Quick Guide

Roughneck V2100B Series

Outdoor Bullet Cameras

XX318-30-04

Cybersecurity Notification: All network connected devices should use best practices for accessing the device. To that end, these network cameras do not have a default password. A user defined password with minimum password strength requirements must be set to access the device. See page 13 of this Quick Guide for set-up instructions.

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WARNING

- This camera operates at 12 VDC/PoE (IEEE 802.3af Class 3).
- Installation and service should be performed only by qualified and experienced technicians and comply with all local codes and rules to maintain your warranty.
- We are NOT liable of any damage arising either directly or indirectly from inappropriate installation which is not depicted within this documentation.
- To reduce the risk of fire or electric shock, do not expose the product to rain or moisture.
- Wipe the camera with a dry soft cloth. For tough stains, lightly apply diluted neutral detergent and wipe with a dry soft cloth.
- Do not apply benzene or thinner to the camera, which may cause the surface to melt or lens to fog.
- Avoid aligning the lens with extremely bright objects (e.g., light fixtures) for long periods of time.
- Although this camera is waterproof and suitable for both indoor and outdoor usages, please do not immerse the camera into water.
- Avoid operating or storing the camera in the following locations:
  - Extremely humid, dusty, or hot/cold environments (recommended operating temperature: -40°C to +50°C)
  - Close to sources of powerful radio or TV transmitters
  - Close to fluorescent lamps or objects with reflections
  - Under unstable or flickering light sources

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.

WEEE (Waste Electrical and Electronic Equipment). Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Get Started

This quick guide is designed as a reference for installation of the camera. For additional information on the camera's features, functions, and detailed explanation of the web interface control, refer to User's Manual for details. Please read this quick guide thoroughly and save it for future use before attempting to install the camera. From this guide you will get:

- Product Overview: The physical parts, features and dimensions of the camera.
- Installation and Connection: The instructions on installation and wire connections for the camera.

FCC Compliance Statement

Information to the user: This unit has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This unit generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this unit does cause harmful interference to radio or television reception, which can be determined by turning the unit 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 unit and receiver.
- Connect the unit to 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.

| Caution	Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the unit.

CE Statement

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The manufacturer declares that the unit supplied with this guide is compliant with the essential protection requirements of EMC directive and General Product Safety Directive GPSD conforming to requirements of standards EN55022 for emission, EN 50130-4 for immunity, EN 300 and EN 328 for WIFI.

This product is IP67 rated for outdoor environments and IK08 rate for impact protection. The camera also meets regulations required to be NDAA, GSA schedule and TAA approved.

