



# DWC-MD421D, DWC-MD421DB DWC-MD421TIR, DWC-MD421TIRB

MEGApix 1080p Snapit™ Indoor Dome IP Camera



ONVIF



Before installing or operating the camera, please read and follow this manual carefully.

## PRECAUTIONS

- Do not open or modify.
- Do not open the case except during maintenance and installation, for it may be dangerous and can cause damages.
- Do not put objects into the unit.
- Keep metal objects and flammable substances from entering the camera. It can cause fire, short-circuits, or other damages.
- Be careful when handling the unit.
- To prevent damages, do not drop the camera or subject it to shock or vibration.
- Do not install near electric or magnetic fields.
- Protect from humidity and dust.
- Protect from high temperature.
- Be careful when installing near the ceiling of a kitchen or a boiler room, as the temperature may rise to high levels.
- Cleaning: To remove dirt from the case, moisten a soft cloth with a soft detergent solution and wipe.
- Mounting Surface: The material of the mounting surface must be strong enough to support the camera.

## FCC COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference, when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications.

**WARNING:** Changes or modifications are not expressly approved by the manufacturer.

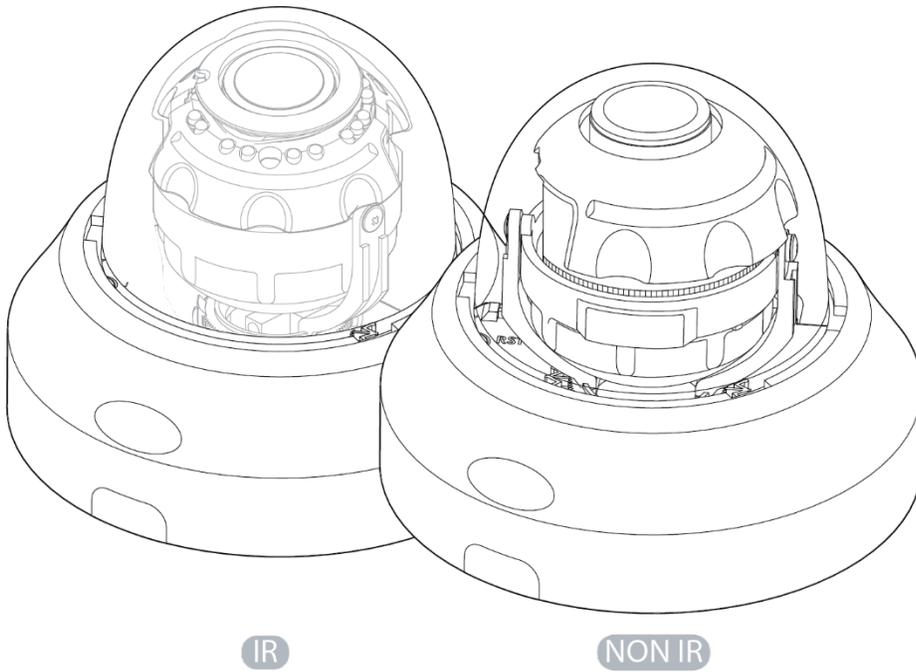
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## FEATURES\*

- 2.1 Megapixel Image Sensor (1080p, 30fps)
- Wide Dynamic Range (WDR)
- Triple Codecs (H.264, MJPEG, MPEG4) with Simultaneous Dual-Stream
- 2.8~12mm Auto Focus P-Iris Lens
- Snapit™ Easy Installation Housing
- Smart IR™ with Intelligent Camera Sync. 70ft Range (IR Models)
- True Day/Night with Mechanical IR Cut Filter (IR Models)
- Smart DNR™ 3D Digital Noise Reduction
- Manual IR Activation (IR Models)
- Auto Gain Control (AGC)
- Backlight Compensation (BLC)
- Auto White Balance (AWB)
- Programmable Privacy Zones
- Motion Detection
- Micro SD/SDHC Class 10 Card Slot for Emergency Backup [card not included]
- Alarm Sensor Input
- Relay Output
- Web Server Built-in
- PoE and DC12V
- Black Housing Option
- ONVIF Conformant, Profile S

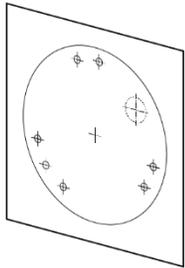
# INSIDE THE BOX\*



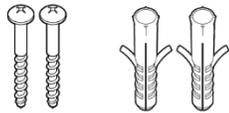
Camera



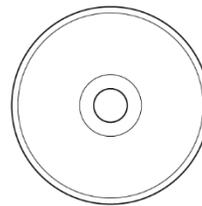
Test Video Cable



Template Sheet



Screw & Plastic  
Anchor-2pcs

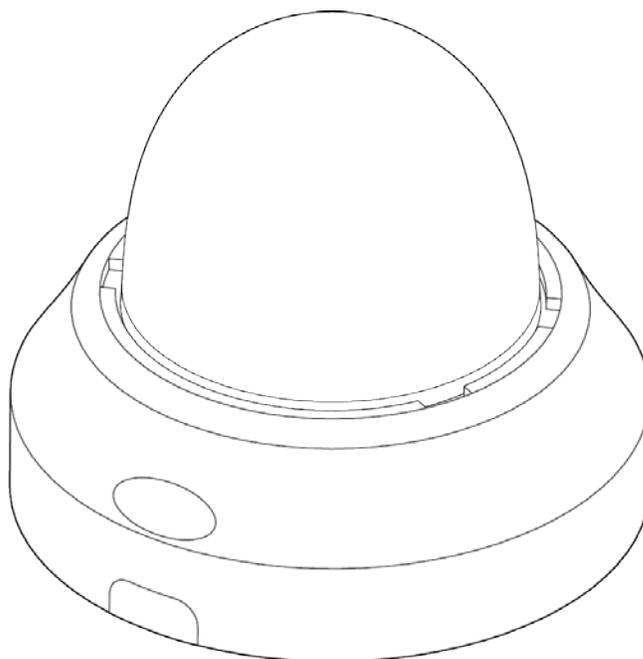


Manual CD

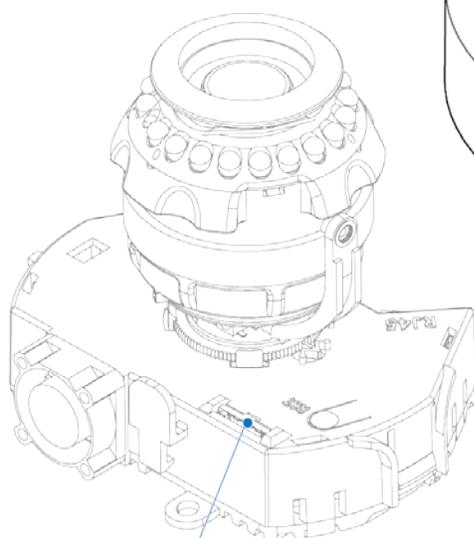


Quick Manual

# PARTS & DESCRIPTIONS\*

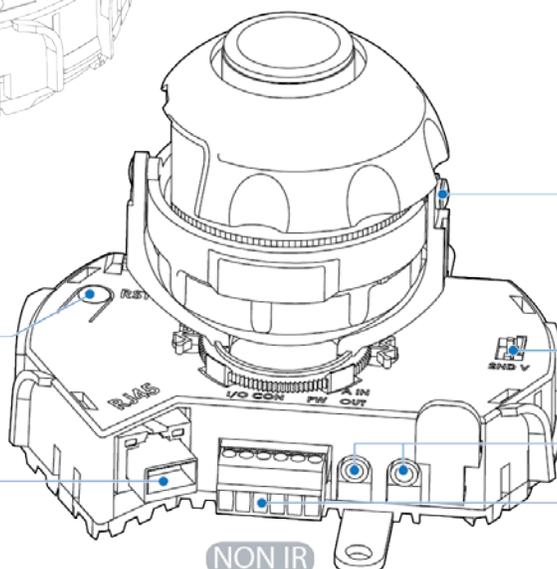


1 Dome Cover



SD Card Slot 9

IR



Factory Reset Switch 3

NON IR

Network Cable Port 4

5 Tilt Stopper Screw

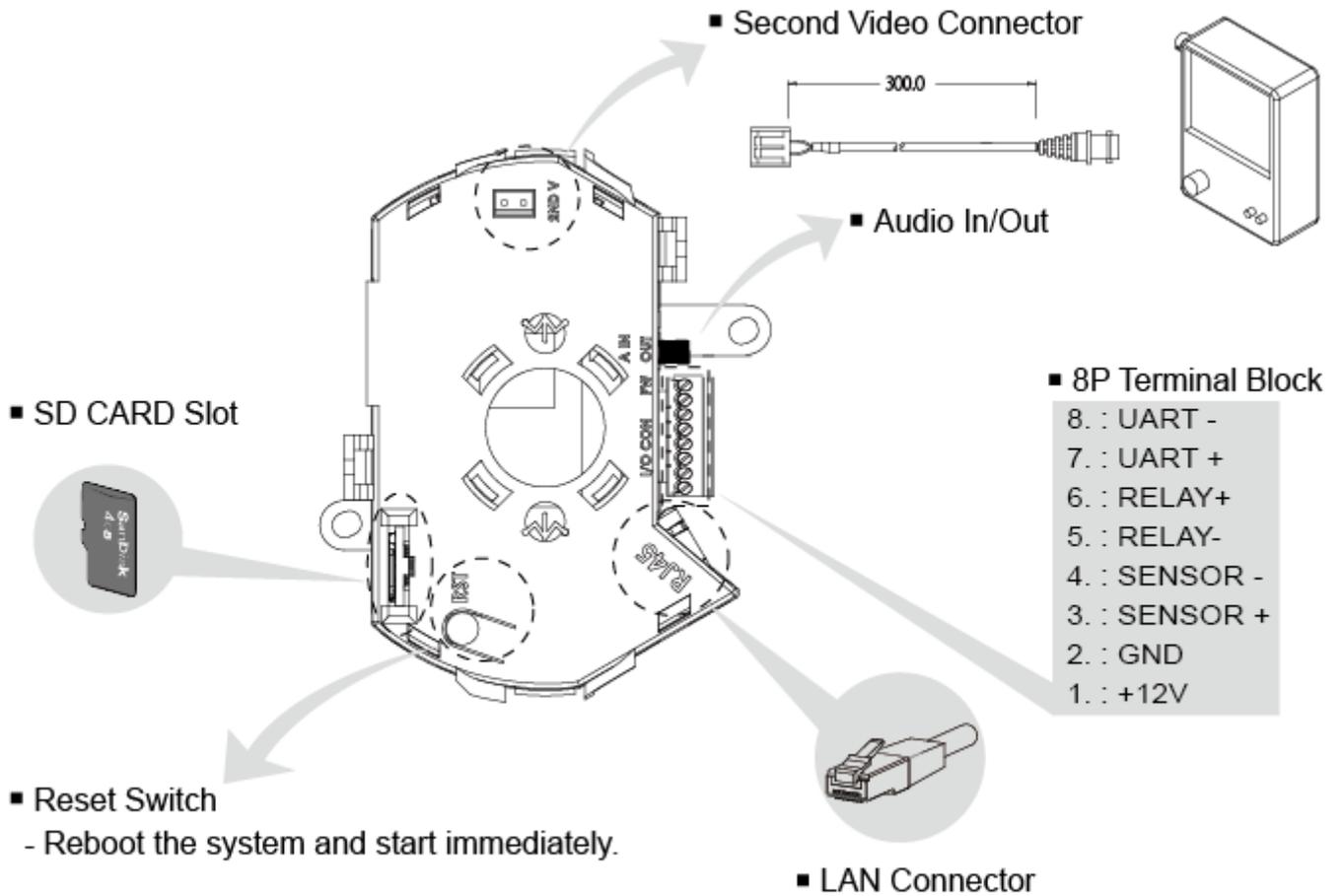
6 Test Video Port

7 Audio In/Out Port

8 Alarm I/O Port

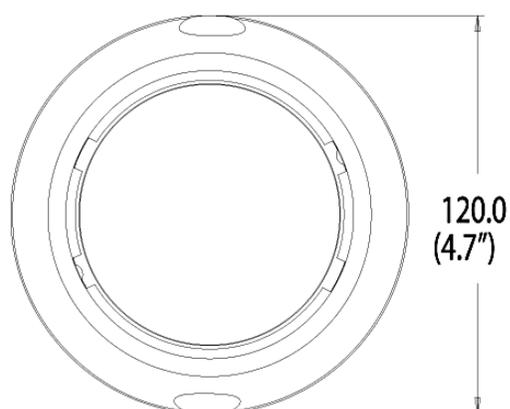
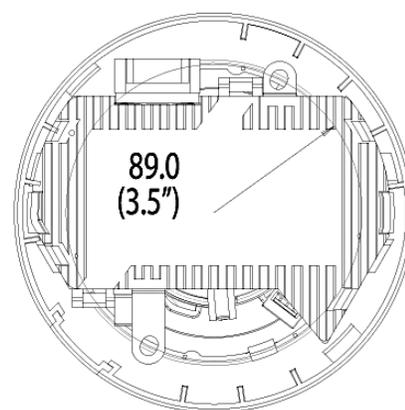
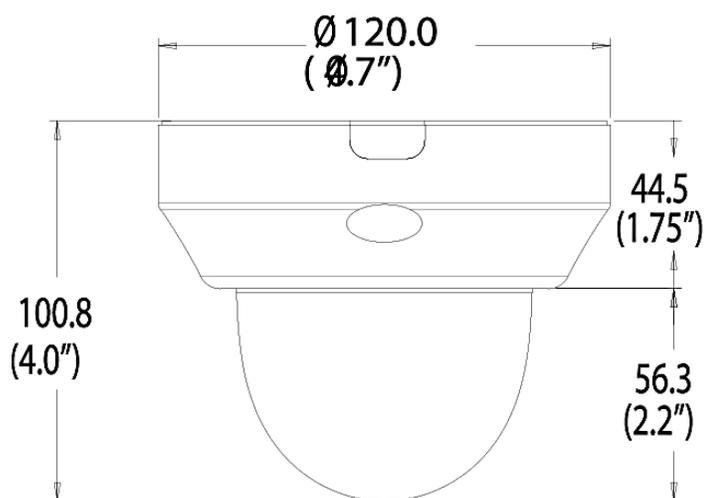
2 Main Body

# CAMERA CONTROL BOARD\*



*UART +/- is for debugging purposes only.*

## DIMENSIONS\*



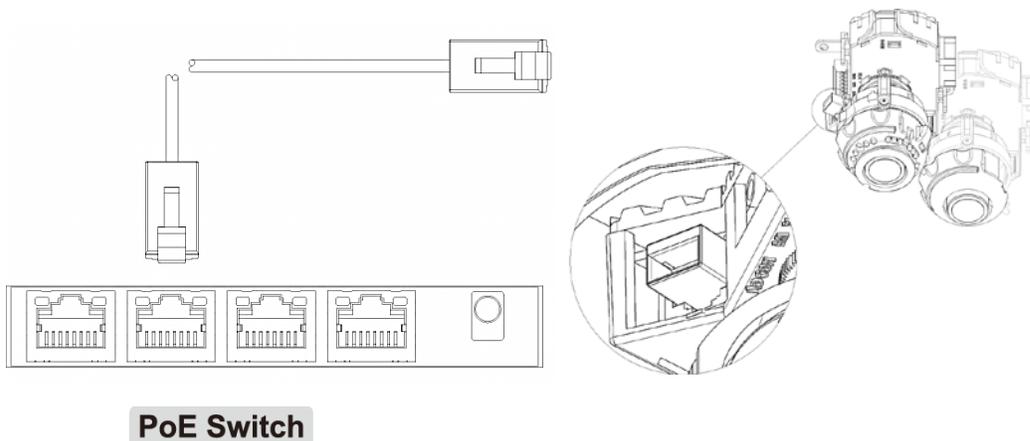
# NETWORK CONNECTION\*

There are two way to power a MEGApix® 1080p™ camera.

Use a PoE-enabled switch to connect data and power through a single cable and begin viewing and recording images instantly. A non-PoE switch will require an adaptor for power transmission.

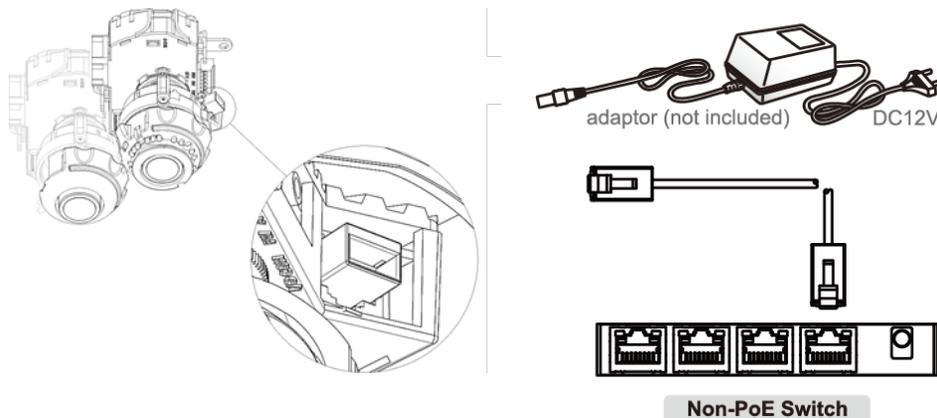
## 1. Using a PoE-Enabled Switch

The MEGApix® 1080p™ Camera is PoE-Compliant, allowing transmission of power and data via a single Ethernet cable. PoE eliminates the need for the different cables used to power, record, or control the camera. Follow the illustration below to connect the camera to a PoE-enabled switch using an Ethernet cable.



## 2. Using 12VDC

If a PoE injector is not available, use a power adaptor for power transmission and a non-PoE switch for data transmission. Follow the illustrations below to connect the camera without a PoE Injector.



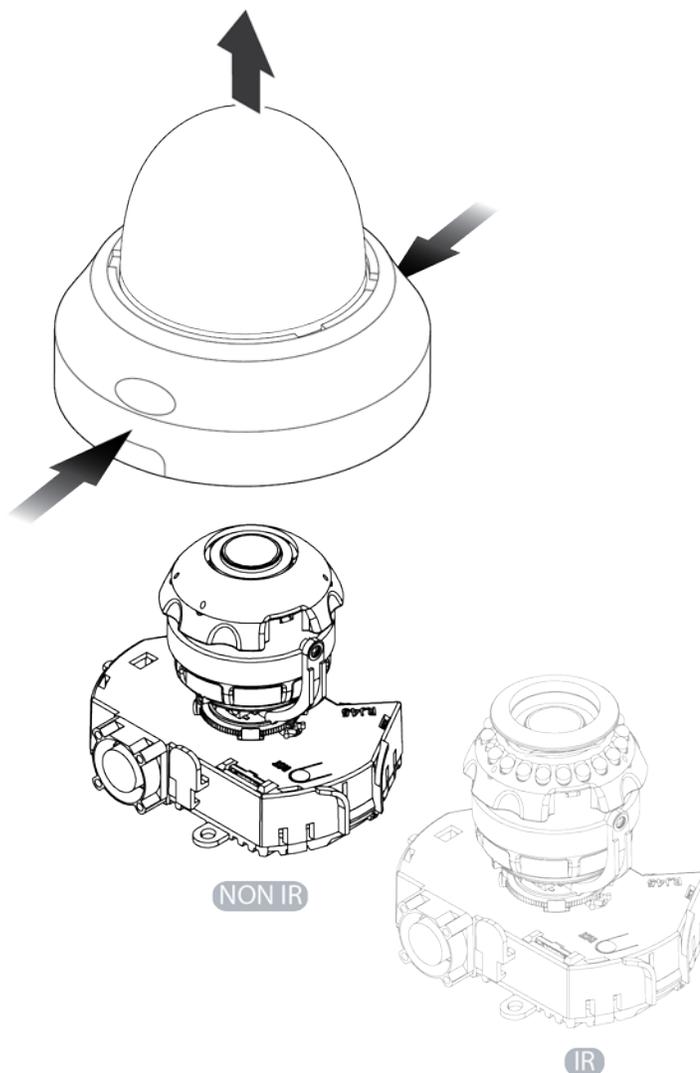
# INSTALLATION\*

## Snapit Easy Installation

To remove the camera's protective bubble dome, hold the camera and squeeze on both sides of the cover dome to loosen the hold on the camera module.

