



# **A4x Zoom Bullet Camera**

## **Hardware Manual**

**A41, A42**

**Ver. 2016/03/22**



**ACTi**  
Connecting Vision

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# Precautions

## **Read these instructions**

You should read all the safety and operating instructions before using this product.

## **Heed all warnings**

You must adhere to all the warnings on the product and in the instruction manual. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.

## **Servicing**

Do not attempt to service this video device yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

## **Trademarks**

All names used in this manual are probably registered trademarks of respective companies.

## **Liability**

Every reasonable care has been taken during the writing of this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

### Federal Communications Commission Statement



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

### European Community Compliance Statement



This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022 and EN 55024. In a domestic environment, this product may cause radio interference in which cause the user may be required to take adequate measures.

## Safety Instructions

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### **Cleaning**

Disconnect this video product from the power supply before cleaning.

### **Attachments**

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

### **Water and Moisture**

Do not use this video product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

### **Don't use accessories not recommended by the manufacturer**

Only install this device in a dry place protected from weather

### **Servicing**

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

### **Damage Requiring service**

Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

- 1) When the power-supply cord or plug is damaged
- 2) If liquid has been spilled, or objects have fallen into the video product.
- 3) If the video product has been directly exposed to rain or water.
- 4) If the video product does not operate normally by following the operating Instructions in this manual. Adjust only those controls that are covered by the instruction manual, as an improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the video product to its normal operation.

### **Safety Check**



Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine if the video product is in proper operating condition.

# Introduction




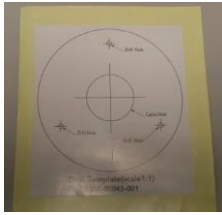



## List of Models

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This hardware manual contains the following models:

A41		3MP Zoom Bullet with D/N, Adaptive IR, Extreme WDR, SLLS, 4.3x Zoom lens
A42		5MP Zoom Bullet with D/N, Adaptive IR, Extreme WDR, SLLS, 2.8x Zoom lens

## Package Contents

Camera	Mounting Screw Kit	Camera Base Wrench
		
Drill Template	Terminal Block (for DI/DO)	Warranty Card
		
Quick Installation Guide		
		

## Physical Description

Side



Back




Item	Description
1	Audio Output This jack connects to an audio output device, such as a speaker. See <a href="#">How to Connect Audio Input / Output Devices (Optional)</a> on page 15.
2	DC 12V Power Input Connects the camera to an external power adapter (not included). See <a href="#">Connecting a Power Adapter (Optional)</a> on page 14 for more information.
3	Factory Reset Restores the factory default settings of the camera, including the administrator’s password. (Hold button for 5 seconds or until the power LED lights up.)
4	BNC Video Output Connects the camera directly to a monitor with BNC inputs.
5	Mic Input This jack connects to a microphone with built-in amplifier. See <a href="#">How to Connect Audio Input / Output Devices (Optional)</a> on page 15
6	Ethernet Port Connects to a network using a standard Ethernet cable.
7	Digital Input / Output Connects to digital input or output devices, such as an alarm trigger, panic button, etc. Digital Input (DI) and Digital Output (DO) devices are used in applications like motion detection, event triggering, alarm notifications, etc.



## Mounting Options

There are several mounting options that you can use to install the camera. Select the most suitable solution for your installation environment.

Mount Types	Accessories
Wall	Suitable when mounting the camera directly on walls using the integrated bracket. See <a href="#">Error! Reference source not found.</a> on page 10.
Ceiling	Suitable when mounting the camera directly on walls using the integrated bracket. See <a href="#">Installation Procedures</a> on page 10.
Vertical Pole	Suitable when mounting the camera on vertical poles.
	