1 Product Overview

1.1 Physical Characteristics

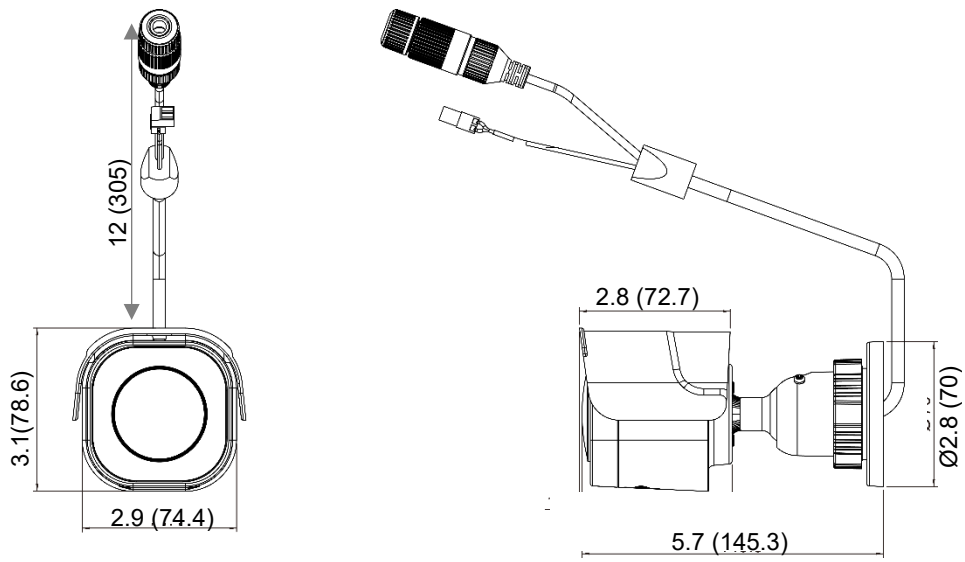V2100B Bullet Series
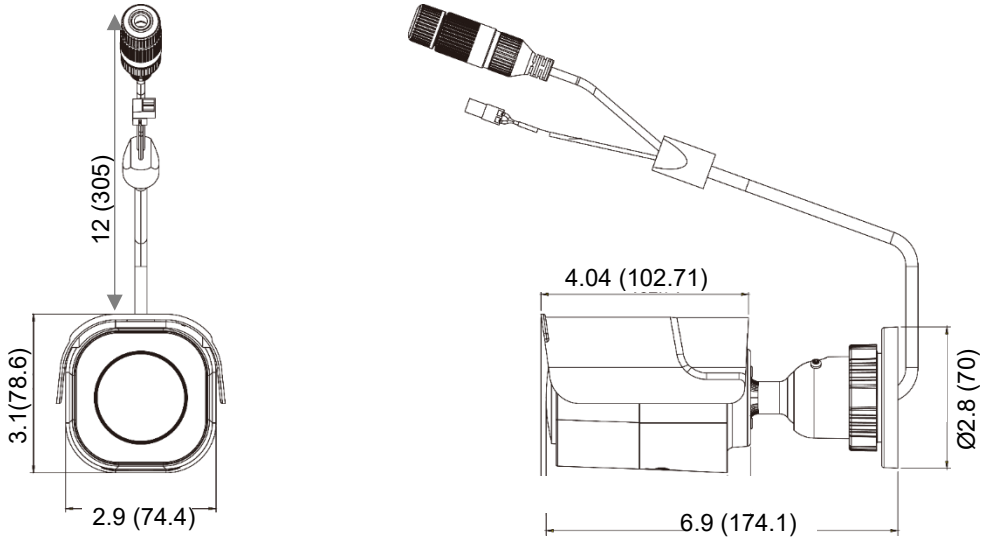
V2100B Mini Bullet Series

