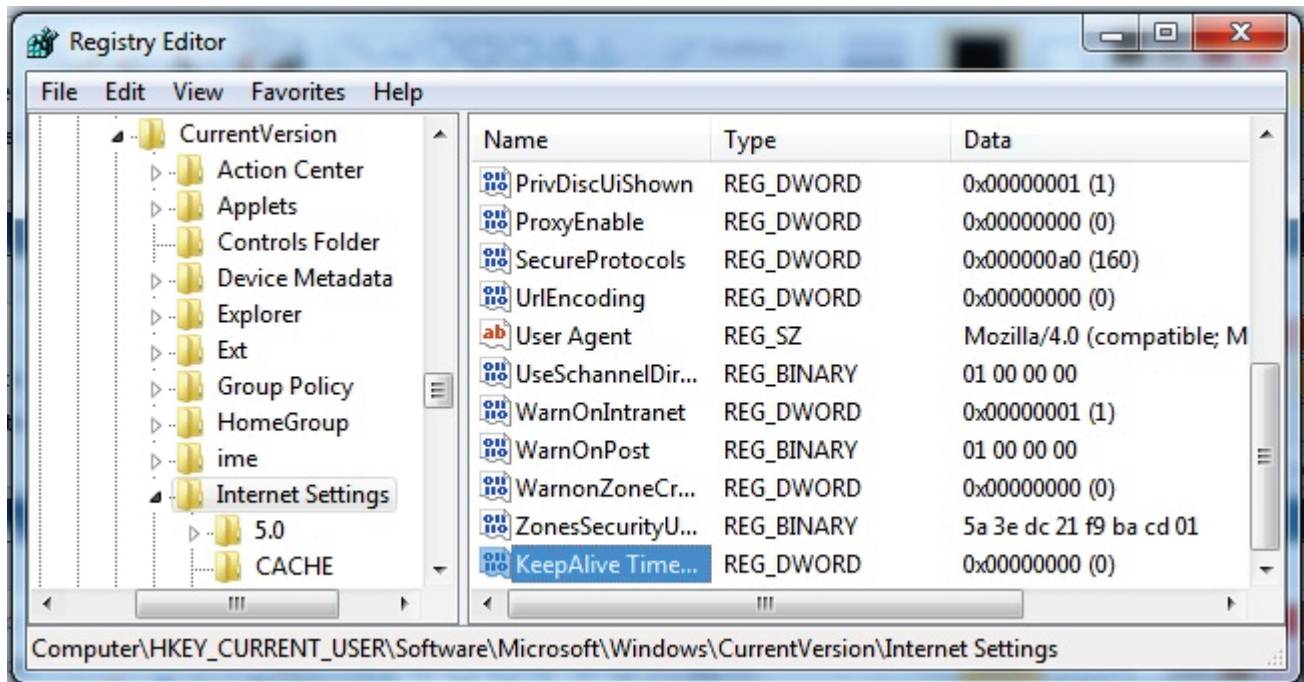
1. To enter the Registry Editor of your computer: Click **Start** and type “**regedit**” in the *Search Program and Files* field.



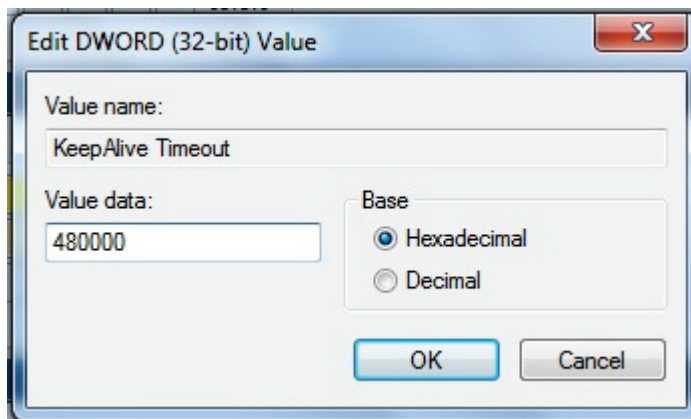
2. Click the **Enter** button, the Registry Editor window appears.