	PMAX-0506

**NOTE:**

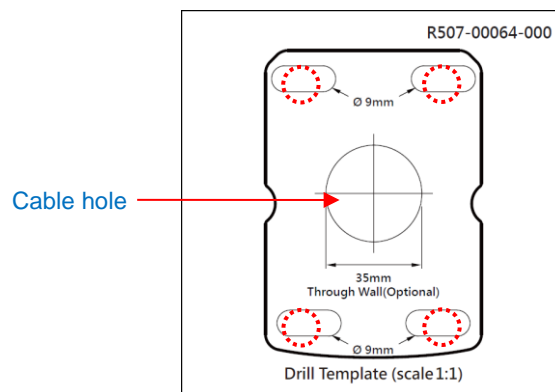
- For more information about the mounting solutions and accessories, please check the [Mounting Accessory Selector](http://www.acti.com/mountingselector) in our website (<http://www.acti.com/mountingselector>).
- The above mounting accessories are not included in the package. Contact your sales agents to purchase.

# Installation Procedures

This section describes the procedures in installing the camera on a flat surface such as a hard or dropped ceiling and straight or tilted walls. Before installation, make sure the wall or ceiling can bear more than the weight of the camera.

## Step 1: Prepare for Installation

1. Depending on the wall material, purchase applicable screws and screws plugs (as needed) that can hold the camera and bracket weight on the wall.
2. Attach the supplied drill template sticker on the wall.
3. Determine how the cable will be routed: **pass through the wall** or **along the wall**.
  - **If the cable will pass through the wall**, drill the cable hole and the four (4) screw holes on the wall.



- **If the cable will be routed along the wall**, just drill the four (4) screw holes on the wall.
4. Detach the drill template sticker from the wall and insert the plastic plugs into the screw holes.

## Step 2: Mount the Camera

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1. Mark the location of the screw holes based on the drill template included in the package.  
**NOTE:** Depending on the surface where you will install the camera, it may be necessary to drill three (3) holes and use the supplied screw tox.
2. Attach the camera to the surface using the three (3) supplied screws.
3. Adjust the camera installation angle and orientation, and then tighten the two (2) screws to fix its position.



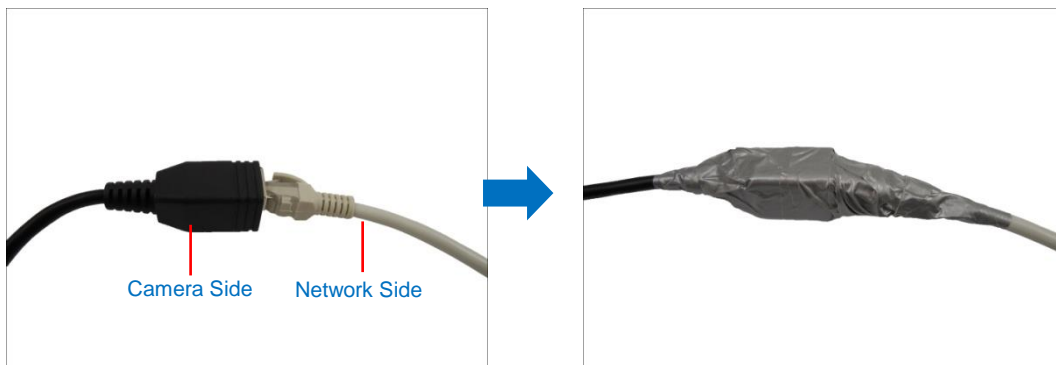
## Step 3: Waterproof and Connect the Cable(s)

The camera and the pre-installed network cable, “pigtail”, are resistant to salt, water, weak acid, alcohol, oil, grease and other common solvents. However, users must ensure that the cable connection and the network side cable itself are also protected from different environmental factors.

### Using Waterproof Tape

Regardless of the shape of the camera cable connector, the simplest way to waterproof to connection is by using the waterproof tape.