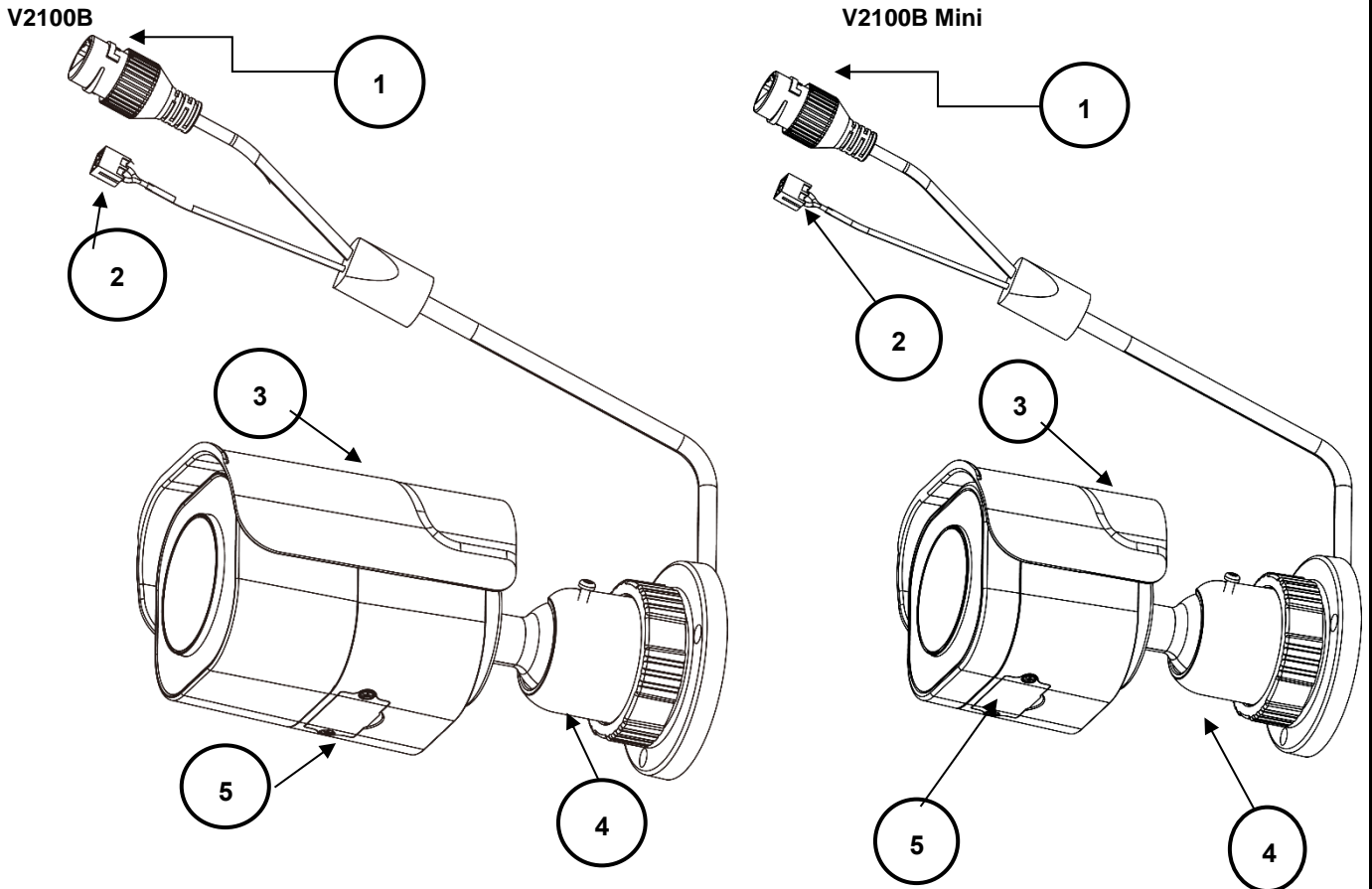**Figure 1 – 1: Physical Dimension**

Unit: in. (mm)

V2100B

V2100B Mini

Figure 1 - 2: Parts Pictorial Index

No	Name	Description
1	RJ-45 Ethernet/PoE Port	Connect an Ethernet cable terminated with RJ-45 connector to the PoE RJ-45 port for both power supply and network connectivity purposes simultaneously.
2	12 VDC Port	For powering on the camera via 12 VDC power source. Pay attention to the polarities when connecting to 12 VDC power supply.
3	Protection Shield Hood	For minimizing the effects from rain and sunlight on image quality.
4	Mounting Bracket	To mount the camera onto different environments, the mounting bracket is designed with 2 axes for flexible adjustment.
5	Internal Interface Cover	Use a cross screwdriver to loosen the 2 screws and open the cover so that the internal interfaces, including "RESET", "DEFAULT" button, "Micro SD Card Slot", etc., are uncovered. More details are described in the following figure and table.