- Find the **KeepAlive Timeout** Dword by following the path:
`\HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Internet Settings`



- Double-click **KeepAlive Timeout** and this window appears.




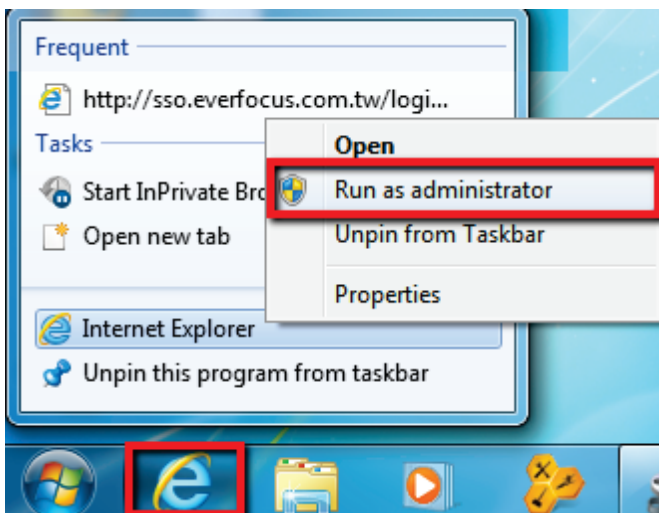
- Change the Value data to **480000** and click **OK**.

B. Snapshot / Record error message.



For Microsoft IE10 and above users, you may have the above error message pop up when you click the

Snapshot  button on the Live View window. You can simply solve this problem by setting up your Microsoft Internet Explorer to **Run as administrator**.



Appendix

A. Tested Card Brands

This IP Camera supports micro SD / SDHC card up to 64GB. The following brands of the micro SD cards have been tested by EverFocus and are recommended to work with EverFocus IP camera.

Brand	ADATA	Kingston	Samsung	SanDisk	Transcend
Card Capacity	64GB	64GB	64GB	64GB	64GB
Card Rate Level	Class 10	Class 10	Class 10	Class 10	Class 10