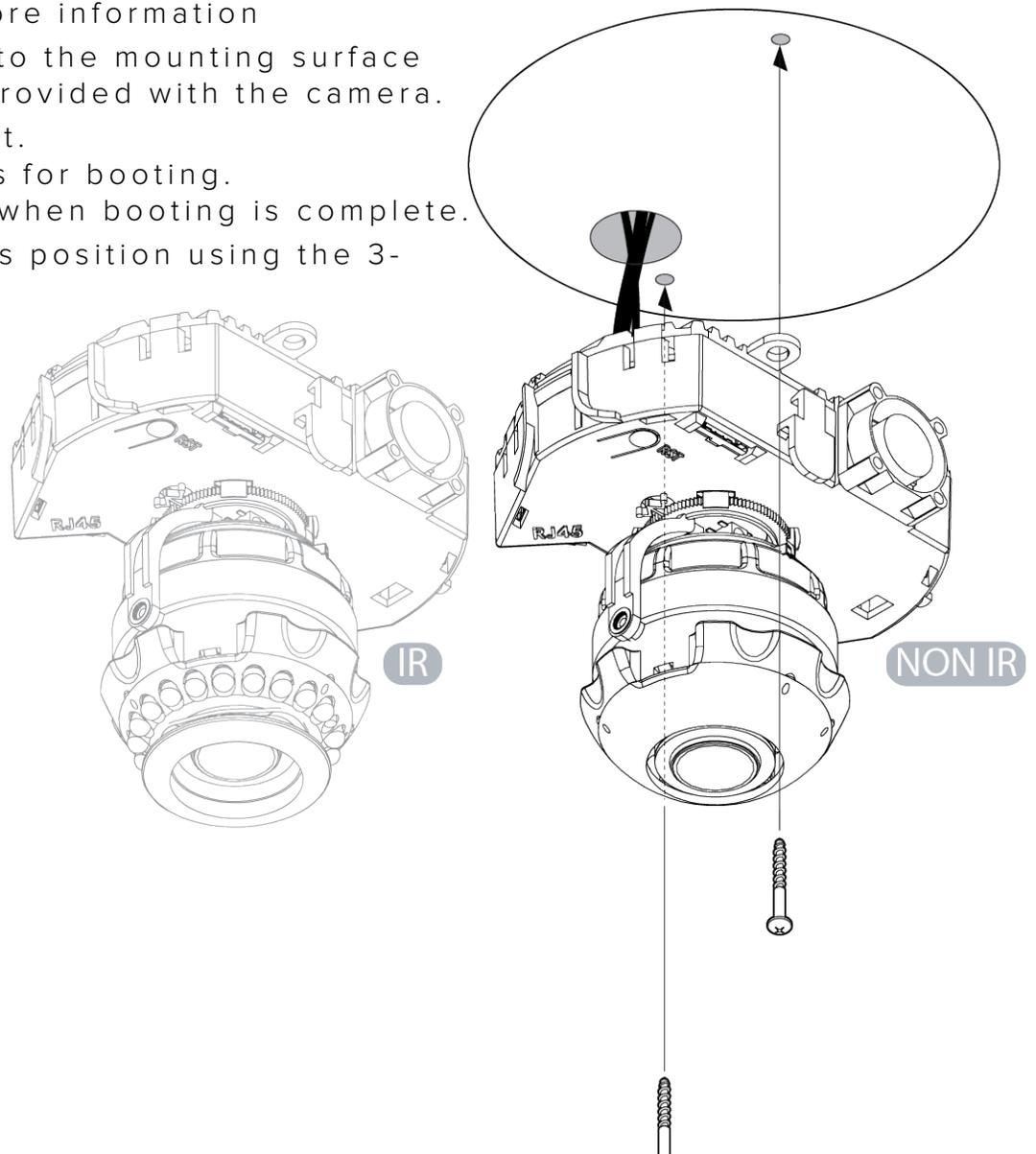
While squeezing, hold the camera module and gently remove it from the bubble dome.

If the camera doesn't snap out easily, try squeezing the cover dome a little tighter.



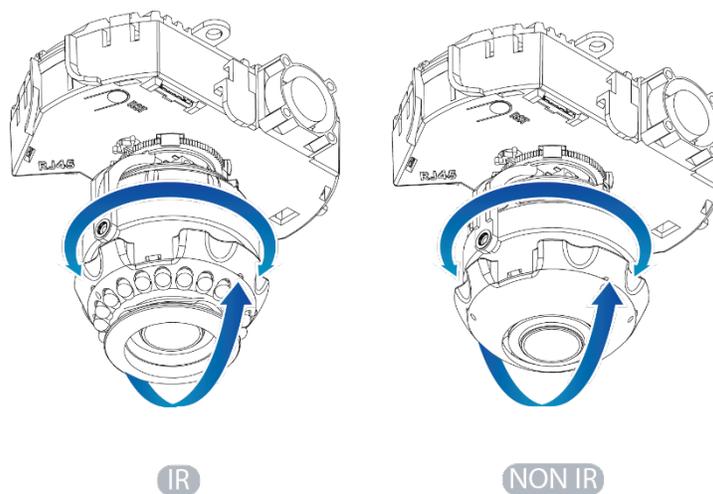
# INSTALLATION\*

1. Use the camera's mounting template or your camera to mark the holes as required.
2. Drill holes into the mounting surface and insert the drywall mounts into the holes.
3. Pull wires through and make connections. See page 14 for more information
4. Mount the camera to the mounting surface using the screws provided with the camera.
5. Check the LED light.  
Green light flickers for booting.  
Red light turns on when booting is complete.
6. Adjust the camera's position using the 3-Axis Gimbal.



## INSTALLATION\*

7. Adjust the camera's tilt and lens position See page 15 for more information.



8. Snap the cover dome back over the camera to complete the installation.
9. To properly attach the dome back to the camera, align the small indentation in the dome with the RJ45 connector in the camera's module.



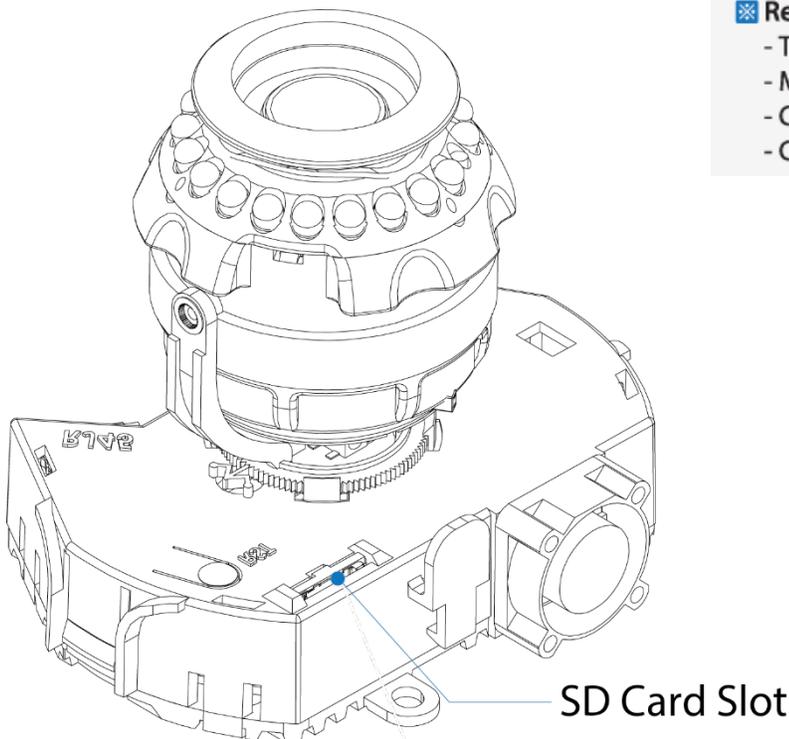
# INSTALLATION\*

## SD Card

Use the diagram below for installation of 15an SD Card for local emergency backup. When setup properly, the camera will record to the local SD card when it detects it is not recording to any servers and is not connected to the network.

To install the SD card:

1. Locate the SD card slot in the back of the camera module.
2. Insert the SD card in the slot and push it down, until you hear a 'click' sound.
3. To remove SD card, press the SD card down until you hear a 'click.' The SD card will eject from the slot.
4. When you are complete, go to the camera's web viewer. (See page 44 for more information)



**The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.**



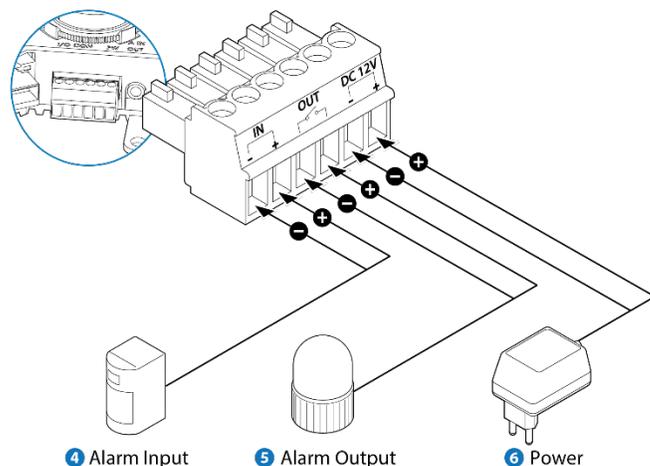
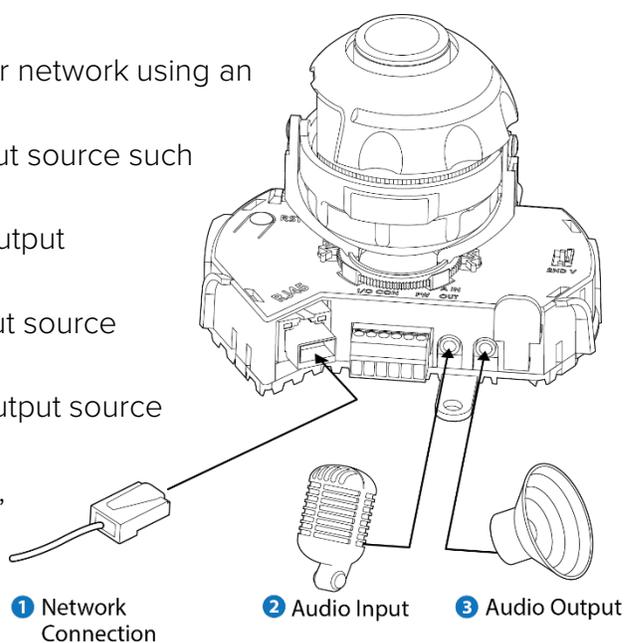
- ❖ **Recommended SD Card Specification (Not Included)**
- Type: Micro SD (SDHC)
  - Manufacturer: Transcend, Kingston, Toshiba, Sanddisk
  - Capacity: 4~16G
  - Class: over Class 6

# INSTALLATION\*

## Cabling

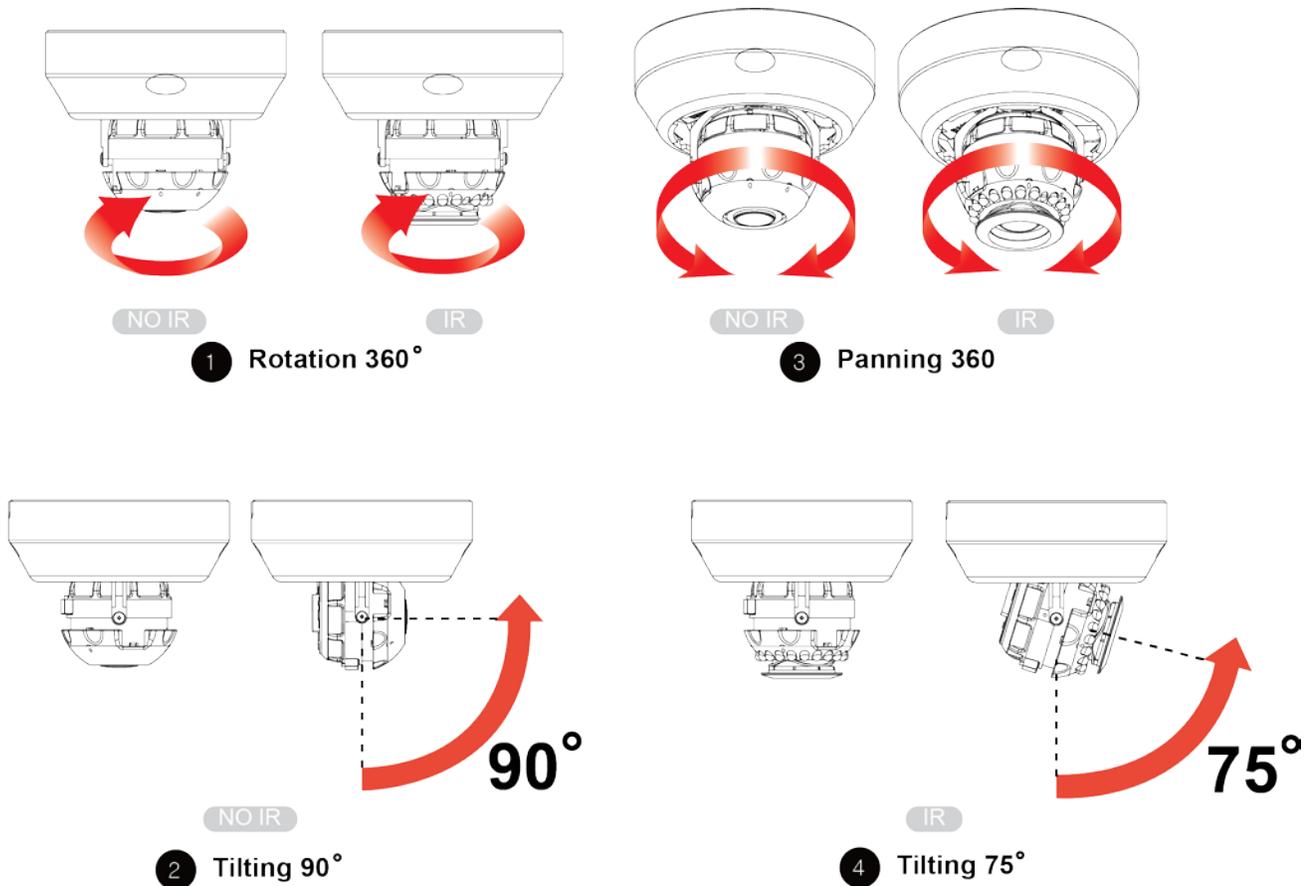
Use the diagram below to connect all external devices such as alarms, sensors, and audio, to the camera.

1. Network Connection: Connect the camera to your network using an RJ59 cable.
2. Audio Input: Connect the camera to an audio input source such as a microphone.
3. Audio Output: Connect the camera to an audio output source such as speakers.
4. Alarm Input: Connect the camera to an alarm input source such as a sensor.
5. Alarm Output: Connect the camera to an alarm output source such as an alarm, door lock, etc.
6. Power: If PoE switch is not available (See page 9), use DV12V power supply to power the camera.



## CAMERA'S ANGLE\*

The Gimbal mechanism yields maximum rotation and placement as shown below.



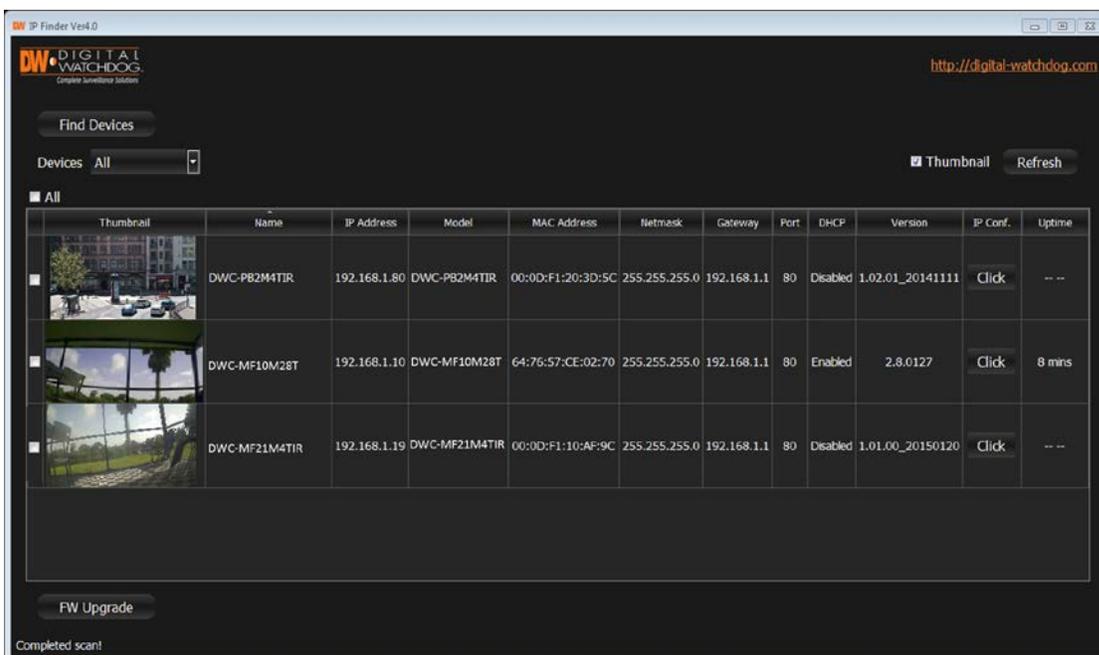
*Do not over rotate the lens. Doing so will damage the camera lens module.*

# DW DESKTOP TOOL™

## Installing DW IP Finder™ Software

DW Desktop Tool™ searches for all available Digital Watchdog devices currently connected to your network.

1. Install **DW Desktop Tool** to find the MEGApix® 1080p™ camera on your local network. The software can be found on the included User Manual CD. Run **DW Desktop Tool** and install onto your PC.
2. When setup is complete, launch **DW Desktop Tool**.
3. The software will automatically search your network for all Digital Watchdog® supported devices. Your camera will appear as "DWC-MD421D", "DWC-MD421DB", "DWC-MD421TIR", "DWC-MD421TIRB".
4. Double-click on the camera name and select 'View Camera Website' to launch the camera' web viewer.



*\*Install the DW Desktop Tool to a computer on the same Subnet Mask as the MEGApix® camera.*

# DW IP FINDER™

## Using DW IP Finder™ Software

Use DW Desktop Tool™ to change the basic settings of your MEGApix® camera or to connect to your MEGApix® camera.