Table 1 - 1: Pictorial Index Definition

Color	Name
Red	12 VDC Positive polarity (+)
Black	12 VDC Negative polarity (-)

Table 1 - 2: Wire Color Code Chart
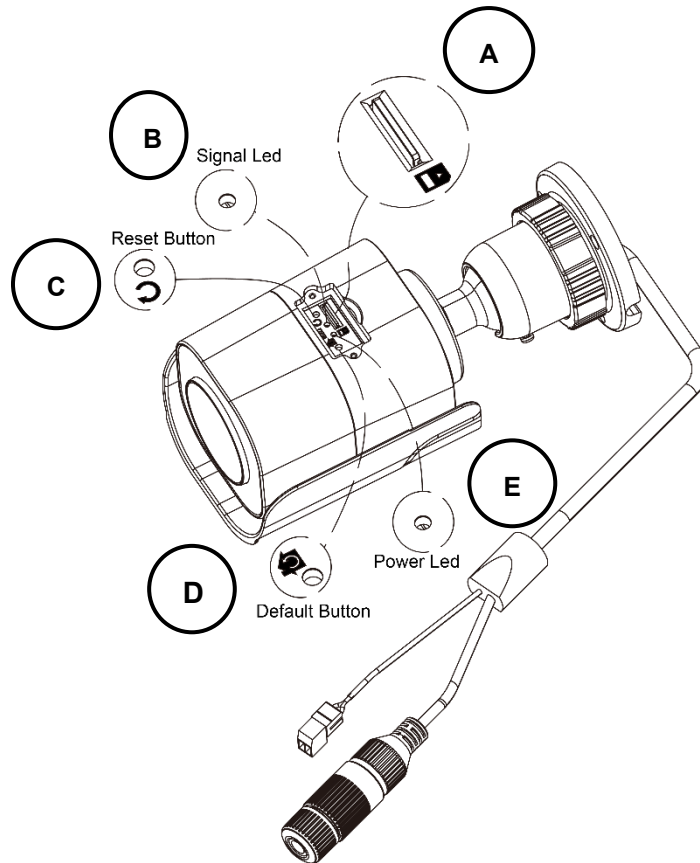
Figure 1 - 3: Internal Interface Pictorial Index

No	Interface	Description	
A	Micro SD card slot	Insert a micro SD card into the slot for recording and file storage.	
B	Signal LED	Red	Indicates network data is being transmitted.
C	Reset Button	Press the button for less than 1 second to reboot the camera.	
D	Default Button	Press the button for 6 seconds to restore to the factory default settings.	
E	Power LED	Green	Indicates camera is powered on.

Table 1 - 3: Internal Interface Definition

2 Installation and Connection

2.1 Package Contents

Check if all items listed below are included in the packing box.

- Network IR Bullet Camera * 1
- Printed Quick Guide * 1
- Guide Pattern * 1
- Plastic Anchors * 3
- Tapping Screws * 3
- Black Plum Blossom Wrench T6 130mmX30mm * 1 (not included with the V2100B Mini Bullet)

2.2 Installation

Following tools might help you complete the installation:

- Drill
- Screwdrivers
- Wire cutters

2.2.1 Checking Appearance

When unpacking, check to see if there is any visible damage to the appearance of the camera and its accessories. The protective materials used for the packaging should protect the camera from most of accidents during shipment. Remove the protective materials from the camera after every item is properly checked in accordance with the list in *Package Contents*.

Note: In some illustrations, just the V2100B Bullet Camera is shown; the procedures and locations of parts are the same for the V2100B Mini Bullet camera.