ADATA: Premier microSDHC/SDXC UHS-I Class10

Kingston: MicroSDXC UHS-I Class10 64GB

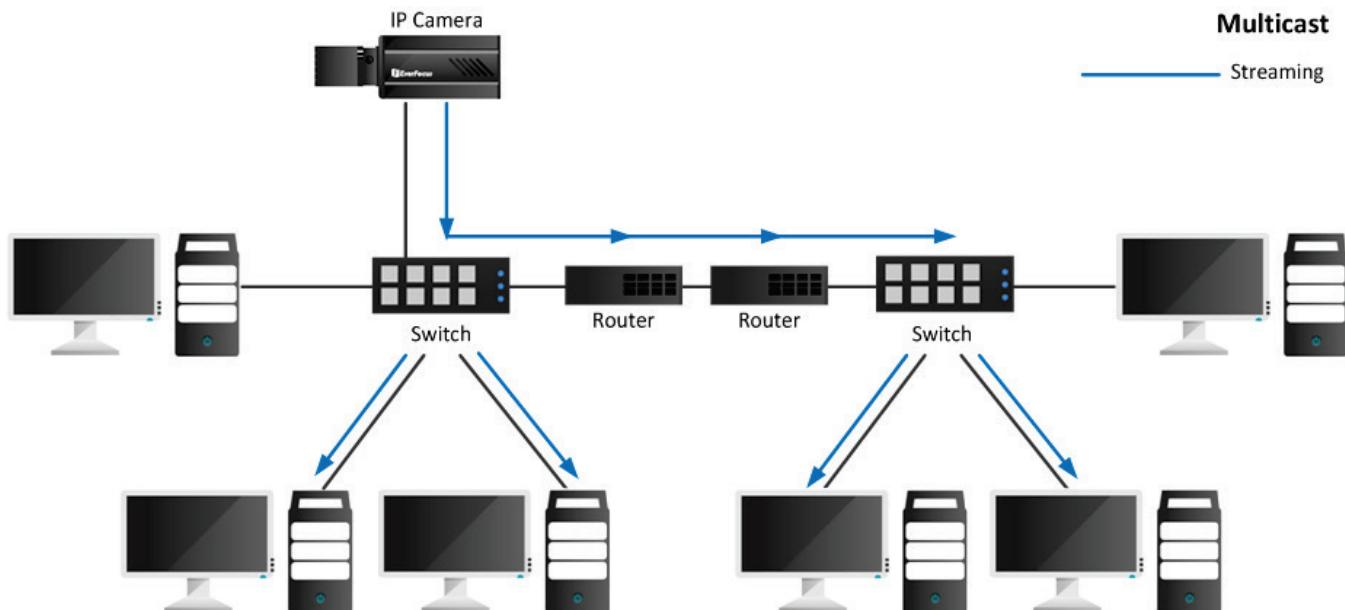
Samsung: MicroSDXC 64GB UHS-I

SanDisk: Ultra® microSDXC™ UHS-I card

Transcend: MicroSDXC Class 10 UHS-I memory card 300x

B. Enabling the Multicast Function

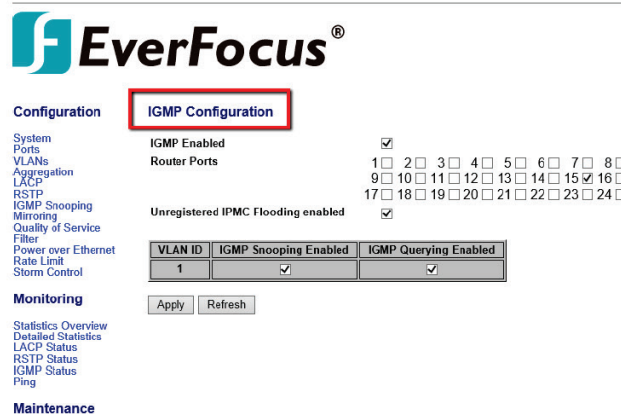
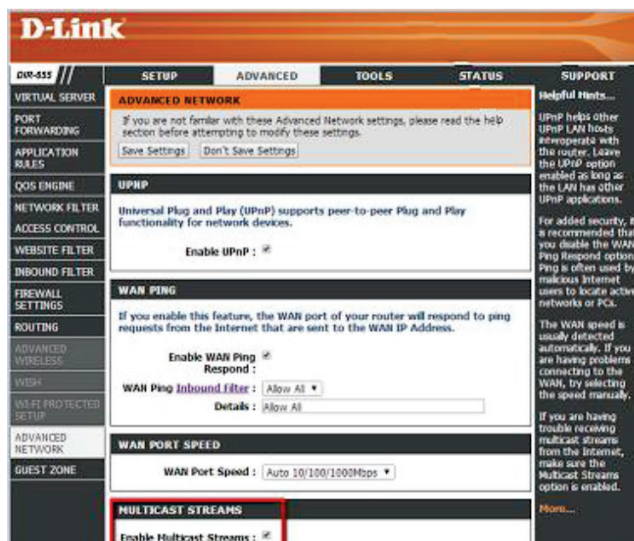
The Multicast Function is a technique for one-to-many communication over an IP infrastructure in a network that is designed to share IP camera loading and reduce network bandwidth. Note that for this function to work, the router / switch must support multicast function.



To enable the Multicast Function:

1. Complete the installation of the IP cameras, routers/ switches and computers (refer to diagram above).
2. Install VLC and Wireshark in your computer. Click [VLC](#) and [Wireshark](#) to download.
3. Access to the Web UI of the IP camera to enable the Multicast function. Click the **Apply** button to save the setting. (Advanced tab > Network> Multicast Settings> Enable Multicast)

4. Go to the setting page of the router/switch to enable the Multicast function.
Here we use a D-Link DIR655 router and EverFocus 24-port switch for example.



5. The Multicast function setup is now complete.

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