The screenshot shows the DW IP Finder V4.0.0 interface. At the top left, there is a 'Find Devices' button and a 'Devices' dropdown menu set to 'All'. A 'Refresh' button is located at the top right. The main area displays a table of discovered cameras. The table has columns for Thumbnail, Name, IP Address, Model, MAC Address, Netmask, Gateway, Port, DHCP, Version, IP Conf., and Uptime. Three cameras are listed: DW-C-PB2M4TIR, DW-C-MF10M28T, and DW-C-MF21M4TIR. Below the table is an 'FW Upgrade' button and a status message 'Completed scan!'. Callouts point to various elements: 'Search for Cameras' points to the 'Find Devices' button; 'Filter Search Results' points to the 'Devices' dropdown; 'Camera's Network Settings' points to the table columns; 'View Camera's Thumbnail View' points to the 'Thumbnail' column; 'Camera Uptime' points to the 'Uptime' column; 'Camera's Firmware' points to the 'Version' column; 'Open Camera's IP Configuration Screen' points to the 'Click' button in the 'IP Conf.' column; 'Camera Name, Model, IP Address, and MAC Address' points to the first four columns; and 'Firmware Upgrade' points to the 'FW Upgrade' button.

Search for Cameras

Filter Search Results

Camera's Network Settings

View Camera's Thumbnail View

Camera Uptime

Camera's Firmware

Open Camera's IP Configuration Screen

Camera Name, Model, IP Address, and MAC Address

Firmware Upgrade

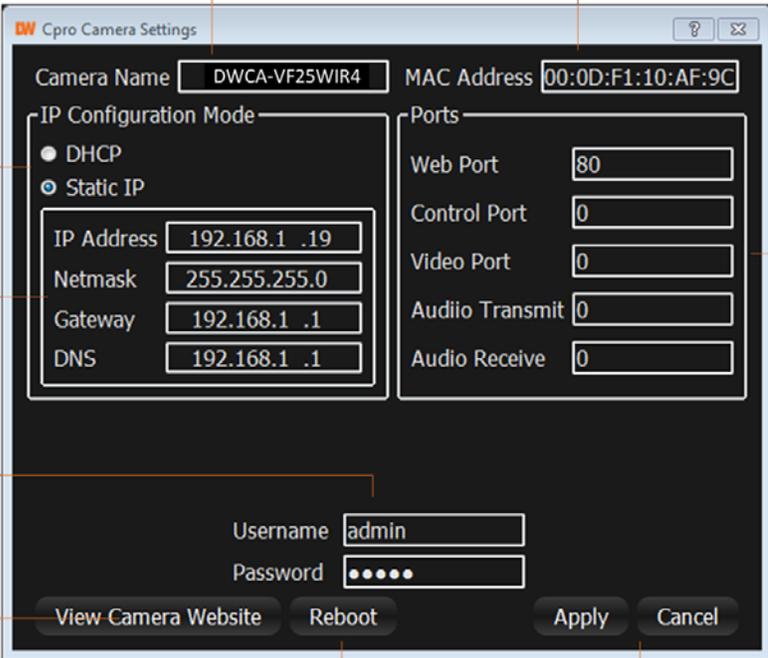
Thumbnail	Name	IP Address	Model	MAC Address	Netmask	Gateway	Port	DHCP	Version	IP Conf.	Uptime
	DWC-PB2M4TIR	192.168.1.80	DWC-PB2M4TIR	00:0D:F1:20:3D:5C	255.255.255.0	192.168.1.1	80	Disabled	1.02.01_20141111	Click	--
	DWC-MF10M28T	192.168.1.10	DWC-MF10M28T	64:76:57:CE:02:70	255.255.255.0	192.168.1.1	80	Enabled	2.8.0127	Click	8 mins
	DWC-MF21M4TIR	192.168.1.19	DWC-MF21M4TIR	00:0D:F1:10:AF:9C	255.255.255.0	192.168.1.1	80	Disabled	1.01.00_20150120	Click	--

# DW IP FINDER™

## Using DW IP Finder™ Software

Use IP Finder to set the connection type and the IP address information for your MEGApix® 1080p™ camera.

1. **DHCP:** Select DHCP to access the camera within the same internal network. For further explanation on DHCP, please see page 15.
2. **Static IP:** Select Static to connect to the camera from an external network. For further explanation on Static, please see page 15.



The screenshot shows the 'DW Cpro Camera Settings' window with the following fields and controls:

- Camera Name:** DWCA-VF25WIR4
- Camera's MAC Address:** 00:0D:F1:10:AF:9C
- Network Type:** Static IP (selected)
- Camera's Network Settings:**
  - IP Address: 192.168.1.19
  - Netmask: 255.255.255.0
  - Gateway: 192.168.1.1
  - DNS: 192.168.1.1
- Camera's Ports:**
  - Web Port: 80
  - Control Port: 0
  - Video Port: 0
  - Audio Transmit: 0
  - Audio Receive: 0
- Camera's Username and Password:**
  - Username: admin
  - Password: [masked]
- Buttons:** View Camera Website, Reboot, Apply, Cancel

Annotations on the left side of the image point to these specific fields and controls:

- Camera's Name
- Camera's MAC Address
- Network Type
- Camera's Network Settings
- Camera's Username and Password
- Open the Camera's Web Viewer
- Reboot the Camera
- Camera's Ports
- Save / Cancel Changes

\*If you change the camera's IP, write down the camera's MAC Address for identification in the future.

# DW IP FINDER™

## DHCP

The Dynamic Host Configuration Protocol (DHCP) is a network configuration protocol that allows a device to configure automatically according to the network it is connected to. If your network supports DHCP, and your MEGAPIX camera is setup as DHCP; then once you search for your camera using IP Finder, the search results will display your MEGAPIX camera with already set network settings that correspond to your network requirements.

## Static

Static IP addresses are recommended when using a network that does not support DHCP. If Static is selected, then you must manually enter all the network settings for your MEGAPIX camera that would correspond with your network. Static IP addresses are recommended if you want to setup your device to be accessed externally via the internet. For each setup of the camera to a static IP address, it is recommended that you first setup the camera to DHCP, allow it to configure itself according to your network, and then change the settings to a static IP address. To set your MEGAPIX camera to static, highlight the desired device from the search results list, and click on Configuration. In the new setup window, make sure static is selected. Enter the following information: IP Address, Netmask, Gateway, Preferred DNS. Click Apply and System Reboot to save all changes.

## DDNS

Dynamic Domain Server is a feature that allows you to use a URL instead of an IP address to access your MEGAPIX camera. The feature is optional, for it may require subscription and payment. To use the DDNS feature, check the box next to Use DDNS. Select the server you wish to use. \*Some servers may require subscription and payment. Enter the desired Hostname. If applicable, enter the User ID and Password. Click Apply and System Reboot to save all changes.

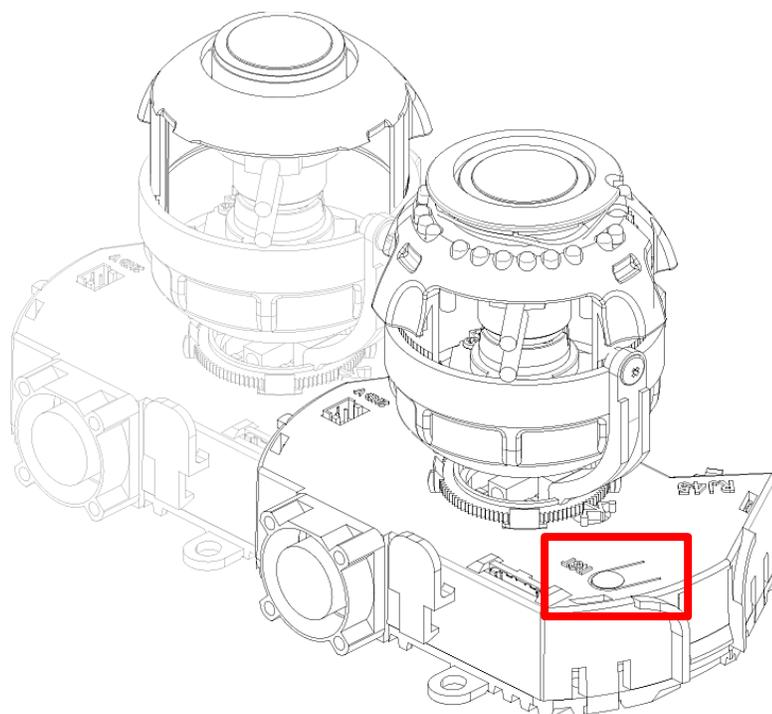
# CAMERA REBOOT\*

## Resetting the Camera

Pressing the reset button on the camera's control board for five (5) seconds will initialize all environmental variables to factory default. Previous setup for IP default, time, etc. will be deleted. If a system's IP address is lost, reset the camera back to factory default.

The following are the default network settings.

IP Mode	DHCP
IP Address	192.168.1.123
Subnet Mask	255.255.255.0
Gateway	192.168.1.123
Base Port	7000
HTTP Port	80



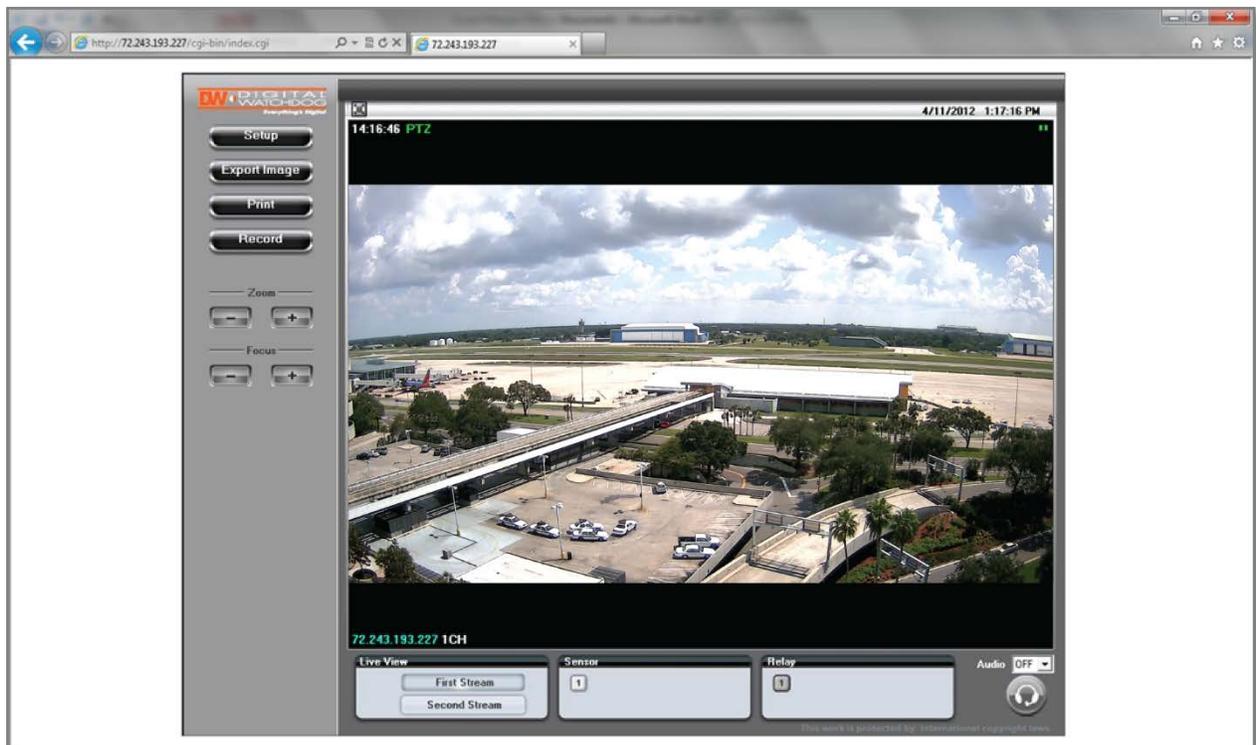
*\*Frequent use may cause system error.*

# WEBVIEWER\*

## Remote Video Monitoring Via Internet Explorer

Monitor and configure the MEGAPIX camera through a built-in Web viewer.

1. Type the IP address of the camera on the Internet Explorer window.  
Example: <http://192.168.1.123> (Factory Default)
2. Enter Username and Password. Username: admin | Password: admin
3. The web browser will ask to install Active-X Control. Once it has been installed, Internet Explorer will display video images from the camera.

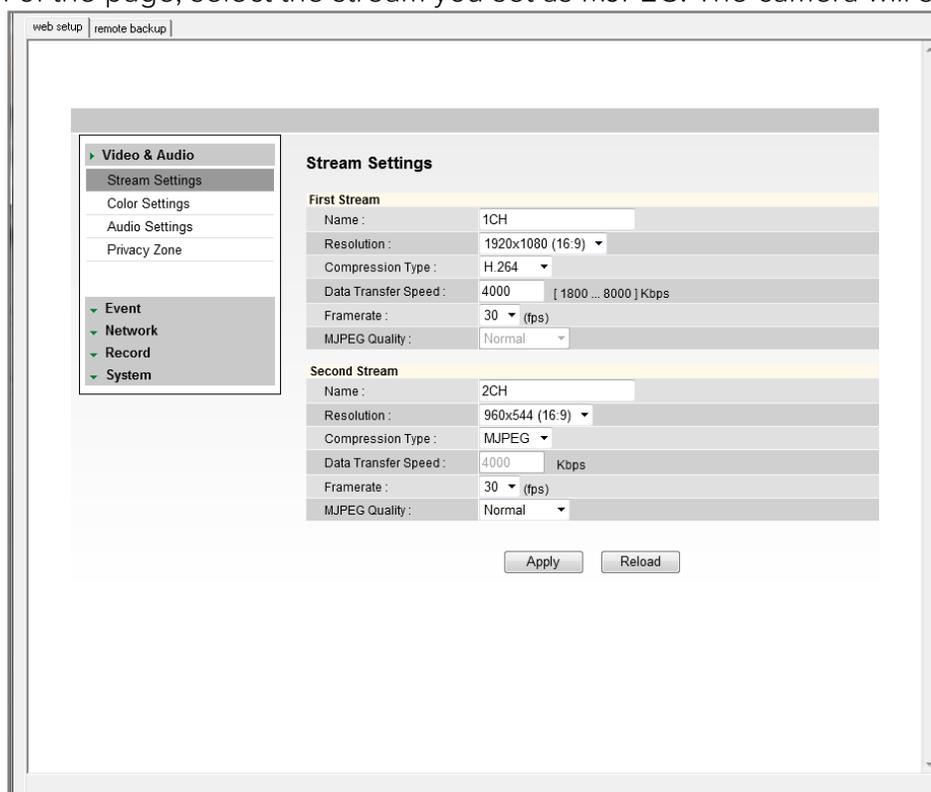


# WEBVIEWER\*

## Remote Video Monitoring Via Chrome, Firefox, or Safari

You can view your MEGAPIX camera using web browsers other than Internet Explorer. To do so, at least one of the streams of the camera must be set to the codec MJPEG.

1. Open Google Chrome, Mozilla Firefox, or Apple Safari Web Browser.
2. Enter the IP camera's IP address. NOTE: If the first stream is set to H.264, then a video will not be displayed on the GUI.
3. Click the Setup button. Then go to Video & Audio > Stream Settings.
4. Modify one of the two streams to the codec MJPEG.
5. Click Apply to make sure all changes have been saved and your camera has been rebooted.
6. Exit the screen to return to the camera's main page.
7. At the bottom of the page, select the stream you set as MJPEG. The camera will start streaming video.



# WEBVIEWER\*

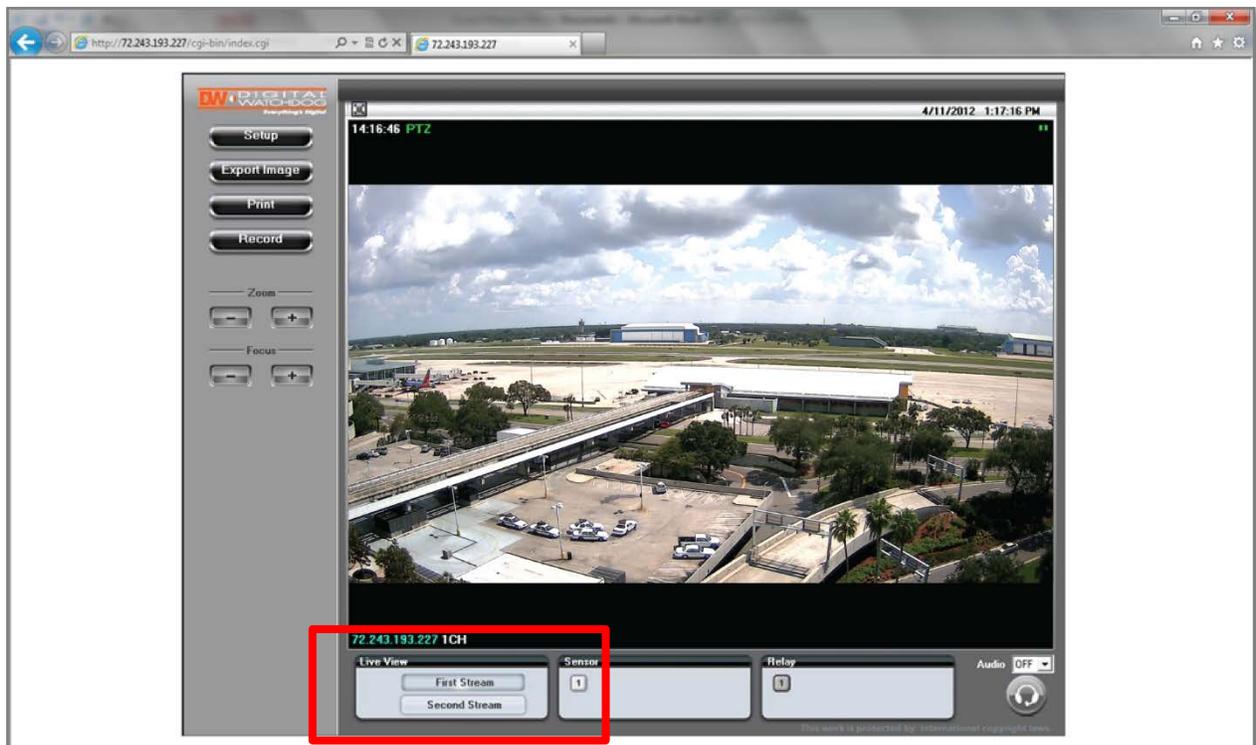
## Display Screen > First Stream & Second Stream

Configure two stream settings for monitoring and recording.

On the main monitoring page, view the camera with the First Stream settings or the Second Stream settings.

Below the display screen, click on the First Stream and Second Stream buttons to view the different camera settings.

To setup Stream Settings, refer to page 28.