2.2.2 Mounting & Wiring

Step 1. Mounting Preparation

- **Use the guide pattern to mark out and prepare a mounting area.**
    1. Place the supplied guide pattern on a mounting surface. Drill 6 mm (0.25") outer holes x 3 at the mounting surface corresponding to the 3 indicated positions for plastic anchors.
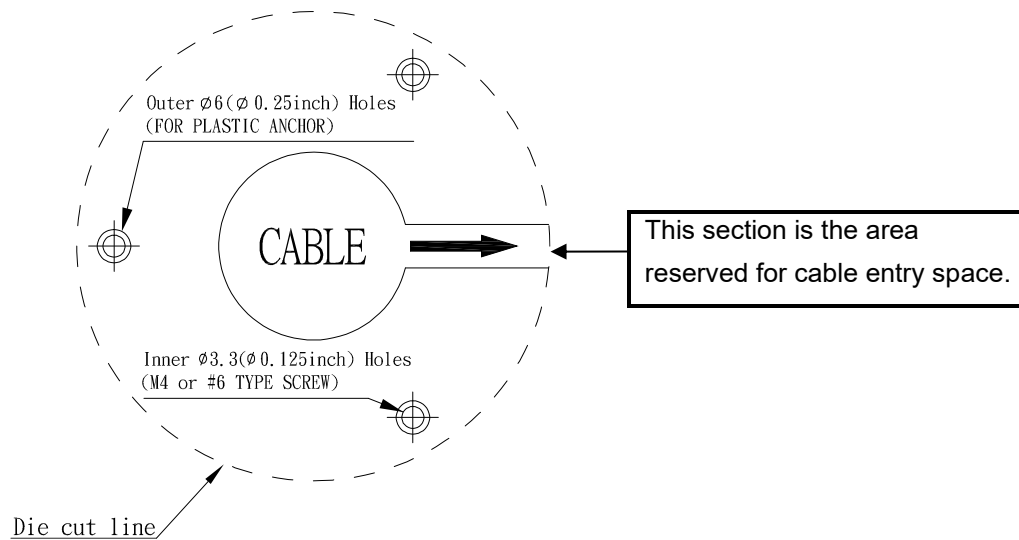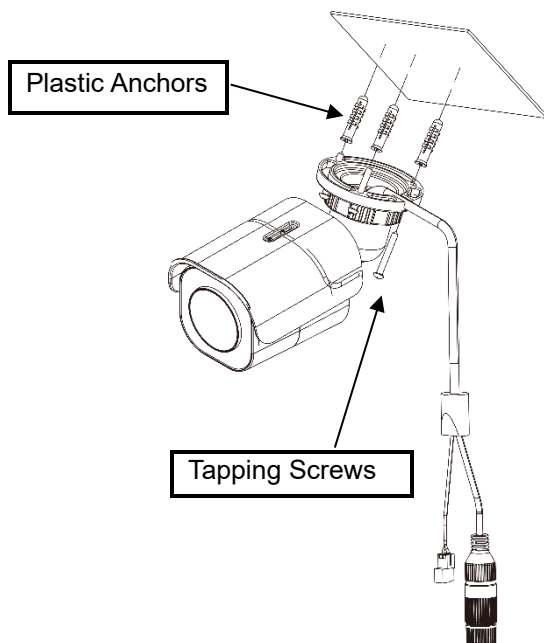   2. Then hammer the 3 plastic anchors into the 3 drilled holes on the mounting surface.

Figure 2 - 1: Guide Pattern

Step 2. Mounting the Camera

1. Position the camera to match the 3 holes embedded with the plastic anchors on the surface.
2. Secure the 3 tapping screws to fasten the camera with the mounting surface tightly.
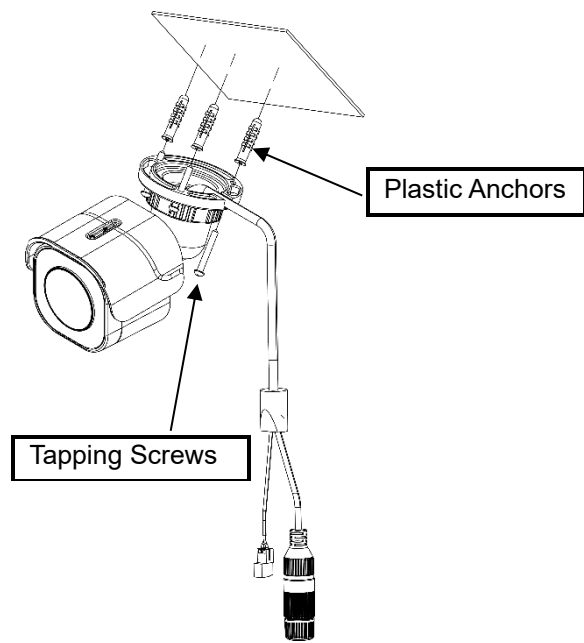

Figure 2 - 2: Mounting the Camera

Step 3. Wiring the Camera

1. While mounting the camera, pass the PoE Port and 12 VDC Port cable from the mounting bracket, through the hole of mounting surface or place them by the side hole of the mounting bracket as the following figures shown depending on your different applications.