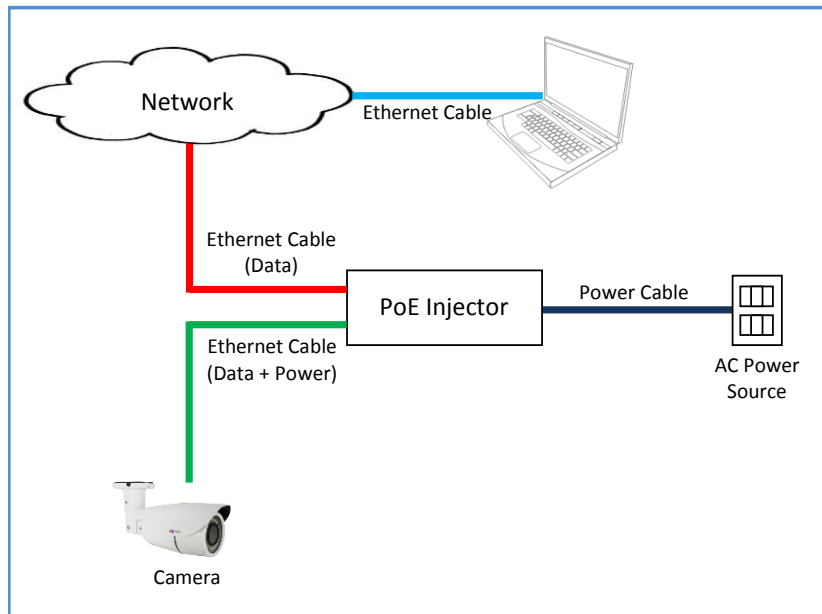
Connect an Ethernet cable from the network side to the Ethernet port of the camera and wrap the connection with waterproof tape to complete the installation.



**NOTES on using Ethernet cables:** For outdoor installations, it is recommended to use *exterior-grade* Ethernet cables (CAT5/CAT5e/CAT6); ordinary Ethernet cables are only designed for indoor use and may deteriorate quickly when exposed to outdoor elements. Exterior-grade Ethernet cables are waterproof and do not require a conduit.

## Step 4: Connect to Network

Connect the other end of the network cable to a switch or injector. Then, connect the switch or injector to a network, PC, and a power source. See Power-over-Ethernet (PoE) connection example below.



## Step 6: Access the Camera Live View

See [Accessing the Camera](#) on page 16 for more information on how to access the Live View of the camera.

## Other Connections

This section describes the procedures in preparing the external devices that you can connect to the camera. The camera supports DC12V power input, Digital Input and Output (DI/DO) and Audio Input and Output devices using the bundled terminal blocks. The use of these devices, however, is optional.

### Connecting a Power Adapter (Optional)

The camera can be powered by a Power over Ethernet (PoE) switch that is IEEE802.3af compliant. In case of using a non-PoE switch or your PoE switch has a limited power supply, you can purchase a power adapter and directly connect the camera to a power outlet.

**NOTE:** The power adapter is not bundled in the package.

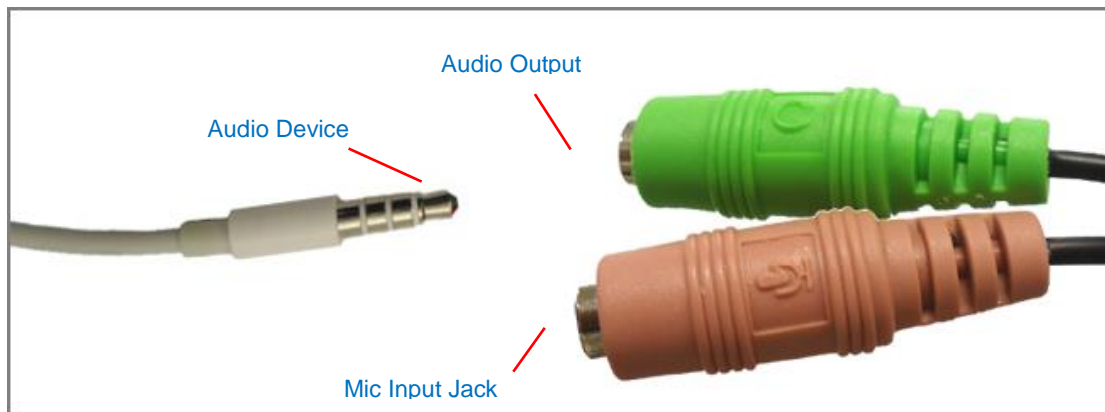
The DC12V connector is already attached to the camera.



## How to Connect Audio Input / Output Devices (Optional)

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If using an audio input device, such as a microphone with a built-in amplifier, connect the device to the **Mic Input** jack (RED) of the camera. If using an audio output device, such as a speaker, connect the device to the **Audio Output** jack (GREEN) jack of the camera.