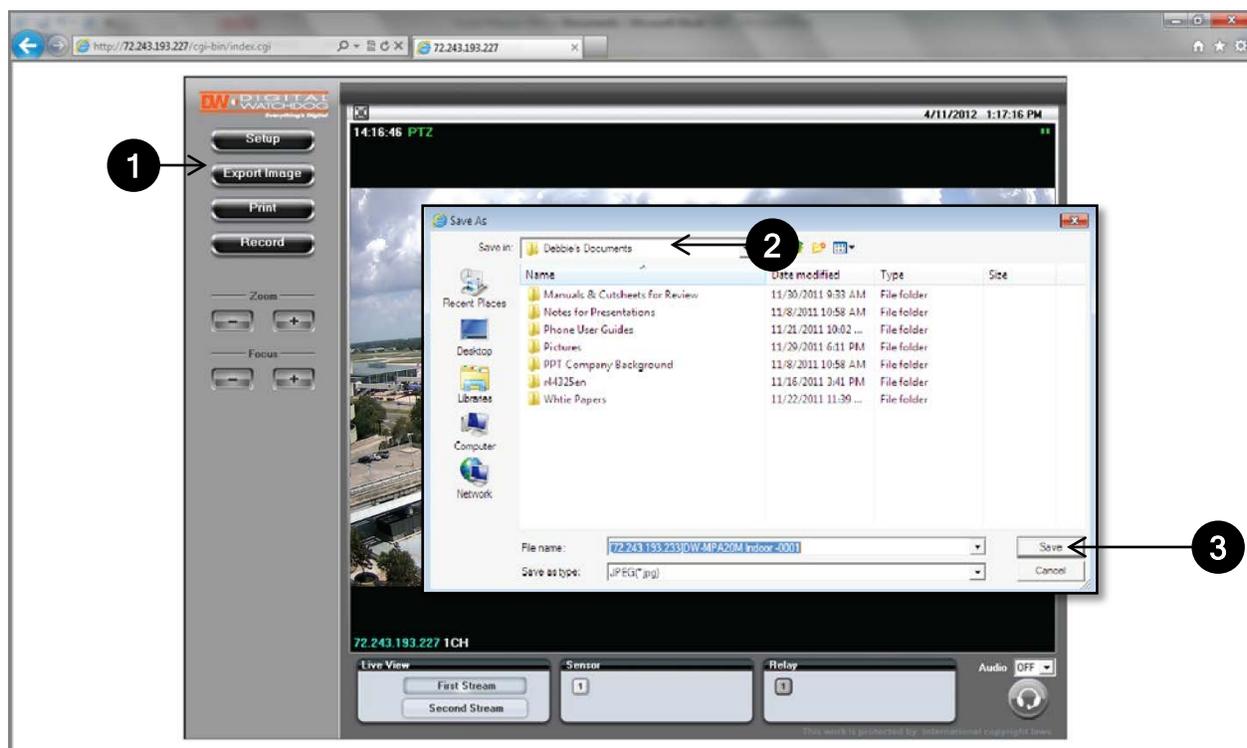


# WEBVIEWER\*

## Display Screen > Export Image

Export a screenshot of current live video to your computer.

1. Select the Export Image button. A 'Save As' window will appear.
2. Select the folder you wish to Save in and type a File Name.
3. Click 'Save' and the screenshot will be saved.\*



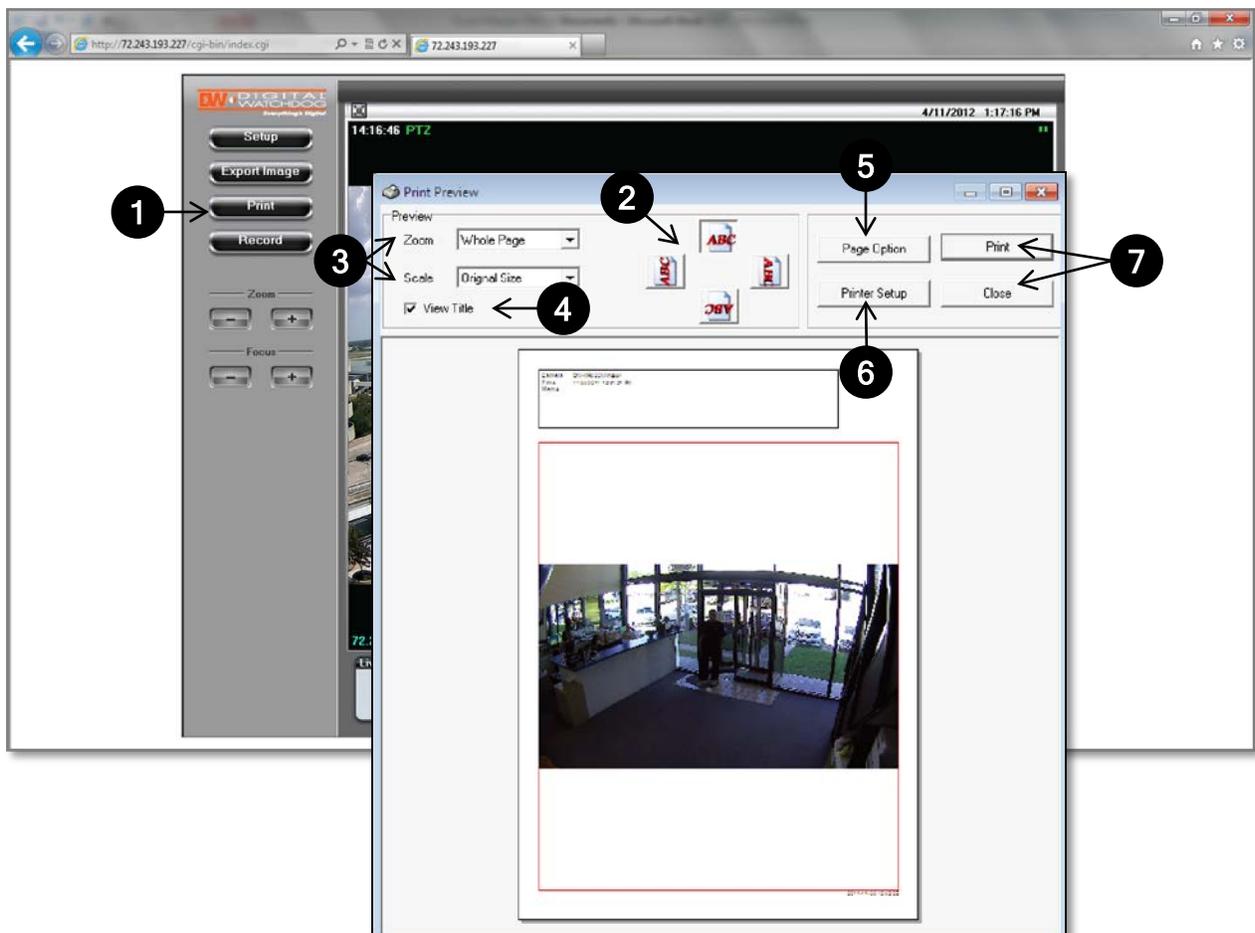
*\*By default, image can only be saved as a JPEG file.*

# WEBVIEWER\*

## Display Screen > Print Image

Print a screenshot of the current live video.

1. Select the Print button. The Print Preview window will appear.
2. Adjust the orientation of the screenshot: portrait or landscape, facing left, right, up, or down.
3. Zoom in on a portion of an image prior to printing or select the image's scale on the page:
4. To print information about the screenshot, select View Title.
5. To add a memo for the screenshot, select Page Option.
6. Go to Printer Setup to select the printer and manage printer properties.
7. Select Print to print the page, or Close to cancel the print.



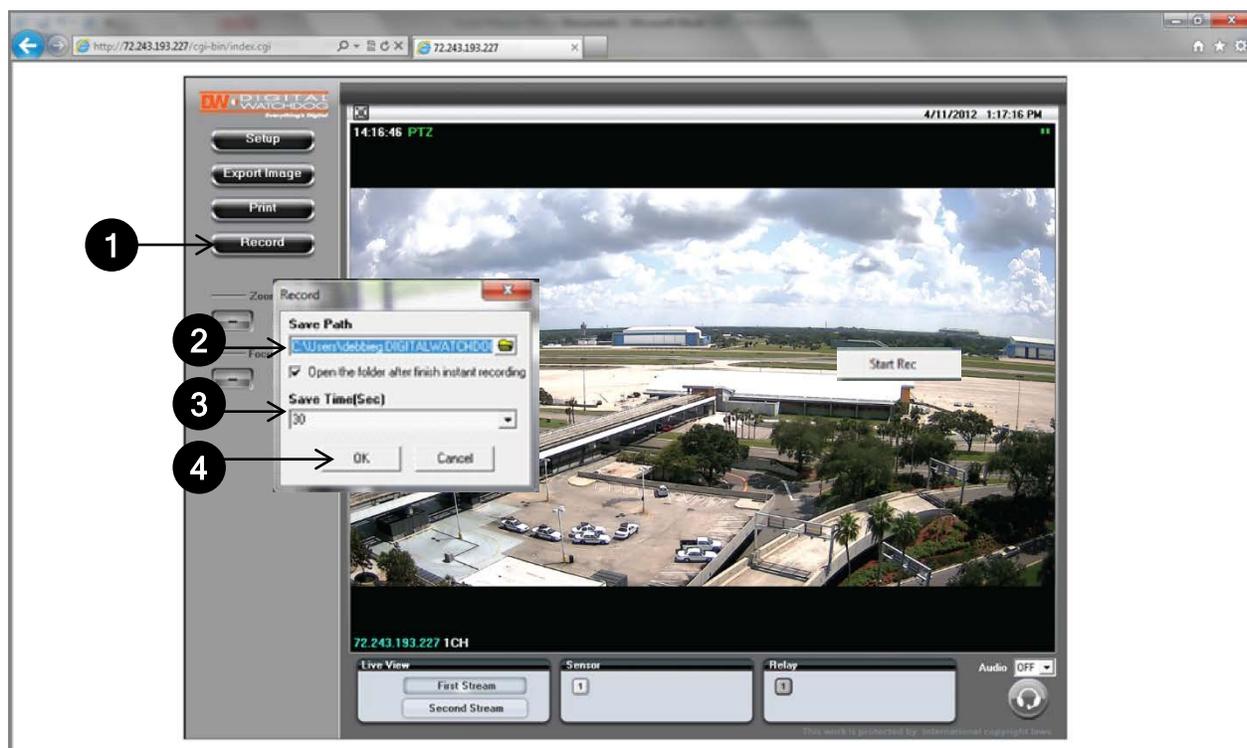
# WEBVIEWER\*

## Display Screen > Record

Instantly record live video to your local drive.

To Setup Instant Recording

1. Select the Record button.
2. Indicate where you want the videos to be saved.
3. Setup the duration of the instant recording. You can record up to 120 seconds of live video.
4. When setup is complete, click OK to save changes or Cancel to cancel any changes.



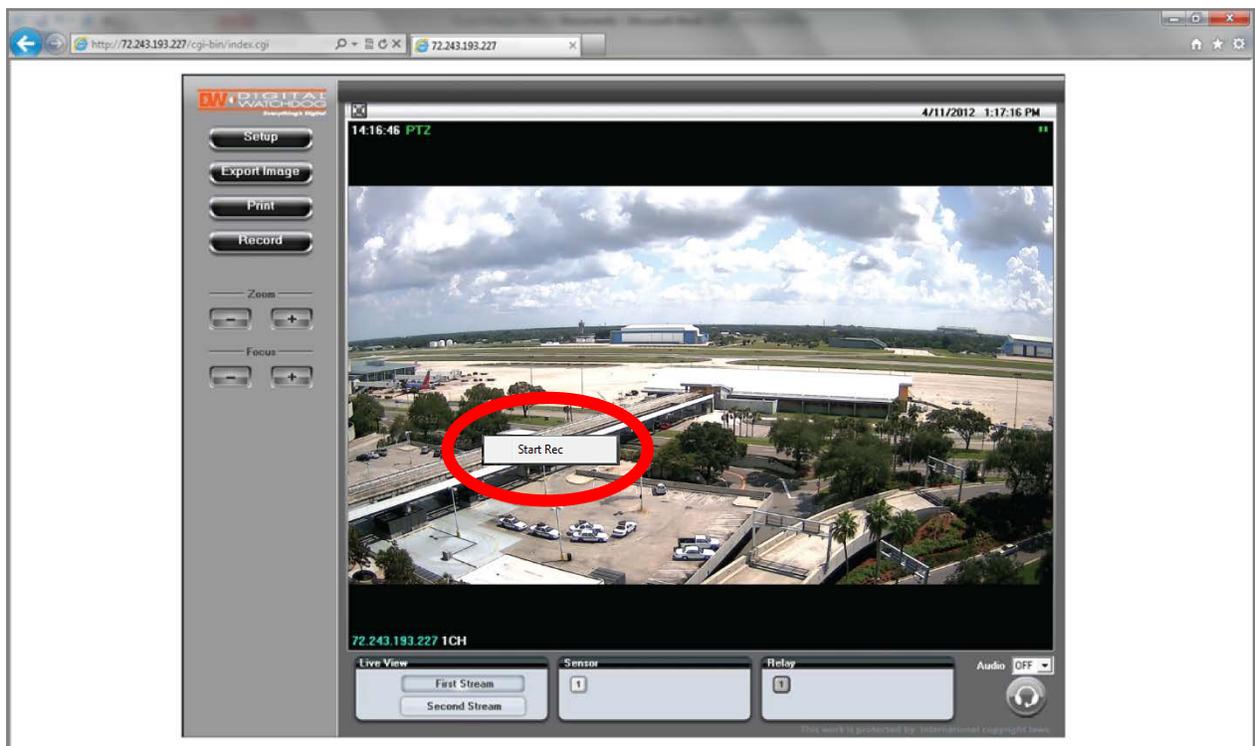
# WEBVIEWER\*

## Display Screen > Record

Instantly record live video to your local drive.

To Start and Stop Instant Recording:

1. To Start, right-click anywhere on the display screen.
2. Select Start Rec. The icon on the top right of the screen will change to **INSTANT**.
3. To Stop, right-click anywhere on the display screen.
4. Select Stop Rec. The video will be displayed in the designated folder when recording is complete.

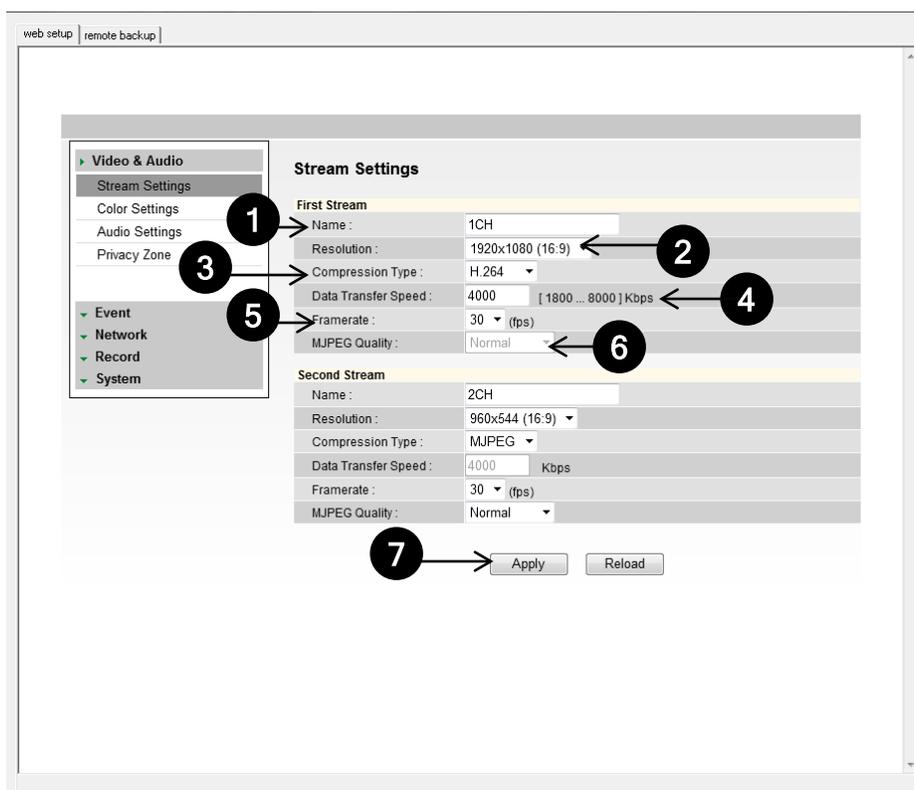


# WEBVIEWER\*

## Setup > Video & Audio > Stream Settings

The Recommended Stream Settings are indicated on the image to the left. This is also the factory default settings.

1. Name: Set a distinguished name to each stream to identify each.
2. Resolution: Set Resolution for each stream. The better the resolution of the video, the more bandwidth it will require to stream images.
3. Compression Type (Codec): Select the type of compression to use when outputting the video.
4. Data Transfer Speed: Set encoding bitrate if H.264 and MPEG4 compression type is selected.
5. Framerate: Select from 0fps to 30fps.
6. MJPEG Quality: Set MJPEG image quality. This is only available when the compression is set to MJPEG. The higher the quality, the more bandwidth will be required to stream the image.
7. Select Apply to save changes.



# WEBVIEWER\*

## Setup > Video & Audio > Color Settings

Use this setup menu to adjust the camera's White Balance, Exposure, Day/Night and image settings.

- White Balance: Mode - Also known as Color Balance. This gives the camera a reference to “true white.” Select from Auto, Auto\_H, Auto\_L, Preset, or Manual.
- Auto Exposure: Set Brightness, Shutter Mode, Digital Slow Shutter, Shutter Speed, AGC Gain, and BLC Mode.
  1. Brightness: Select from 0 (darkest) to 20 (brightest).
  2. Shutter Mode: Set the amount of light allowed in the video manually or automatically.
  3. Digital Slow Shutter: Recommended in low light conditions. Turn On (2x, 3x, 4x) or Off.
  4. Shutter Speed: Select the speed at which the camera's shutter will operate—1/30, 1/60, or 1/120.
  5. AGC Gain: Maximum light gain settings in low light conditions. Select from 0 (least light) to 20 (most light).

<b>White Balance</b>	
Mode	Auto ▾
<b>Auto Exposure</b>	
Brightness	16 ▾
Shutter Mode	Manual ▾
Shutter Speed	1/30 ▾
Digital Slow Shutter	4x ▾
AGC Gain	20 ▾
WDR/BLC Mode	WDR ▾
WDR Level	5 ▾
<b>Day &amp; Night</b>	
Mode	Day(Color) ▾
<b>Extra Setting</b>	
Chroma	8 ▾
Sharpness	5 ▾
Mirror	Off ▾
Flip	Off ▾
Digital Noise Reduction	High ▾

Apply    Reload    Default

# WEBVIEWER\*

## Setup > Video & Audio > Color Settings

Use this setup menu to adjust the camera's White Balance, Exposure, Day/Night and image settings.

- WDR/ BLC Mode: In this menu you can select to apply either Wide Dynamic Range or Backlight Compensation to adjust the image in harsh lighting environments.
  1. WDR Level: If WDR is selected, adjust the level of WDR between 0 (no WDR) to 9 (high WDR adjustment). The default value is 5. The higher the WDR level, dark areas in the image will appear brighter, and bright areas will appear darker.
  2. Back Light Compensation (BLC): Adjust the camera's capture of light when there is strong backlight in the camera's Field of View [FoV]. Select to enable or disable.
- Select 'Apply' to save changes, 'Reload' to return to the last saved settings, or 'Default' to return all settings to their factory default values.