2. Connect an Ethernet cable terminated with the RJ-45 connector with the PoE Port of the camera and make sure the other end of the Ethernet cable connects with a PoE compatible network device that supplies power with networking capability. Also, connect 12 VDC power source wires to the 12 VDC port if necessary. Pay attention to the polarities when connecting wires to the 12 VDC port.
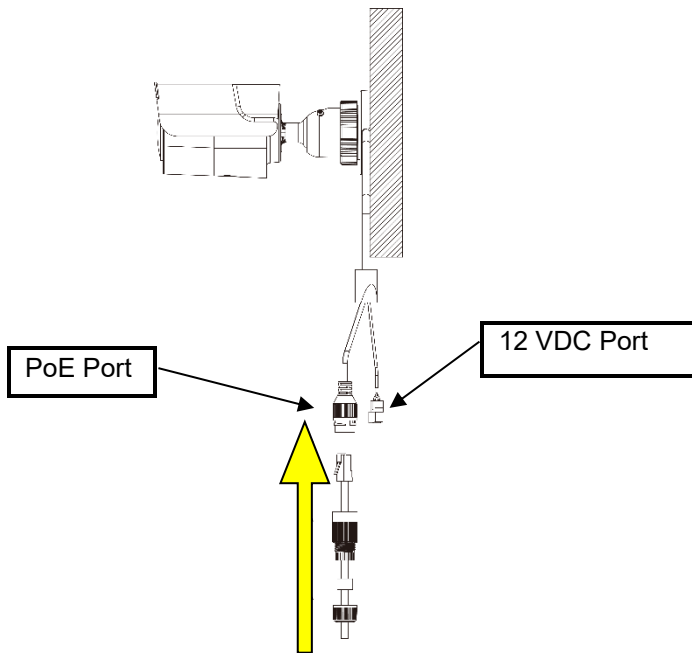

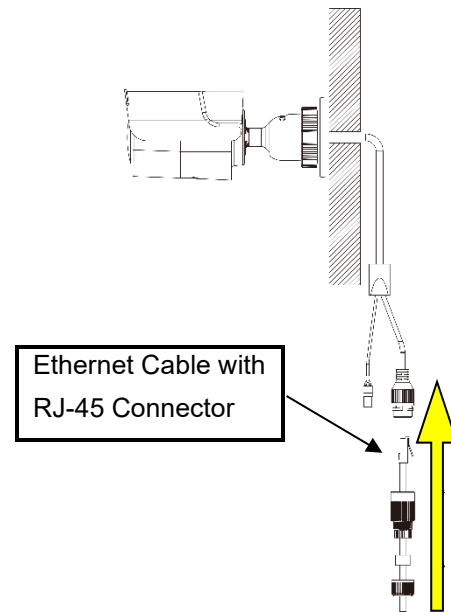**Figure 2 - 3: Connecting the Wires Type Ⅰ - Bracket Side Hole**

Figure 2 - 4: Connecting the Wires Type Ⅱ - Mounting Surface Hole

Notes to Installer:

- When connecting the RJ-45 connector, it may be necessary to slightly lift the connector into its mating connector to make sure it engages correctly.
- When terminating with the RJ-45 connector on the pigtail, care must be taken to ensure the wires do not protrude from the connector. Refer to diagrams below.
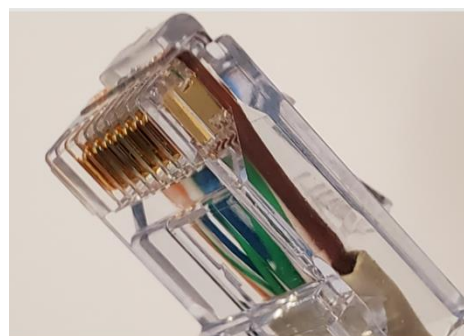
2.2.3 Adjusting the Camera Position

- **Pan Adjustment (A)**
  Rotate the A joint to adjust the camera horizontally for a variety of installations.