**NOTE 1:** Make sure that the connected audio input device has a built-in amplifier. Connecting an ordinary microphone will dwarf sounds and will result in inaudible recording.

## Other Adjustments and Accessories

### Reset the Camera

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The camera has a **Reset** button that can be used to restore the camera to its factory default settings when the need arises.

The **Reset** button is used for the following purposes:

- The administrator's password is forgotten and therefore the camera cannot be accessed
- In case of IP address, mask, or allow/deny filter related issues, resulting with the inability to modify these settings
- In case of connectivity issues or abnormal video quality

# Accessing the Camera

## Configure the IP Addresses

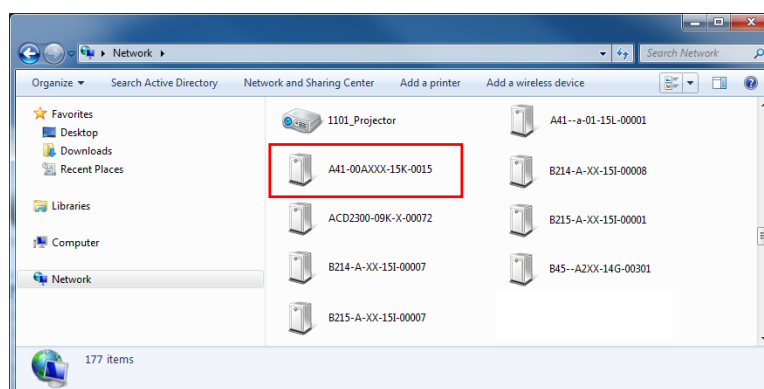
In order to be able to communicate with the camera from your PC, both the camera and the PC have to be within the same network segment. In most cases, it means that they both should have very similar IP addresses, where only the last number of the IP address is different from each other. There are 2 different approaches to IP Address management in Local Area Networks – by DHCP Server or Manually.

### Using DHCP server to assign IP addresses:

If you have connected the computer and the camera into the network that has a DHCP server running, then you do not need to configure the IP addresses at all – both the camera and the PC would request a unique IP address from DHCP server automatically. In such case, the camera will immediately be ready for the access from the PC. The user, however, might not know the IP address of the camera yet. It is necessary to know the IP address of the camera in order to be able to access it by using a Web browser.

**The quickest way to discover the cameras in the network** is to use the simplest network search, built in the Windows system – just by pressing the “Network” icon, all the cameras of the local area network will be discovered by Windows thanks to the UPnP function support of our cameras.

In the example below, we successfully found the camera model that had just connected to the network.



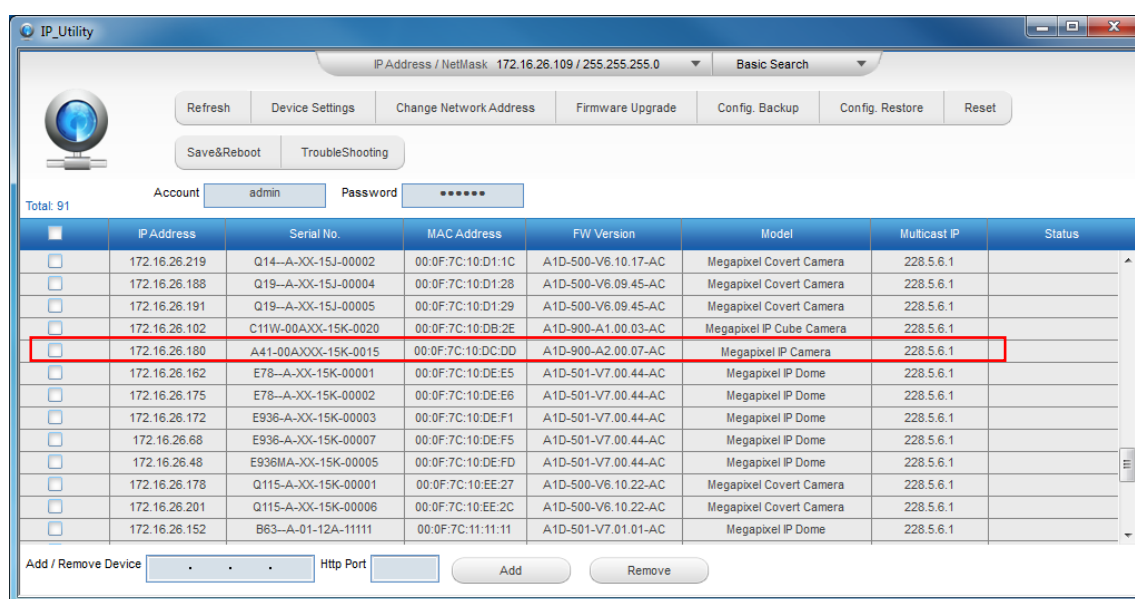
Double-click the mouse button on the camera model name, the default browser of the PC is automatically launched and the IP address of the target camera is already filled in the address bar of the browser.