<b>White Balance</b>	
Mode	Auto ▾
<b>Auto Exposure</b>	
Brightness	16 ▾
Shutter Mode	Manual ▾
Shutter Speed	1/30 ▾
Digital Slow Shutter	4x ▾
AGC Gain	20 ▾
WDR/BLC Mode	WDR ▾
WDR Level	5 ▾
<b>Day &amp; Night</b>	
Mode	Day(Color) ▾
<b>Extra Setting</b>	
Chroma	8 ▾
Sharpness	5 ▾
Mirror	Off ▾
Flip	Off ▾
Digital Noise Reduction	High ▾
<input type="button" value="Apply"/> <input type="button" value="Reload"/> <input type="button" value="Default"/>	

# WEBVIEWER\*

## Setup > Video & Audio > Color Settings

Use this setup menu to adjust the camera's White Balance, Exposure, Day/Night and image settings.

- Day & Night: Set the mode to Night (B/W), Day (Color), or Auto. If set as Auto, set a desired Color to B/W Level and B/W to Color Level.
  1. Switching from Color to B/W: Select from 0~10. The higher the number, the less darker the environment will have to be for the camera to switch from color to B/W.
  2. Switching from B/W to Color: This number should always be lower than the number set to color to B/W.
- Extra Settings: Set Lens Type, Chroma, Sharpness, Mirror, Flip, and Digital Noise Reduction.
  3. Lens Type: Set the camera to an indoor or outdoor lighting environment. Select Manual, DC, or AF.
  4. Chroma: Affect the quality of the color in the image. Select from 0~20. The higher the number, the brighter the color in the video.
  5. Sharpness: Select sharpness from 0~10 of the image.
  6. Mirror/ Flip: Select On or Off to mirror the image from left to right, or flip it upside down.
  7. Digital Noise Reduction: Control the level of noise in the image. Select from Off, Low, Middle, or High.
  8. Select Apply to save changes.

<b>White Balance</b>	
Mode	Auto ▾
<b>Auto Exposure</b>	
Brightness	16 ▾
Shutter Mode	Manual ▾
Shutter Speed	1/30 ▾
Digital Slow Shutter	4x ▾
AGC Gain	20 ▾
WDR/BLC Mode	WDR ▾
WDR Level	5 ▾
<b>Day &amp; Night</b>	
Mode	Day(Color) ▾
<b>Extra Setting</b>	
Chroma	8 ▾
Sharpness	5 ▾
Mirror	Off ▾
Flip	Off ▾
Digital Noise Reduction	High ▾

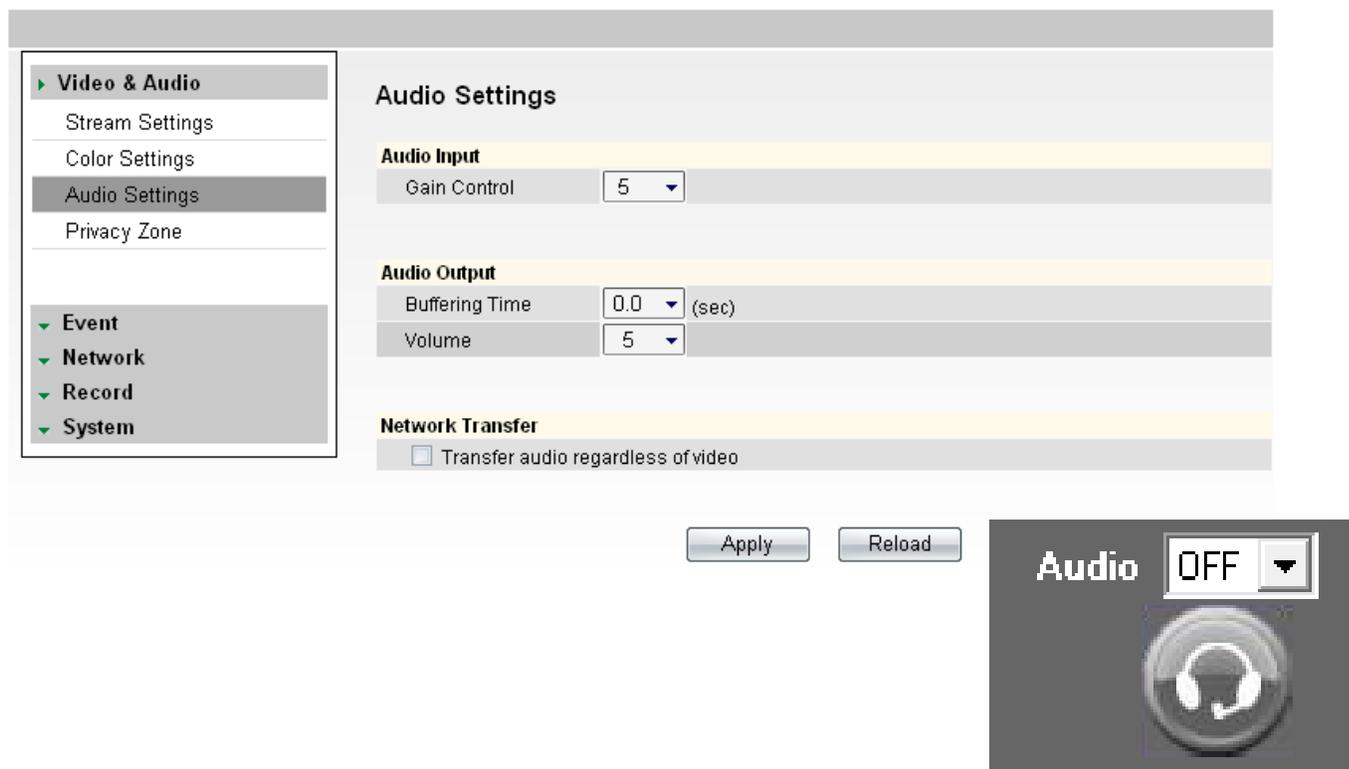
Apply    Reload    Default

# WEBVIEWER\*

## Setup > Video & Audio > Audio

Connect speaker/microphone wires (not included) to your camera and to a monitoring device (ex.: PC computer).

- On the Display Screen in your Web viewer, go to Setup, Video & Audio, and finally, Audio. Adjust settings to your preference.
  1. Audio Input: Set Gain (0-5).
  2. Audio Output: Set Buffering Time & Volume (0-5).
  3. Network Transfer: Select Transfer Audio regardless of video.
- On the Display Screen, change Audio (in the bottom left corner) from OFF to 1. This will enable you to hear external audio.
- To transfer audio to the camera, select the 'headset' button beneath Audio.



The screenshot shows the 'Audio Settings' configuration page. On the left is a navigation menu with 'Video & Audio' expanded to show 'Stream Settings', 'Color Settings', 'Audio Settings' (selected), and 'Privacy Zone'. Below this are 'Event', 'Network', 'Record', and 'System' sections. The main content area is titled 'Audio Settings' and contains three sections:
 

- Audio Input:** A 'Gain Control' dropdown menu is set to '5'.
- Audio Output:** 'Buffering Time' is set to '0.0 (sec)' and 'Volume' is set to '5'.
- Network Transfer:** A checkbox labeled 'Transfer audio regardless of video' is currently unchecked.

 At the bottom of the settings area are 'Apply' and 'Reload' buttons. In the bottom right corner, there is a dark grey control panel with the text 'Audio' and a dropdown menu set to 'OFF'. Below the dropdown is a circular icon of a headset.

# WEBVIEWER\*

## Setup > Video & Audio > Privacy Zone

The MEGAPIX® camera offers up to 30 privacy zone settings.

To set Privacy Zones:

1. Change Mode to **On**. Click Apply. By default, all 30 privacy zones will be displayed.
2. Select the color of the zone and transparency of the color from the drop down list. Click Apply.
3. Select the zones you want to view and/or modify. Use the Show All button to display all 30 privacy zones, or Hide All to deselect them and select only a single privacy zone. Click Apply.
4. Set the zone's size and location, using the grid lines. Under Local Settings, select the zone you want to modify, then select the position:
  - Horizontal Position: 0~57
  - Vertical Position: 0~31
  - Width: 0~60
  - Height: 0~34
5. Click Apply after each modification to verify the size and position match your requirements.

**Global Settings**

Mode	Off	Apply
Color	Cyan	
Transparency	4	
Display Zone	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 6 <input checked="" type="checkbox"/> 7 <input checked="" type="checkbox"/> 8 <input checked="" type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input checked="" type="checkbox"/> 11 <input checked="" type="checkbox"/> 12 <input checked="" type="checkbox"/> 13 <input checked="" type="checkbox"/> 14 <input checked="" type="checkbox"/> 15 <input checked="" type="checkbox"/> 16 <input checked="" type="checkbox"/> 17 <input checked="" type="checkbox"/> 18 <input checked="" type="checkbox"/> 19 <input checked="" type="checkbox"/> 20 <input checked="" type="checkbox"/> 21 <input checked="" type="checkbox"/> 22 <input checked="" type="checkbox"/> 23 <input checked="" type="checkbox"/> 24 <input checked="" type="checkbox"/> 25 <input checked="" type="checkbox"/> 26 <input checked="" type="checkbox"/> 27 <input checked="" type="checkbox"/> 28 <input checked="" type="checkbox"/> 29 <input checked="" type="checkbox"/> 30	Show All

**Local Settings**

Zone	Zone 1	Apply	
Horizontal Position	12	Vertical Position	2
Width	3	Height	3

Reload

# WEBVIEWER\*

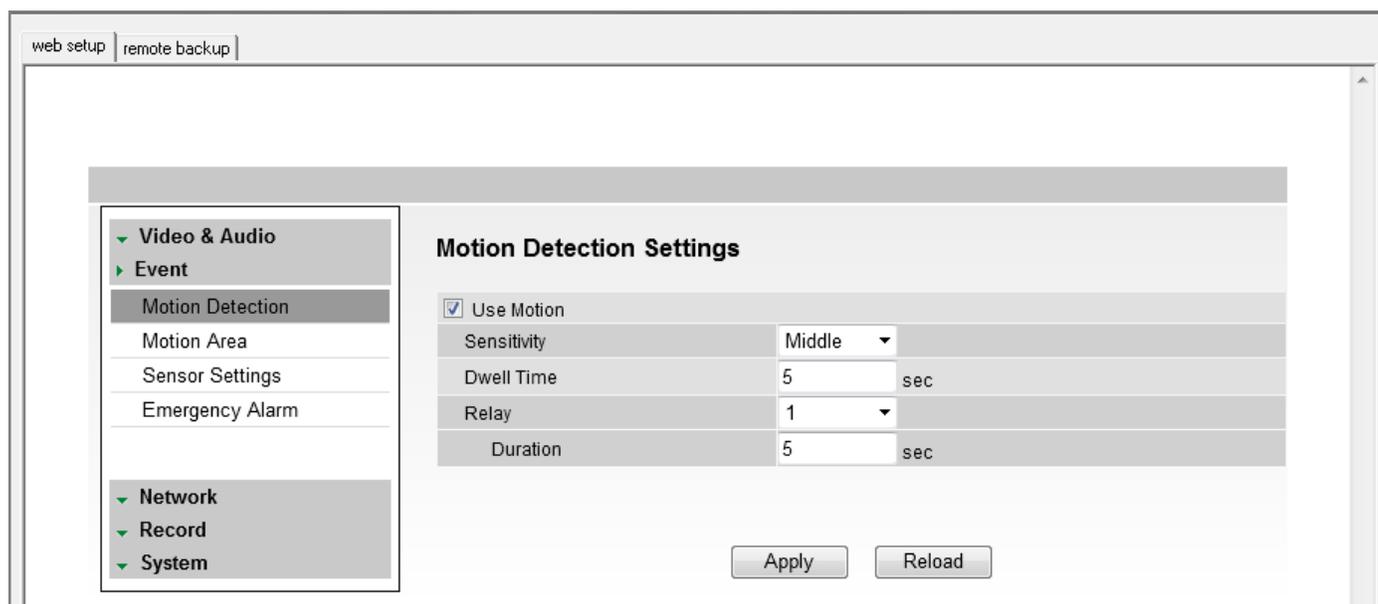
## Setup > Event > Motion Detection

The Motion detection feature allows the MEGAPIX camera to detect motion and trigger an alarm. To set the camera to send e-mail notifications for every motion triggered alarms, see page 51.

To setup motion detection:

1. Check the Use Motion box.
2. Sensitivity: Select from Low, Middle, or High.
3. Dwell Time: When a motion is triggered, the camera can be set to record for a certain period of time. Dwell Time can be set up to 900 seconds.
4. Relay: an alarm out triggered by motion detection. Select None or 1.
5. Duration: determines how long the alarm out will last. Maximum is 900 seconds.
6. Select Apply to save changes.

To setup specific areas of the camera's view to motion detection, please see the next page.



# WEBVIEWER\*

## Setup > Event > Motion Area

The Motion detection feature allows the MEGAPIX camera to detect motion and trigger an alarm. To set the camera to send e-mail notifications for every motion triggered alarms, see page 51.

To adjust the camera's motion detection zones:

1. Hold the left mouse button and drag the mouse pointer over image to select the motion area, or use Set All button to select the entire screen.
2. Select Clear All to deselect motion areas.
3. Select Apply to save changes.

The screenshot shows the 'Motion Area' configuration page. On the left is a navigation menu with the following items: Video & Audio, Event (selected), Motion Detection, Motion Area (highlighted), Sensor Settings, Emergency Alarm, Network, Record, and System. The main content area is titled 'Motion Area' and contains the instruction 'Select areas to detect motion.' Below this is a live video feed of an airport tarmac, overlaid with a blue grid. At the bottom of the interface are four buttons: 'Set All', 'Clear All', 'Apply', and 'Reload'.

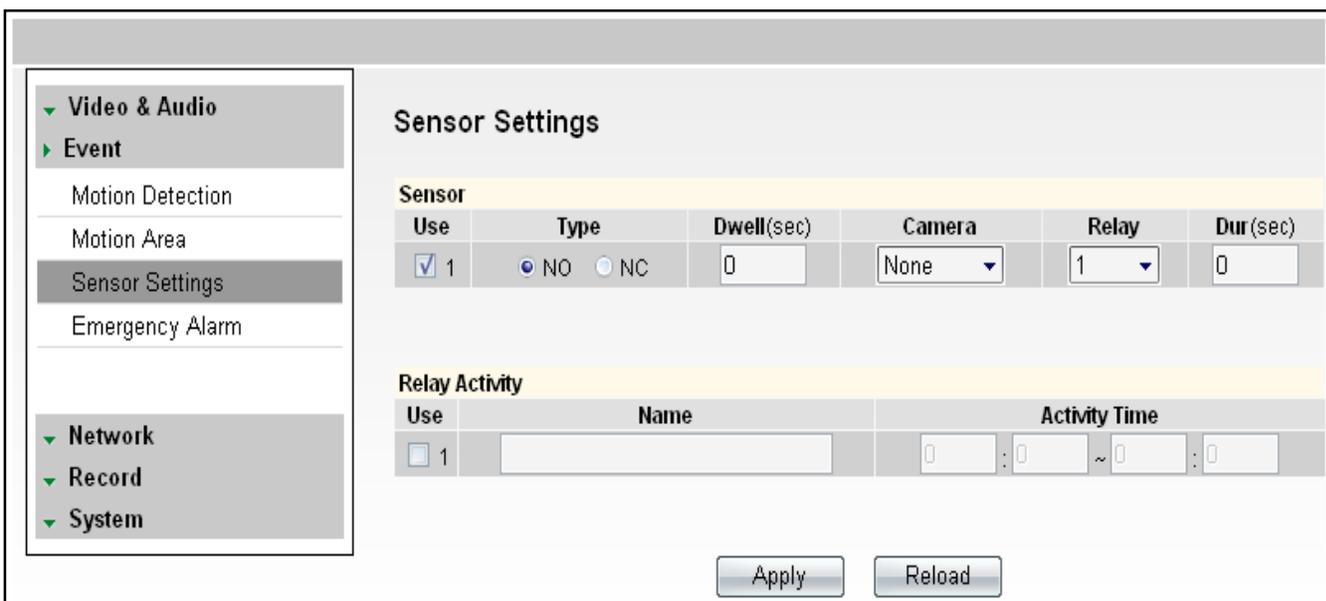
# WEBVIEWER\*

## Setup > Event > Sensor Settings

You can connect the camera to an external sensor, integrating the camera into an existing surveillance solution.

To setup an external sensor:

1. Sensor: Select sensor type(NO/NC) and check sensor number. To use relay out, check relay number and set time to activate.
  - NO(Normal Open): Sensor is activated when it closes. (Example: Door normally remains open and an alarm is triggered when the door closes.)
  - NC(Normal Close): Sensor is activated when it opens. (Example: Window normally remains closed and an alarm is triggered when the window is opened.)
2. Relay Activity: To use Relay Activity, select USE and set time to activate.
3. Select Apply to save changes.



The screenshot shows the 'Sensor Settings' configuration page. On the left is a navigation menu with categories: Video & Audio, Event, Network, Record, and System. Under 'Event', 'Sensor Settings' is selected. The main content area is titled 'Sensor Settings' and contains two sections: 'Sensor' and 'Relay Activity'.

**Sensor Settings**

Use	Type	Dwell(sec)	Camera	Relay	Dur(sec)
<input checked="" type="checkbox"/> 1	<input checked="" type="radio"/> NO <input type="radio"/> NC	<input type="text" value="0"/>	None	1	<input type="text" value="0"/>

**Relay Activity**

Use	Name	Activity Time
<input type="checkbox"/> 1	<input type="text"/>	<input type="text"/> : <input type="text"/> ~ <input type="text"/> : <input type="text"/>

At the bottom of the page are two buttons: 'Apply' and 'Reload'.

# WEBVIEWER\*

## Setup > Event > Emergency Alarm

Send alarm triggered information to predefined destination (i.e. remote client software).

To setup an external emergency alarm notification:

1. Site Information: Enter the Site Name, Transmission Settings, and Video Duration for the video that will be sent when motion is detected.
2. Emergency Alarm Recipient List: Enter the IP address and the Port for the remote site(s) to which you want to send the video. You can set-up up to five different servers. You must set same port to get EA data.
3. Event for EA: Select which type of event will trigger the alarm – Motion or Sensor.
4. Select Apply to save changes.

The screenshot shows the 'Emergency Alarm' configuration page. On the left is a navigation menu with categories: Video & Audio, Event (selected), Network, Record, and System. Under 'Event', the sub-items are Motion Detection, Motion Area, Sensor Settings, and Emergency Alarm (highlighted). The main content area is titled 'Emergency Alarm' and contains three sections: 'Site Information', 'Emergency Alarm Recipient List', and 'Event for EA'. The 'Site Information' section has fields for Site Name, Transmission Settings (radio buttons for First Stream and Second Stream), and Video Duration (0 sec). The 'Emergency Alarm Recipient List' is a table with 5 rows (Server1 to Server5) and 2 columns (IP and Port), all with '0' in the Port column. The 'Event for EA' section has a 'Camera1' row with checkboxes for Motion and Sensor, both of which are checked. At the bottom are 'Apply' and 'Reload' buttons.