- **Tilt Adjustment (B)**
  Tilt the B joint to adjust the camera vertically for a variety of installations.

- **Locking Ring (C)**
  By rotating the C ring counterclockwise, the pan & tilt joints will be loosened and able to be adjusted for different angles; rotating the C ring clockwise will fasten the pan & tilt joints altogether.
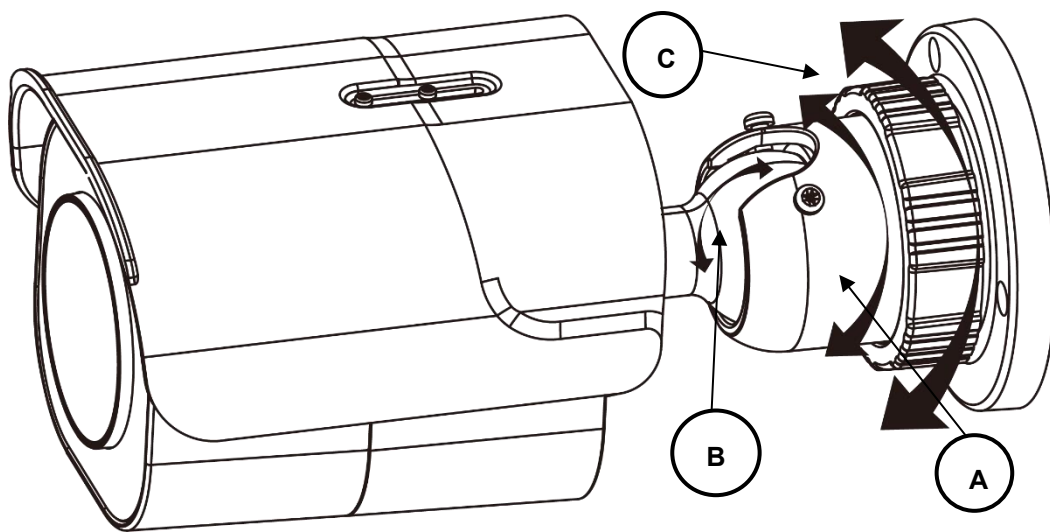
Figure 2 - 5: Adjusting the Camera Position

Caution	Limitation for Two axes position: • Pan range: ±360° • Tilt range: 0°～ 90°

Note	After adjustments, make sure to tighten each joint to prevent camera from moving.

2.2.4 Adjusting the Protection Shield Hood

This camera is designed with capability to operate under rugged environments and may possibly be subject to the influence from sunlight or rain. The protection shield hood is attached to the camera to prevent impact from those outside effects. To adjust the protection shield hood, first loosen the 2 cross screws above the hood; then move the protection shield hood forward or backward to the desired position based on your need for different applications.
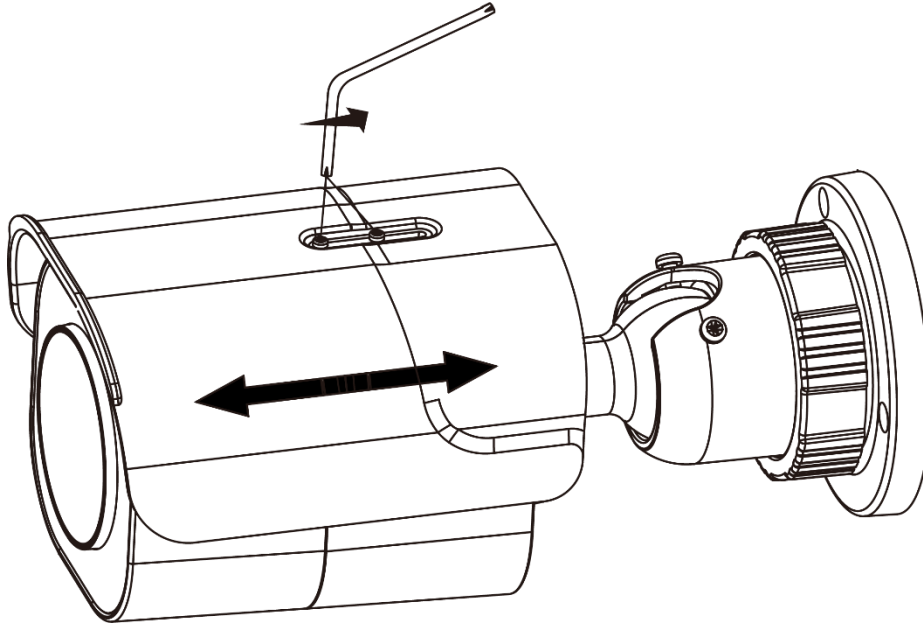