If you work with our cameras regularly, then **there is even a better way to discover the cameras in the network** – by using **IP Utility**. The IP Utility is a light software tool that can not only discover the cameras, but also list lots of valuable information, such as IP and MAC addresses, serial numbers, firmware versions, etc, and allows quick configuration of multiple devices at the same time.

The latest IP Utility can be downloaded for free from [http://www.acti.com/IP\\_Utility](http://www.acti.com/IP_Utility)

When you launch IP Utility, the list of connected cameras in the network will be shown. See sample illustration below:



You can quickly notice the camera model in the list. Click on the IP address to automatically launch the default browser of the PC with the IP address of the target camera filled in the address bar of the browser already.

## Use the default IP address of a camera:

If there is no DHCP server in the given network, the user may have to assign the IP addresses to both PC and camera manually to make sure they are in the same network segment.

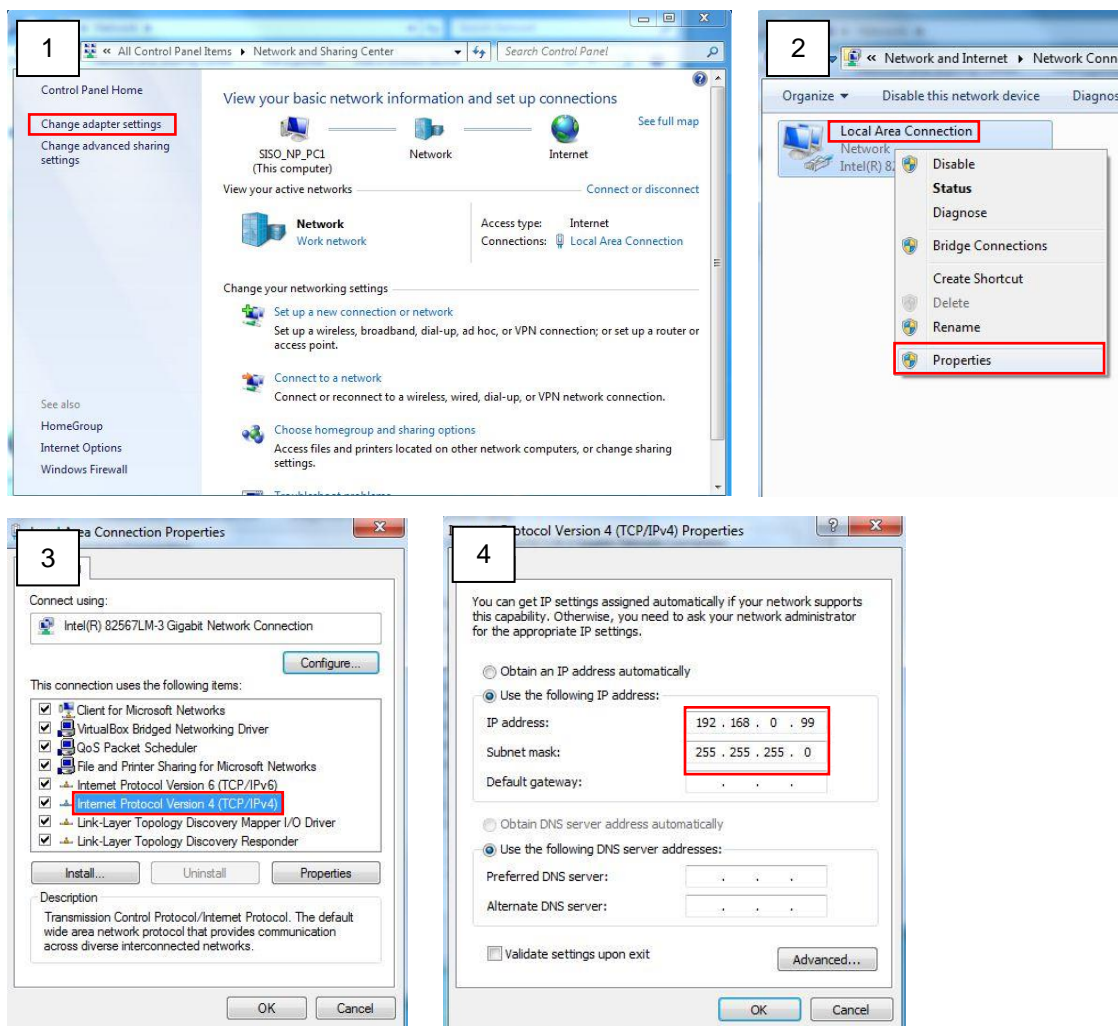
When the camera is plugged into network and it does not detect any DHCP services, it will automatically assign itself a default IP:

**192.168.0.100**

Whereas the default port number would be **80**. In order to access that camera, the IP address of the PC has to be configured to match the network segment of the camera.

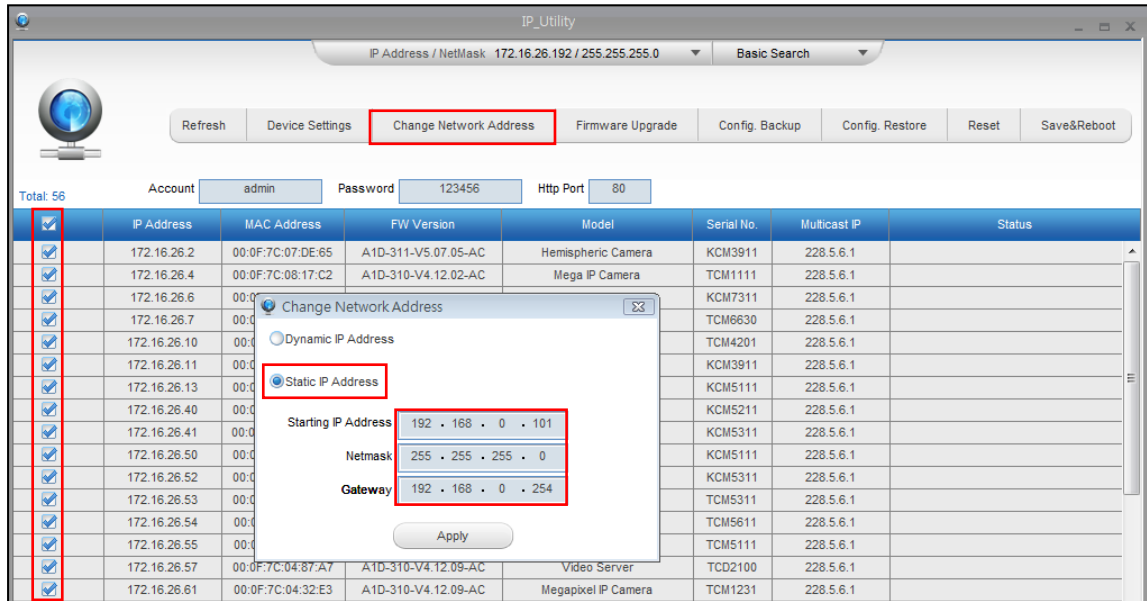
## Manually adjust the IP address of the PC:

In the following example, based on Windows 7, we will configure the IP address to **192.168.0.99** and set Subnet Mask to **255.255.255.0** by using the steps below:



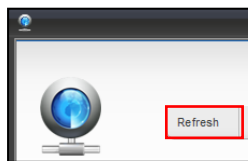
**Manually adjust the IP addresses of multiple cameras:**

If there are more than 1 camera to be used in the same local area network and there is no DHCP server to assign unique IP addresses to each of them, all of the cameras would then have the initial IP address of **192.168.0.100**, which is not a proper situation for network devices – all the IP addresses have to be different from each other. The easiest way to assign cameras the IP addresses is by using **IP Utility**:



With the procedure shown above, all the cameras will have unique IP addresses, starting from 192.168.0.101. In case there are 20 cameras selected, the last one of the cameras would have the IP 192.168.0.120.

Later, by pressing the “Refresh” button of the IP Utility, you will be able to see the list of cameras with their new IP addresses.



Please note that it is also possible to change the IP addresses manually by using the Web browser. In such case, please plug in only one camera at a time, and change its IP address by using the Web browser before plugging in the next one. This way, the Web browser will not be confused about two devices having the same IP address at the same time.

## Access the Camera

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Now that the camera and the PC are both having their unique IP addresses and are under the same network segment, it is possible to use the Web browser of the PC to access the camera.

Full functionality is provided only for **Microsoft Internet Explorer**.

The browser functionality comparison:

Functionality	Internet Explorer
Live Video	Yes
Live Video Area Resizable	Yes
PTZ Control	Yes
Capture the snapshot	Yes
Video overlay based configuration (Motion Detection regions, Privacy Mask regions)	Yes
All the other configurations	Yes

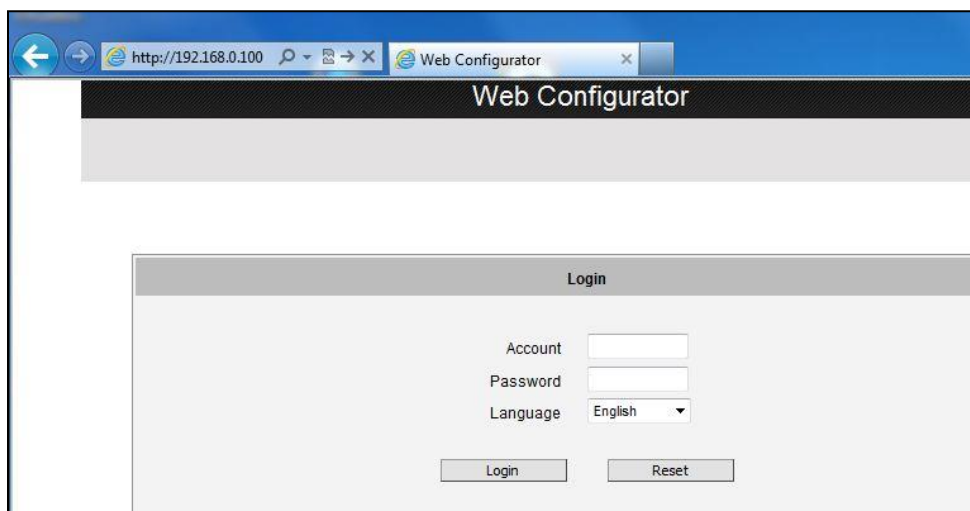
When using Internet Explorer browser, the ActiveX control for video stream management will be downloaded from the camera directly – the user just has to accept the use of such control when prompted so. No other third party utilities are required to be installed in such case.

**The examples in this manual are based on Internet Explorer browser in order to cover all functions of the camera.**

Assuming that the camera's IP address is **192.168.0.100**, you can access it by opening the Web browser and typing the following address into Web browser's address bar:

**<http://192.168.0.100>**

Upon successful connection to the camera, the user interface called **Web Configurator** would appear together with the login page. The HTTP port number was not added behind the IP address since the default HTTP port of the camera is 80, which can be omitted from the address for convenience.



Before logging in, you need to know the factory default Account and Password of the camera.

Account: **Admin**

Password: **123456**

For further operations, please refer to the **Firmware User Manual**.



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