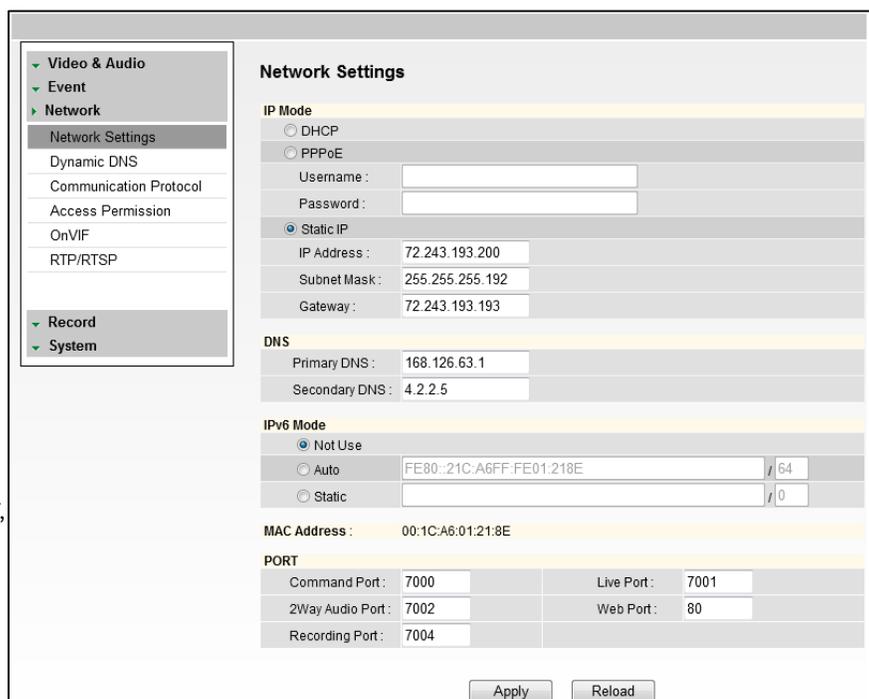
Emergency Alarm		
Site Information		
Site Name	<input type="text"/>	
Transmission Settings	<input checked="" type="radio"/> First Stream <input type="radio"/> Second Stream	
Video Duration	0 sec	
Emergency Alarm Recipient List		
	IP	Port
Server1	<input type="text"/>	0
Server2	<input type="text"/>	0
Server3	<input type="text"/>	0
Server4	<input type="text"/>	0
Server5	<input type="text"/>	0
Event for EA		
Camera1	<input checked="" type="checkbox"/> Motion	<input checked="" type="checkbox"/> Sensor

# WEBVIEWER\*

## Setup > Network > Network Settings

Use this setup page to adjust the camera's network settings.

- IP Mode: Select the type of IP address for the camera.
  - DHCP: Select this option if you have a DHCP Server and would like your camera to obtain its network settings automatically.
  - PPPoE: Select this option when you use WAN service. You will need a Username and Password from your Internet Service Provider.
  - Static IP: Manually enter the camera's network information.
- IP Address: Enter the static IP Address of the camera
- Subnet Mask: default is 255.255.255.0
- Gateway: The gateway is your router's external (public) IP address. It is used when accessing the camera from outside the network. The router will channel your data to the correct destination even if it is on a different subnet mask.
- DNS: Enter Primary DNS and Secondary DNS. These translate web addresses to IP addresses.
- IPv6 Mode: If applicable, you can setup the camera using the IPv6 protocol.
- MAC Address: Displays the camera's MAC (Mobile Access Control) Address.
- Port: Displays all the ports necessary for network communication.
- Reboot your system to apply the changes to your camera. When you select Apply, a dialogue box will appear, notifying you the camera will reboot to apply the changes. It may take up to 20 seconds for the camera to reboot.



The screenshot shows the 'Network Settings' page in a web browser. On the left is a navigation menu with categories: Video & Audio, Event, Network, Record, and System. Under 'Network', 'Network Settings' is selected. The main content area is titled 'Network Settings' and contains several sections:

- IP Mode**: Radio buttons for DHCP, PPPoE, and Static IP (selected). Below are input fields for Username and Password.
- Static IP**: Input fields for IP Address (72.243.193.200), Subnet Mask (255.255.255.192), and Gateway (72.243.193.193).
- DNS**: Input fields for Primary DNS (168.126.63.1) and Secondary DNS (4.2.2.5).
- IPv6 Mode**: Radio buttons for Not Use (selected), Auto, and Static. The Auto option has an input field for the address (FE80::21C:A6FF:FE01:218E) and a dropdown for the interface (64).
- MAC Address**: A text field showing 00:1C:A6:01:21:8E.
- PORT**: A table of ports:
 

Command Port:	7000	Live Port:	7001
2Way Audio Port:	7002	Web Port:	80
Recording Port:	7004		

At the bottom right, there are 'Apply' and 'Reload' buttons.

\* Contact your Internet Service Provider or Network Administrator for more information.

# WEBVIEWER\*

## Setup > Network > Dynamic DNS

If you do not use a public IP address, DDNS provides you to connect on WAN. DDNS allows you to connect to the MEGAPIX camera with a URL address instead of an IP address. DDNS automatically redirects traffic to your IP address every time it changes.

To use DDNS:

1. Select the Use DDNS checkbox.
2. Select one of the DDNS System Names from the drop down list.
3. Enter Username & Password if needed. The Username & Password must be registered at the DDNS site.
4. Enter the Host Name.
5. Reboot your system to apply the changes to your camera. When you select Apply, a dialogue box will appear, notifying you the camera will reboot to apply the changes. It may take up to 20 seconds for the camera to reboot.

The screenshot shows the 'Dynamic DNS' configuration page. On the left is a navigation menu with categories: Video & Audio, Event, Network (selected), Record, and System. Under 'Network', the sub-items are: Network Settings, Dynamic DNS (highlighted), Communication Protocol, Access Permission, OnVIF, and RTP/RTSP. The main content area is titled 'Dynamic DNS' and contains a 'DDNS' section with a yellow header. It includes a checked 'Use DDNS' checkbox, a 'System Name' dropdown menu set to 'dvr.name', and input fields for 'Username', 'Password', and 'Hostname'. At the bottom right of the form are 'Apply' and 'Reload' buttons.

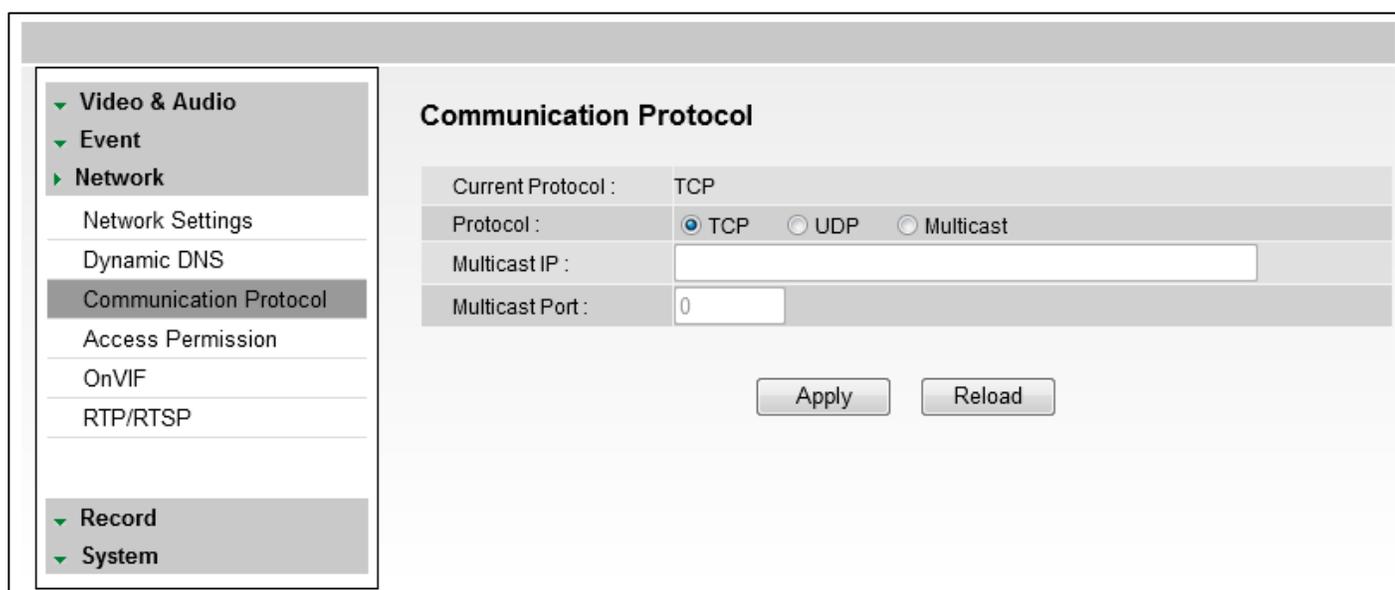
## WEBVIEWER\*

### Setup > Network > Communication Protocol

Current Protocol displays the current selected protocol.

To change the Protocol:

1. Select one of the three options—TCP, UDP, or Multicast.
2. If you select Multicast, enter the Multicast IP and Multicast Port.
3. Reboot your system to apply the changes to your camera. When you select Apply, a dialogue box will appear, notifying you the camera will reboot to apply the changes. It may take up to 20 seconds for the camera to reboot.



The screenshot shows the 'Communication Protocol' configuration page in the Webviewer interface. On the left is a navigation menu with categories: Video & Audio, Event, Network (expanded), Record, and System. Under 'Network', the options are: Network Settings, Dynamic DNS, Communication Protocol (highlighted), Access Permission, OnVIF, and RTP/RTSP. The main content area is titled 'Communication Protocol' and contains the following fields:

Current Protocol :	TCP
Protocol :	<input checked="" type="radio"/> TCP <input type="radio"/> UDP <input type="radio"/> Multicast
Multicast IP :	<input type="text"/>
Multicast Port :	<input type="text" value="0"/>

At the bottom of the configuration area are two buttons: 'Apply' and 'Reload'.

# WEBVIEWER\*

## Setup > Network > Access Permission

Use the Access Permission page to allow or block specific IP addresses to connect to the camera.

1. Select Allow All to allow anyone to connect to this camera. If Allow All is selected, the Allowed IP List and Blocked IP List will be ignored.
2. To allow only a specific list of IP addresses to connect to this camera, select Allow. Enter an IP Address and click the Add button.
3. To block a specific list of IP addresses from connecting to this camera, select Block. Enter an IP Address and click the Add button.

The screenshot shows the 'Camera Access Permission' configuration page. On the left is a navigation menu with categories: Video & Audio, Event, Network (expanded), Record, and System. Under 'Network', the options are Network Settings, Dynamic DNS, Communication Protocol, Access Permission (highlighted), OnVIF, and RTP/RTSP. The main content area is titled 'Camera Access Permission' and includes the instruction: 'Allow and block specific IP addresses that can access your IP cameras.' There are three radio button options: 'Allow All' (selected), 'Allow', and 'Block'. Below the 'Allow' option is a section for the 'Allowed IP List' with an input field labeled 'IP', 'Add', and 'Delete' buttons. Below the 'Block' option is a section for the 'Blocked IP List' with an input field labeled 'IP', 'Add', and 'Delete' buttons. At the bottom of the page are 'Apply' and 'Reload' buttons.

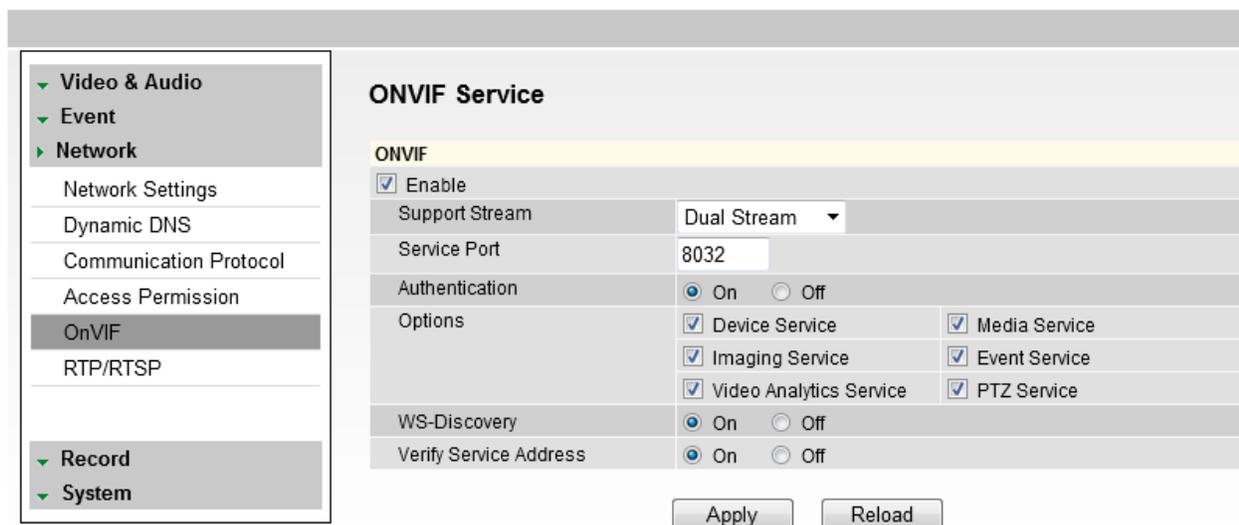
# WEBVIEWER\*

## Setup > Network > OnVIF

OnVIF is the Open Network Video Interface Forum.

To use OnVIF:

1. Make sure Enable is checked.
2. Set the Service Port to “8032.”
3. Select On or Off for WS-Security.
4. Select desired Options from the list.
5. Select On or Off for WS-Discovery (Web Services Dynamic Discovery)
6. Select On or Off to Verify Service Address.
7. Select Apply to save changes.



The screenshot shows the 'ONVIF Service' configuration page. On the left is a navigation menu with categories: Video & Audio, Event, Network (selected), Record, and System. Under 'Network', the following options are listed: Network Settings, Dynamic DNS, Communication Protocol, Access Permission, OnVIF (highlighted), and RTP/RTSP. The main content area is titled 'ONVIF Service' and contains the following settings:

ONVIF	
Enable	<input checked="" type="checkbox"/>
Support Stream	Dual Stream
Service Port	8032
Authentication	<input checked="" type="radio"/> On <input type="radio"/> Off
Options	<input checked="" type="checkbox"/> Device Service <input checked="" type="checkbox"/> Media Service <input checked="" type="checkbox"/> Imaging Service <input checked="" type="checkbox"/> Event Service <input checked="" type="checkbox"/> Video Analytics Service <input checked="" type="checkbox"/> PTZ Service
WS-Discovery	<input checked="" type="radio"/> On <input type="radio"/> Off
Verify Service Address	<input checked="" type="radio"/> On <input type="radio"/> Off

At the bottom of the configuration area are two buttons: 'Apply' and 'Reload'.

# WEBVIEWER\*

## Setup > Network > RTP/ RTSP

### RTP and RTSP Ports Configuration and Management

Real-time Transport Protocol (RTP) and Real-time Streaming Protocol (RTSP) are data transfer protocol for delivering live and stored media to one or more clients at the same time. These protocols allow software to access the first and second stream directly, by assigning each stream its own ports. RTP and RTSP are used for integration and communication between the cameras and other software.

To use RTP/ RTSP:

1. Check the box to enable authentication on RTSP
2. If necessary, modify the ports for the first and second stream.
3. Click 'Apply' so save all changes or 'Reload' to view the last saved settings.

The screenshot shows a web interface for configuring RTP/RTSP settings. On the left is a navigation menu with categories: Video & Audio, Event, Network, Record, and System. Under the Network category, the following options are listed: Network Settings, Dynamic DNS, Communication Protocol, Access Permission, OnVIF, RTP/RTSP (which is currently selected), and Record. The main content area is titled 'RTP/RTSP Configuration'. It features a checkbox labeled 'Use authentication on RTSP' which is checked. Below this, there are two sections: 'First Stream' and 'Second Stream'. Each section contains two input fields: 'RTSP Port' and 'RTSP over HTTP Port'. For the First Stream, the RTSP Port is 554 and the RTSP over HTTP Port is 8080. For the Second Stream, the RTSP Port is 8554 and the RTSP over HTTP Port is 8081. At the bottom right of the configuration area, there are two buttons: 'Apply' and 'Reload'.

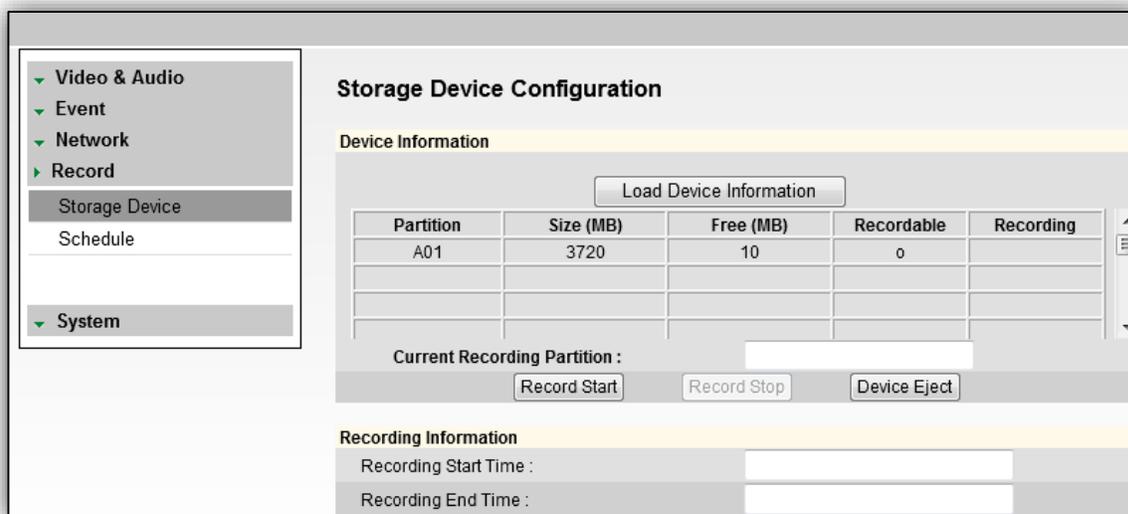
RTP/RTSP Configuration	
<input checked="" type="checkbox"/> Use authentication on RTSP	
<b>First Stream</b>	
RTSP Port :	554
RTSP over HTTP Port :	8080
<b>Second Stream</b>	
RTSP Port :	8554
RTSP over HTTP Port :	8081

# WEBVIEWER\*

## Setup > Record > Storage Device

This setup screen allows you to view and setup your SD card for local EMERGENCY recording. The camera will record to the SD card only when no network connection is detected.

- Device Information:
  - Click the icon Load Device Information to find the SD card connected to the camera.
  - The system will display all storage devices currently connected to the camera.
  - To activate the SD card to start recording, select Record Start.
  - To stop the SD card's recording, select Record Stop.
- Recording Information:
  - This section displays the first and last recorded data available on the selected SD card.
  - SD card records video from the second stream. To modify recording quality, please see page 28.



**\* IMPORTANT:** This is an **emergency recording** feature, designed to record only under a network loss. If you connect to the camera via the Web viewer or an NVR, the SD card will stop recording.

# WEBVIEWER\*

## Setup > Record > Schedule

This setup screen allows you to view and setup your SD card for local EMERGENCY recording. The camera will record to the SD card only when no network connection is detected.

### Video Schedule

1. Set recording schedule daily or weekly. Default is daily setting. It only saves single day's setting without changing to 'Multi Day Mode.'
2. Select the type of recording: Continuous (Cyan), Motion (Yellow) & Sensor (Red) by clicking on the corresponding button.
3. Drag your mouse over the hours you want to set for motion recording. The recording mode will be applied to the hours you selected when you release the mouse's right-click.
4. To remove scheduled recording for a specific day, select 'No Record' and press the box for which hours you want the recording removed. The box will now appear white.
5. Select Apply to save changes, or Reload to view the last saved settings.

The screenshot shows the 'Recording Schedule' configuration interface. On the left is a sidebar menu with categories: Video & Audio, Event, Network, Record (selected), Storage Device, Schedule, and System. The main area is titled 'Recording Schedule' and contains two sections: 'Video Schedule' and 'Recording Control'.

**Video Schedule**

Days:  Sun  Mon  Tue  Wed  Thu  Fri  Sat Single Selection

All	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
-----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Recording Mode Buttons: Continuous Motion Sensor No Record

**Recording Control**

Pre-Alarm Time: 5 sec  
Motion Post-Alarm Time: 5 sec  
Sensor Post-Alarm Time: 5 sec

Overwrite  Key Frame Only

Buttons: Apply Reload

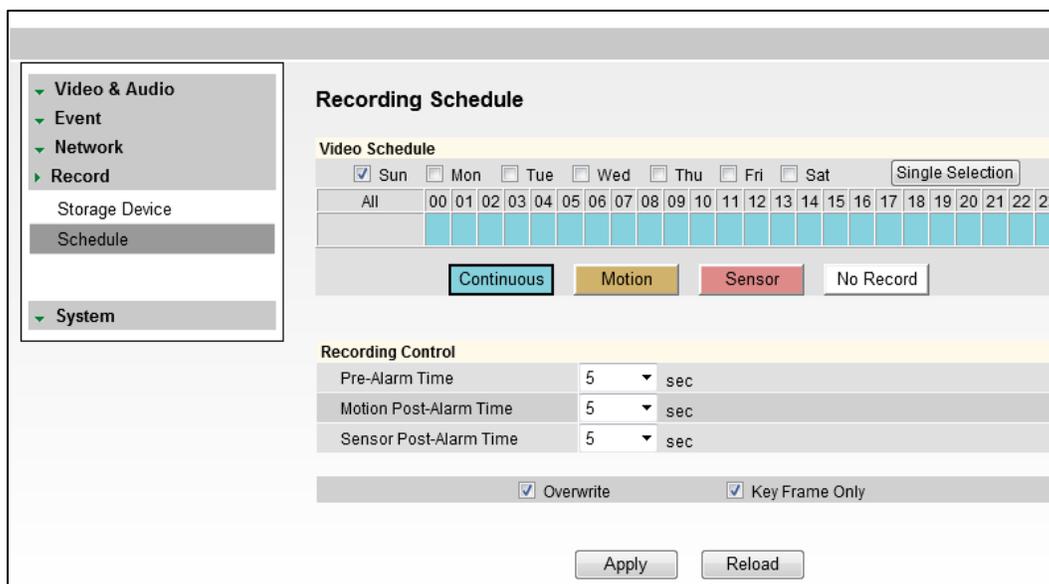
# WEBVIEWER\*

## Setup > Record > Schedule

This setup screen allows you to view and setup your SD card for local EMERGENCY recording. The camera will record to the SD card only when no network connection is detected.

### Recording Control

1. Pre-Alarm Time: Save previous image of event for duration of time.
2. Motion Post-Alarm Time: Save images after motion events for duration of time.
3. Sensor Post-Alarm Time: Save images after sensor events for duration of time.
4. Overwrite: If selected, once the SD card is full, new video will be recorded over older data.
5. Key Frame Only: If selected, the SD card will record only Start and End Key Frame, the main frames in the series. This option is recommended when you have limited storage space.
6. Select Apply to save changes.



The screenshot shows the 'Recording Schedule' configuration page. On the left is a navigation menu with categories: Video & Audio, Event, Network, Record (selected), Storage Device, Schedule, and System. The main content area is titled 'Recording Schedule' and is divided into two sections: 'Video Schedule' and 'Recording Control'.

**Video Schedule:** This section allows setting recording days and times. It features a row of checkboxes for days of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat) and a 'Single Selection' button. Below this is a grid for selecting specific times from 00 to 23. The 'Continuous' recording mode is currently selected, with other options being Motion, Sensor, and No Record.

**Recording Control:** This section contains three dropdown menus for setting alarm times: Pre-Alarm Time (5 sec), Motion Post-Alarm Time (5 sec), and Sensor Post-Alarm Time (5 sec). At the bottom of this section, there are two checked checkboxes: 'Overwrite' and 'Key Frame Only'.

At the bottom of the page, there are 'Apply' and 'Reload' buttons.

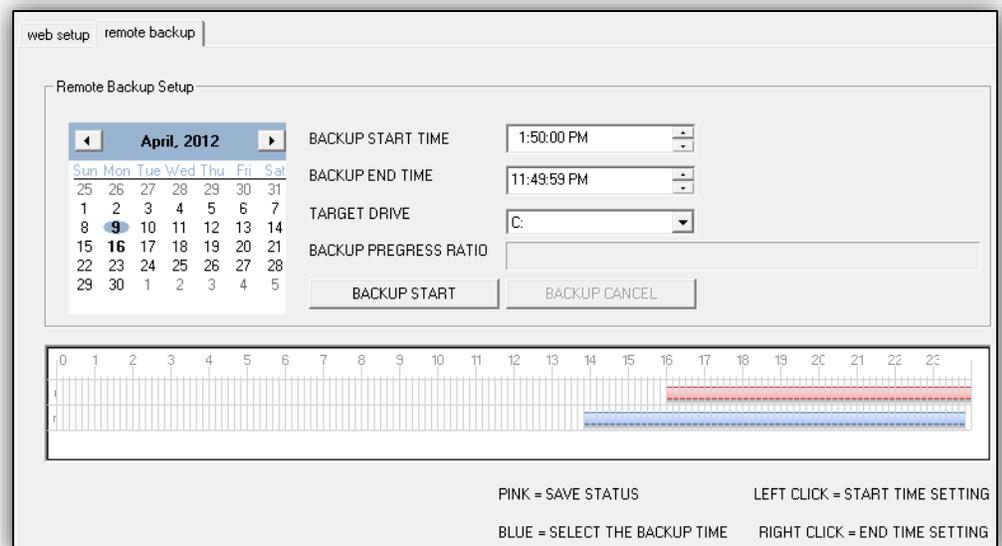
# WEBVIEWER\*

## Setup > Record > Schedule

This setup screen allows you to view and setup your SD card for local EMERGENCY recording. The camera will record to the SD card only when no network connection is detected.

To backup recorded data from the camera's SD Card:

1. Go to the Remote Backup Tab in the camera's Setup menu.
2. On the calendar, select the date for remote backup. Dates with recorded data will appear in **bold**.
3. Once a day from the calendar is selected, recorded data for that day will appear on the time bar. Hours with recorded data will be indicated by the pink line.
4. Select the Backup Start Time and Backup End Time.
  - Use the start and end time lines to input the desired time.
  - You can also use the interactive time bar:
    - a. Right-click on the time you want to set as Start Time.
    - b. Left-click on the time you want to set as End Time.The time frame you have selected will appear in BLUE.
5. Select the Target Drive to save the backup file.
6. Select Backup Start.
7. To cancel a backup in progress, select Backup Cancel.

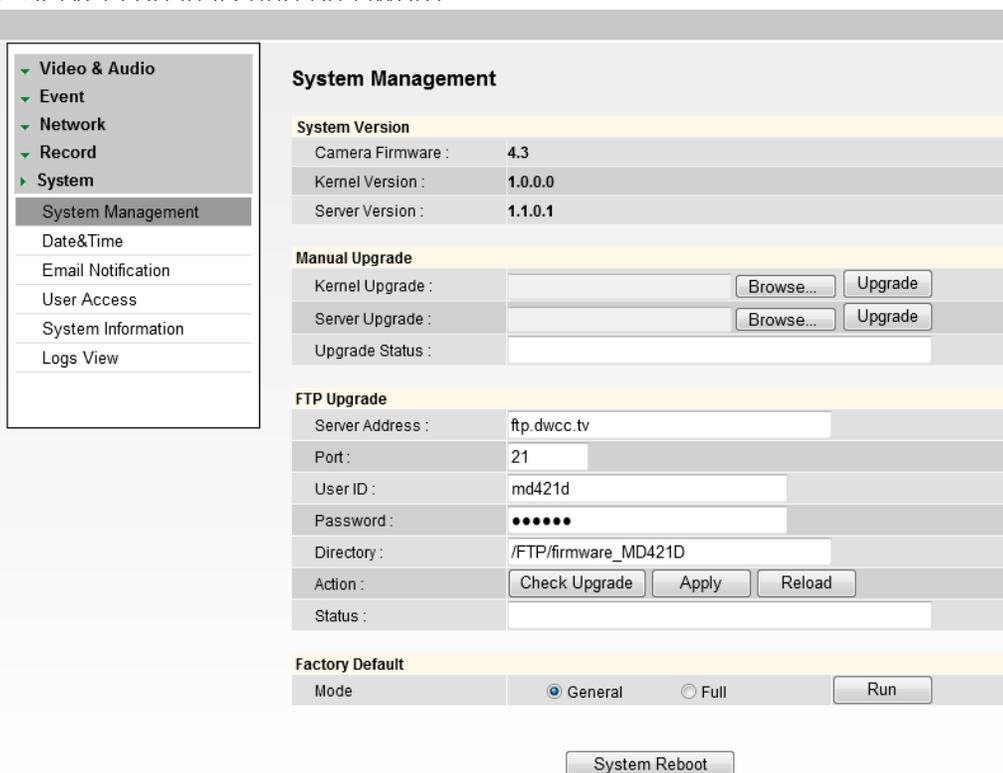


# WEBVIEWER\*

## Setup > System > Upgrade

Use this setup screen to view the camera's current firmware, upgrade to a new firmware or reset to factory default.

- System Version: Shows the current version of the camera.
- Manual Upgrade: To upgrade system firmware, you have to contact manufacturer and get the upgrade file first. Go to [www.Digital-Watchdog.com](http://www.Digital-Watchdog.com) and select Support tab.
  - a. Browse file and select the file.
  - b. Press Upgrade button. A dialogue box will appear. Select OK. System will automatically reboot.
- FTP Upgrade (all information below will be set to camera default):
  - a. Server Address: Shows the Digital Watchdog® FTP Server IP address.
  - b. Port: Default is 21.
  - c. User ID and Password: FTP Server Log in ID and password
  - d. Directory: Upgrade File Path
  - e. Action: Select Check Upgrade to display the Upgrade File list
  - f. Status: Display progress of the Upgrade
  - g. If camera detects an upgrade, a dialogue box will appear and the system will automatically reboot once the upgrade is complete.



The screenshot shows the 'System Management' section of the webviewer interface. On the left is a navigation menu with 'System Management' selected. The main content area is divided into three sections: 'System Version', 'Manual Upgrade', and 'FTP Upgrade'. Below these is a 'Factory Default' section and a 'System Reboot' button.

System Management	
<b>System Version</b>	
Camera Firmware :	4.3
Kernel Version :	1.0.0.0
Server Version :	1.1.0.1
<b>Manual Upgrade</b>	
Kernel Upgrade :	<input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upgrade"/>
Server Upgrade :	<input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upgrade"/>
Upgrade Status :	<input type="text"/>
<b>FTP Upgrade</b>	
Server Address :	<input type="text" value="ftp.dwcc.tv"/>
Port :	<input type="text" value="21"/>
User ID :	<input type="text" value="md421d"/>
Password :	<input type="password" value="•••••"/>
Directory :	<input type="text" value="/FTP/firmware_MD421D"/>
Action :	<input type="button" value="Check Upgrade"/> <input type="button" value="Apply"/> <input type="button" value="Reload"/>
Status :	<input type="text"/>
<b>Factory Default</b>	
Mode	<input checked="" type="radio"/> General <input type="radio"/> Full <input type="button" value="Run"/>
<input type="button" value="System Reboot"/>	

# WEBVIEWER\*

## Setup > System > Upgrade

Use this setup screen to view the camera's current firmware, upgrade to a new firmware or reset to factory default.

- Factory Default: You can reset the camera to its original factory settings.
  - a. General: Reset the camera to factory default on all settings except for the IP and Network configuration.
  - b. Full: Reset ALL of the camera's setting, including the network configurations.

The screenshot shows the 'System Management' section of the Webviewer interface. On the left is a navigation menu with 'System Management' selected. The main area is divided into three sections: 'System Version', 'Manual Upgrade', and 'FTP Upgrade'. The 'System Version' section displays the current firmware (4.3), kernel (1.0.0.0), and server (1.1.0.1) versions. The 'Manual Upgrade' section has input fields for kernel and server files, each with a 'Browse...' button and an 'Upgrade' button. The 'FTP Upgrade' section has input fields for server address (ftp.dwcc.tv), port (21), user ID (md421d), password (masked with dots), and directory (/FTP/firmware\_MD421D). It includes 'Check Upgrade', 'Apply', and 'Reload' buttons, and a 'Status' field. At the bottom, the 'Factory Default' section has radio buttons for 'General' (selected) and 'Full', a 'Run' button, and a 'System Reboot' button.

System Version	
Camera Firmware :	4.3
Kernel Version :	1.0.0.0
Server Version :	1.1.0.1

Manual Upgrade	
Kernel Upgrade :	<input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upgrade"/>
Server Upgrade :	<input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upgrade"/>
Upgrade Status :	<input type="text"/>

FTP Upgrade	
Server Address :	<input type="text" value="ftp.dwcc.tv"/>
Port :	<input type="text" value="21"/>
User ID :	<input type="text" value="md421d"/>
Password :	<input type="password" value="....."/>
Directory :	<input type="text" value="/FTP/firmware_MD421D"/>
Action :	<input type="button" value="Check Upgrade"/> <input type="button" value="Apply"/> <input type="button" value="Reload"/>
Status :	<input type="text"/>

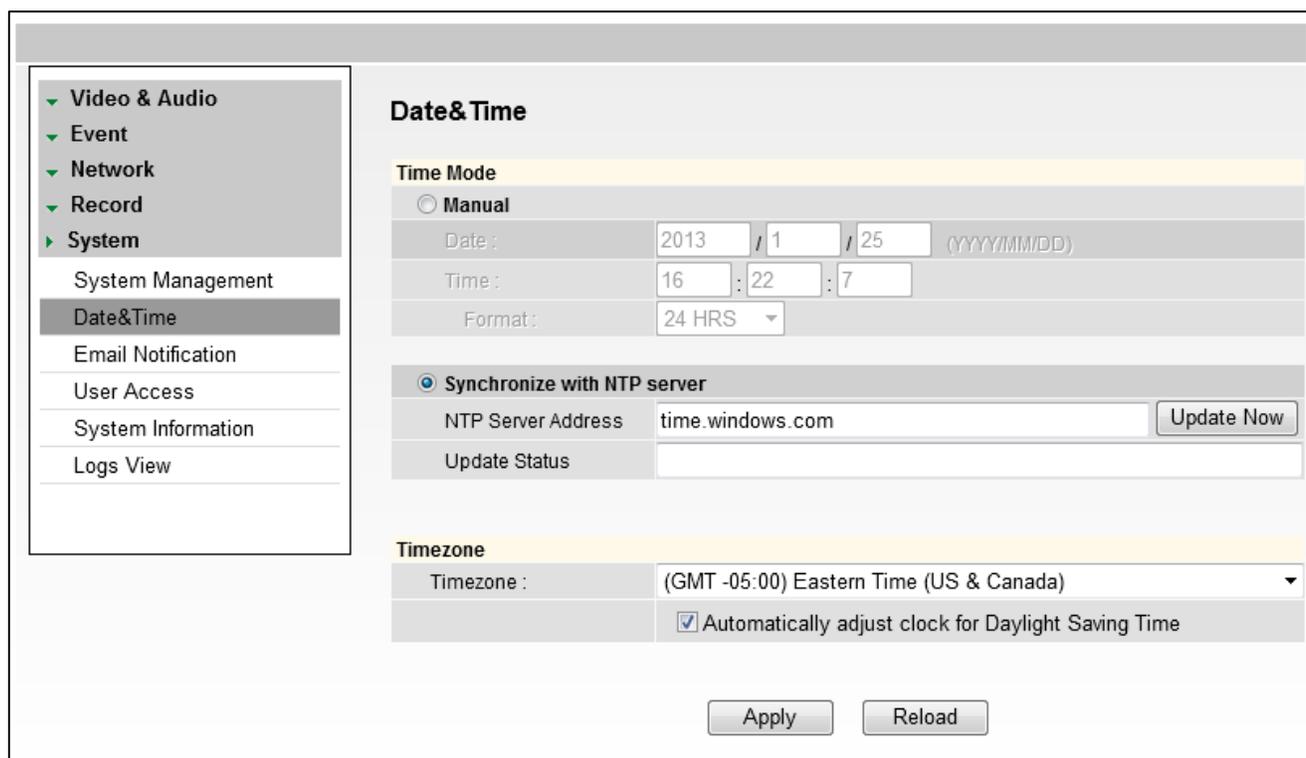
Factory Default	
Mode	<input checked="" type="radio"/> General <input type="radio"/> Full <input type="button" value="Run"/>

# WEBVIEWER\*

## Setup > System > Date & Time

Set date and time information.

- Time Mode:
  - Manual: Insert the Date and Time. Select the type of Format for your time.
  - Synchronize with NTP Server: This option will allow the camera to obtain its date and time settings from an NTP server automatically. To setup, enter an NTP server's IP address (Example: pool.ntp.org).
- Time Zone: Select the appropriate time zone for the camera from the available options in the drop-down list.
- Select Apply to save changes.



The screenshot shows the 'Date & Time' configuration page. On the left is a navigation menu with 'System' expanded to show 'Date & Time'. The main content area is titled 'Date & Time' and contains two sections: 'Time Mode' and 'Timezone'.

**Time Mode**

- Manual
 

Date :	2013	/	1	/	25	(YYYY/MMDD)
Time :	16	:	22	:	7	
Format :	24 HRS					
- Synchronize with NTP server
 

NTP Server Address	time.windows.com	Update Now
Update Status		

**Timezone**

Timezone :	(GMT -05:00) Eastern Time (US & Canada)
	<input checked="" type="checkbox"/> Automatically adjust clock for Daylight Saving Time

At the bottom of the page are two buttons: 'Apply' and 'Reload'.

# WEBVIEWER\*

## Setup > System > E-mail Notification

Send an e-mail notification when an event is triggered.

1. Select Use Event Mail option. Select Event Type.
2. Enter SMTP Server information. Example: smtp.gmail.com.
3. Enter Username and Password.
4. Enter Sender E-mail.
5. Add the E-mail(s) you wish to send the notifications to.
6. Select Apply to save changes.

**Event and Alarm Email Notification**

Use Event Mail

Events :  Sensor  Motion  Relay  Reboot  Upgrade

SMTP Server :

Username :

Password :

Sender E-Mail :

E-Mail List :

*\*Email Notifications do not support TSL/SSL option. Notifications are TEXT only.*

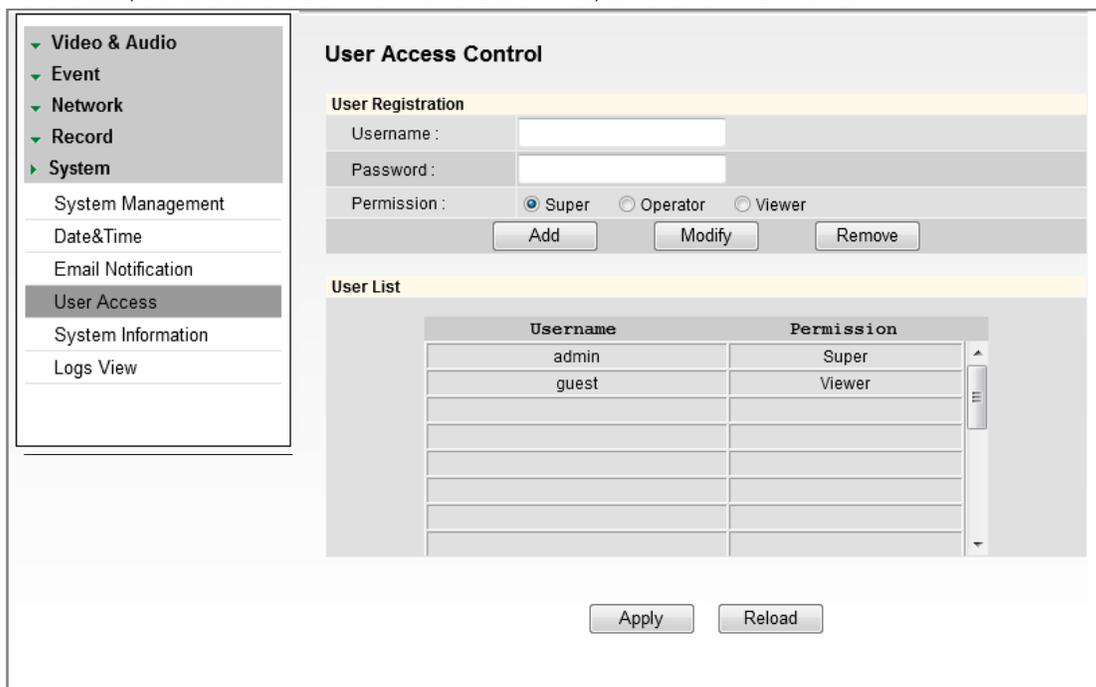
# WEBVIEWER\*

## Setup > System > User Access Control

Use this setup screen to add, edit, or delete users with access to the camera.

To add a new user:

1. Enter Username and Password.
2. Select a Permission type.
  - Super: Administrator
  - Operator: View and Edit Video and Event Settings Only
  - Viewer: View Only
3. Click Add.
4. To modify a user, select the user from the User List, and click Modify.
5. To remove a user, select the user from the User List, and click Remove.



- ▼ Video & Audio
- ▼ Event
- ▼ Network
- ▼ Record
- ▶ System
- System Management
- Date&Time
- Email Notification
- User Access
- System Information
- Logs View

### User Access Control

User Registration

Username :

Password :

Permission :  Super  Operator  Viewer

User List

Username	Permission
admin	Super
guest	Viewer

*\*The maximum number of users who can be added to the User List is twenty.*

# WEBVIEWER\*

## Setup > System > System Information

System Information will display all the current camera settings

You can export a camera's settings to apply to other cameras by using the import/export buttons on this page.

- To Export the settings from the current camera:

Press the export button. The system will generate a '.bin' file with all the camera's settings in your Internet Explorer 'Downloads' page.

- To import settings from a different camera:

Press the Browse button and locate the '.bin' file you have imported from a different camera. Select the 'Import' button. The system will update the current camera's settings with all the imported information. The progress bar will display the import process.

**System Information**

Configuration Import/Export

Configuration Export

Configuration Import

Status

System Version

Camera Firmware	4.3
Kernel Version	1.0.0.0
Server Version	1.1.0.1

Time Information

Network Information

IPv4 Mode	Static (72.243.193.200)
DNS	168.126.63.1 4.2.2.5
IPv6 Mode	Not Use
MAC Address	00-1C-A6-01-21-8E
Port	
Command	7000
Live	7001
Web	80
Dynamic DNS	Not Use
Communication Protocol	TCP

Stream Information

Color Information

White Balance	Auto
Brightness	16
Shutter Mode	Manual
Digital Slow Shutter	4x
Shutter Speed	1/30
ASO Gain	20
WDR/BLC Mode	Off
Day & Night	Day(Color)
Chroma	8
Sharpness	5
Mirror	Off
Flip	Off
Digital Noise Reduction	High

Audio Information

Motion Detection Information

Use	Use
Sensitivity	Middle
Dwell Time	5 sec
Relay	None
Duration	5 sec

Sensor Information

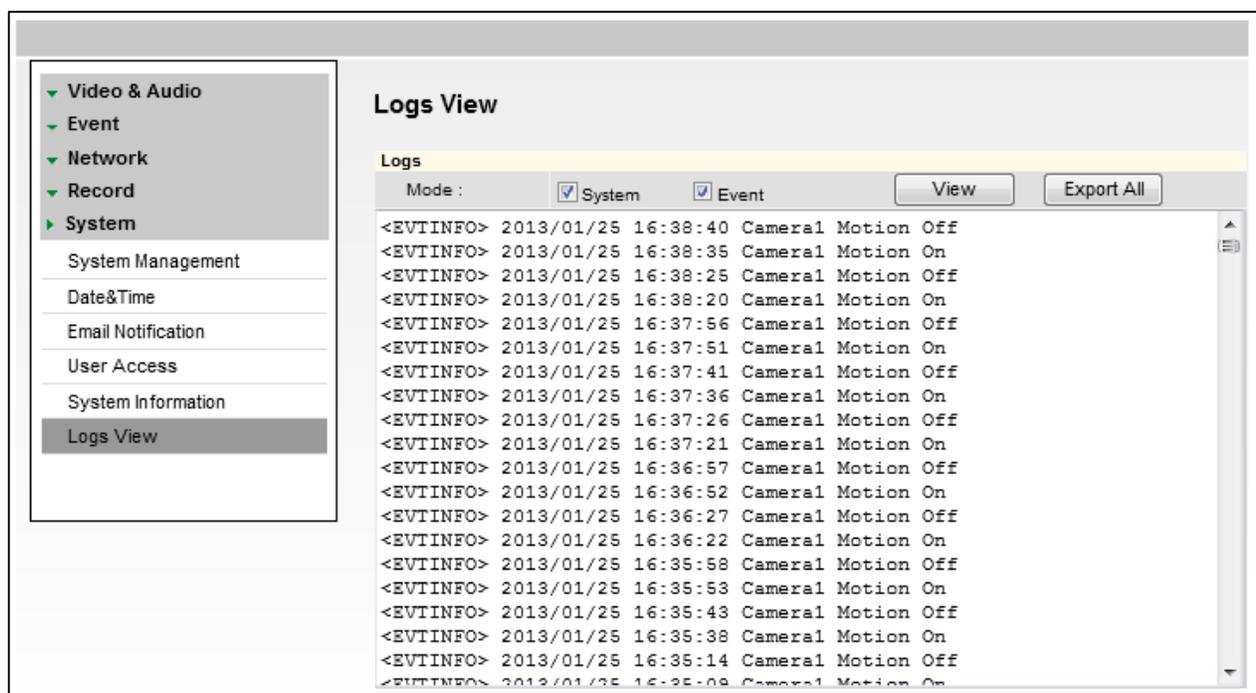
# WEBVIEWER\*

## Setup > System > Logs View

User can view detailed logs for system and/or events triggered and recorded in the camera.

To view a camera log report:

1. Select the type of report you want to view: System, Event, or System & Event.
2. Press View. The system will generate a report up to 140,000 bits of data.
3. For events to record, make sure the camera is set to record when an event, like motion detection, is triggered.
4. You can export the log report by pressing 'Export All'.



## SPECIFICATIONS\*

IMAGE	
Image Sensor	1/2.8" CMOS Sensor
Total Pixels	2010 (H) X 1109 (V)
Minimum Scene Illumination	F1.2 (30IRE): 0.5 Lux (Color) F1.2 (30IRE): 0.01 Lux (B/W)
LENS	
Focal Length	2.8~12mm
Lens Type	Auto Focus P-Iris Lens
OPERATIONAL	
Brightness	0~19
Shutter Mode	Auto/ Manual
Digital Slow Shutter	Off/ 2X/ 3X/ 4X
Shutter Speed	1/30, 1/60/ 1/120
Auto Gain Control	0~20
Back Light Compensation	Off/ On
Day and Night	Auto/ Day (Color)/ Night (B/W)
Lens Mode	Manual/ DC/ AF
Chroma (Color Quality: Hue, & Saturation Settings)	0~20
Sharpness	0~10
Mirror & Flip	Off/ On
3D- Digital Noise Reduction	Off/ Low/ Middle/ High
Privacy Zone	Off/ On (30 Programmable Zones)
Motion Detection: Sensitivity	Low/ Middle/ High
Audio Communication	Two-Way
Digital Zoom	8X Digital Zoom
Sensor	1 Input/ 1 Output Built-In
Remote Backup	Up to 24 HR Backup to Local Directory



## SPECIFICATIONS\*

NETWORK	
LAN	802.3 Compliance 10/100 LAN
Video Compression Type	H.264, MPEG4, MJPEG (Super Fine ~ Low)
Resolution	1920X1080 (16:9) ~ 320X240 (4:3)
Frame Rate	Up to 30fps at All Resolutions
Stream Capability	Dual-Stream at Different Rates and Resolutions
IP	IPv4, IPv6
Protocol	TCP/IP, HTTP, DHCP, PPPoE, ICMP, ARP, RARP, RTSP, NTP, UDP, Multicast
Maximum User Access	20 Users
Memory Slot	Local SDHC Card Backup
ONVIF Conformance	Yes
Web Viewer	Supported OS: Windows XP, Windows Vista, Windows 7, MAC OS Supported Browser: Internet Explorer, Google Chrome, Mozilla Firefox, Safari
Video Management Software	DW Spectrum™ IPVMS
ENVIRONMENTAL	
Operating Temperature/ Humidity	-10°C ~ 55°C (14°F ~ 131°F)
Operating Humidity	Less than 90% (Non-Condensing)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Other Specifications	CE, FCC, RoHS
Electrical	
Power Requirement	DC 12V, PoE (IEEE802.3af Class 3)
Power Consumption	IR OFF: 7.2w, 600mA
	IR ON: 18.64W, 720mA
Mechanical	
Housing Material	Plastic
Dimensions	108 X 96.8 mm (4.25 X 3.8 in)
Weight	0.507 lbs

## TROUBLESHOOTING

Before sending your camera for repair, check the following or contact your technical specialist.

### **I can't find my MEGAPIX camera on the IP Finder software.**

- Is the PoE cable connected properly?  
Make sure cable is tightly connected at both ends. It should make a “click” sound when connected properly. Make sure cable is intact and there are no cuts or exposed wires.
- If Yes, are the camera's LED lights turned on and blinking?  
The camera's LED lights indicate that the camera is powered on. Blinking LED lights indicate that the camera has finished booting up and is transmitting data.
- If Yes, is the internet working properly?  
Make sure you can connect to the internet with other devices on the network (ex. your computer). Your internet could be temporarily down.
- If Yes, if using a power adaptor, does it meet camera's power requirements? Power Requirements: DC12V (IR OFF: 7.2w, 600mA IR ON: 18.64W, 720mA), PoE Ports (Class 3)
- If Yes, if using PoE Switch, is it connected to a proper internet outlet and operating properly?  
Make sure the PoE Switch is connected to a router/modem and the ports that have devices connected to them have a green LED on.
- If Yes, is the computer on the same network as the MEGAPIX camera?  
Camera and computer should be connected to the same router. Contact your network administrator if you have more than one network available.
- If Yes, try pinging the IP camera's default IP address 192.168.1.123.  
From your desktop, go to Start > Programs > Accessories > Command Prompt. Type “ping 192.168.1.123” and press Enter. If you get the message “Request timed out,” camera is not connected. Camera is connected if you get data.
- If Yes, try connecting the camera to a differ port in the PoE Switch.  
That specific Switch Port may be damaged or currently not working properly.
- If Yes, try resetting the camera to default settings.  
Press the reset button on the control board and hold for 5 seconds. The camera will return to factory default with default IP address 192.168.1.123. If your network supports DHCP, the camera will be found using the IP Finder software with an IP address that matches your network's requirements.

## TROUBLESHOOTING

Before sending your camera for repair, check the following or contact your technical specialist.

### **I can't connect to my MEGAPIX camera through the Web Browser.**

- Are the camera's LEDs on and blinking?  
The camera's LED indicates the camera is On. If the LED blinks, the camera has finished booting up and is transmitting data.
- If Yes, is the internet working properly?  
Make sure you connect to the internet with other devices on the network (ex. your computer). Your internet could be temporarily down.
- If Yes, is the computer on the same network as the IP camera?  
Camera and computer should be connected on the same router. Contact your network administrator if you have more than one network available.
- If Yes, try pinging the MEGAPIX camera's IP address as it appears on the IP finder.  
From your desktop, go to Start > Programs > Accessories > Command Prompt. Type "ping" followed by the camera's IP address; then, press Enter. If you get the message "Request timed out," camera is not connected. If you get data back, that means the camera is connected.
- If Yes, try connecting the camera, to a different port in the PoE Switch.  
That specific Switch Port may be damaged or currently not operating properly.
- If Yes, check your security settings on your internet browser.  
Try adding the camera's IP address to the trusted sites list in your Internet Options. \*Setup may vary depending on the browser you use.

## TROUBLESHOOTING

Before sending your camera for repair, check the following or contact your technical specialist.

### **I can't see the live video of my MEGAPIX camera.**

- Are you trying to view the camera's video from an Internet Explorer browser?  
Make sure you have the minimum PC requirements to view the MEGApix® Snapit™ camera. See below for more information.
- If Yes, did you install ActiveX files?  
When you connect to your MEGAPIX camera for the first time, your browser will ask you to install ActiveX. Make sure your Web Browser's security settings do not block pop-up windows and allows ActiveX files to be installed and used. \*Setup may vary depending on the browser you use.
- If Yes, verify nothing is blocking the camera's lens.
- Are you trying to view the camera's video from a different browser than Internet Explorer (ex. Google Chrome, Mozilla Firefox, MAC Safari)?
- If Yes, at least one of the streams of the camera must have codec (Compression Type) set to MJPEG.  
Go to the camera's setup menu. Select Stream Settings. Select one of the streams and change its codec to MJPEG. Click Apply to save changes. Go back to live screen and at the bottom of the screen, select the stream you have set to MJPEG. Live video will start streaming to your web browser.

### **Web Viewer Specifications**

- Minimum Requirements for PC

CPU	Intel P4 2.0GHz Dual Core
RAM	More than 1GB
HDD	200 GB Required for Saving Clip Image
OS	Microsoft Windows XP or Higher
Resolution	Higher than 1024X768

## TROUBLESHOOTING

Before sending your camera for repair, check the following or contact your technical specialist.

### Setting the IP Address for your PC

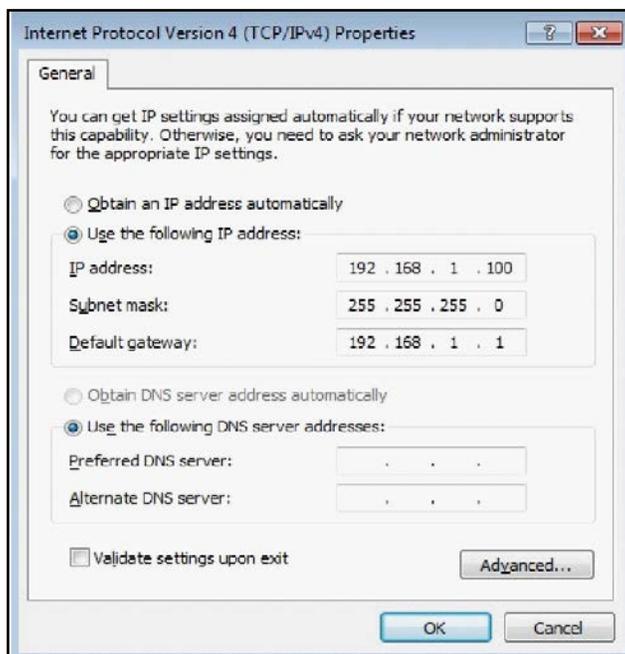
Dynamic Host Configuration Protocol (DHCP) is the default setting for the camera.

If the MEGAPIX camera is connected to a DHCP network and the camera's IP Configuration Mode is set to DHCP, the server will automatically assign an IP address to the camera. If the camera is using DHCP, the default IP address will be 192.168.1.123, and the default subnet mask will be 255.255.255.0.

The MEGAPIX camera can also connect to the web viewer using a static IP address. This will allow you to set your own IP address manually.

Setup the Network Protocol on your PC.

1. Go to Network icon on your PC.
2. Right-click and select Properties.
3. Double-click Local Area Connection.
4. Click Properties.
5. Double-click Internet Protocol Version.
6. Select "Obtain an IP address automatically" to set the computer to a dynamic IP address, or select "Use the following IP address" to set the computer to a static IP address.
7. If the option "Use the following IP address" has been selected, setup the IP address as 192.168.1.XXX. The last three digits should be a number between 1 and 254.



## WARRANTY INFORMATION\*

**Digital Watchdog** (referred to as “the Warrantor”) warrants the Camera against defects in materials or workmanships as follows:

**Labor:** For the initial five (5) years, one (1) year for IR LED, from the date of original purchase if the camera is determined to be defective, the Warrantor will repair or replace the unit with new or refurbished product at its option, at no charge.

**Parts:** In addition, the Warrantor will supply replacement parts for the initial five (5) years, one (1) year for IR LED.

To obtain warranty or out of warranty service, please contact a technical support representative at 1-866-446-3595 Monday through Friday from 9:00AM to 8:00PM EST.

A purchase receipt or other proof of the date of the original purchase is required before warranty service is rendered. This warranty only covers failures due to defects in materials and workmanship which arise during normal use. This warranty does not cover damages which occurs in shipment or failures which are caused by products not supplied by the Warrantor or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustments of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, rental use of the product or service by anyone other than an authorized repair facility or damage that is attributable to acts of God.



## **LIMITS & EXCLUSIONS\***

There are no express warranties except as listed above. The Warrantor will not be liable for incidental or consequential damages (including, without limitation, damage to recording media) resulting from the use of these products, or arising out of any breach of the warranty. All express and implied warranties, including the warranties of merchantability and fitness for particular purpose, are limited to the applicable warranty period set forth above.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights from vary from state to state.

If the problem is not handled to your satisfaction, then write to the following address:

Digital Watchdog, Inc.  
ATTN: RMA Department  
5436 W Crenshaw St  
Tampa, FL 33634

Service calls which do not involve defective materials or workmanship as determined by the Warrantor, in its sole discretion, are not covered. Cost of such service calls are the responsibility of the purchaser.





Headquarters Office: 5436 W Crenshaw St, Tampa, FL 33634  
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PH: 866-446-3595 | FAX: 813-888-9262  
[www.Digital-Watchdog.com](http://www.Digital-Watchdog.com)  
[technicalsupport@dwcc.tv](mailto:technicalsupport@dwcc.tv)  
Technical Support PH:  
USA & Canada 1+ (866) 446-3595  
International 1+ (813) 888-9555  
French Canadian 1+ (514) 360-1309  
Technical Support Hours: Monday-Friday  
9:00am to 8:00pm Eastern Standard Time