Figure 2 - 6: Adjusting the Protection Shield Hood

Caution	• Be sure to adjust the protection shield hood in accordance with the lens coverage in case shadow problems occur.
	• To avoid housing damage, DO NOT adjust the protection shield hood position excessively.

3 Connection

3.1 Network Topology

The camera, which is equipped with Ethernet RJ-45 network interface, can deliver live view image in real time via both Internet and Intranet manners. Review the topology drawings shown below
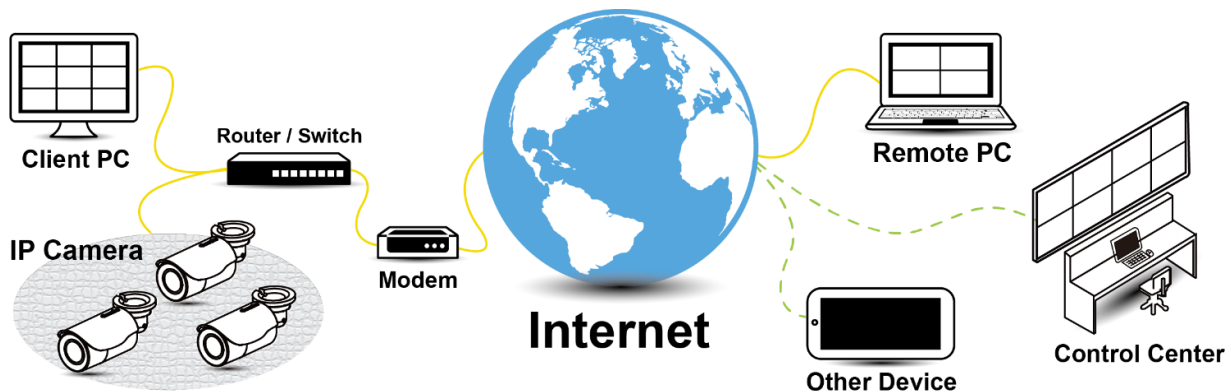

Figure 3 - 1: Network Topology

3.2 System Requirements

The table below lists the minimum requirement to implement and operate the camera. No hardware/software component inferior to the requirements is recommended.

Table 3 - 1: System Requirements

System Hardware	
CPU	i5-2430M CPU@ 2.40GHZ 2.40 GHZ
RAM	6 GB or above
Display	NVIDIA GeForce 6 Series or ATI Mobility Radeon 9500
System Software	
Operating System	Windows 7 SP1, Windows 8, Windows 10
Browser	Internet Explorer 11, Mozilla Firefox, Chrome, Safari, Microsoft Edge
Unit	
Power Supply	12 VDC/PoE (IEEE 802.3af Class 3)
Networking	
Wired*	10/100BASE-T Ethernet (RJ-45 connector)

A switch is required for surveillance on multiple cameras.

Note	All the installation and operations should comply with your local electricity safety rules.

Caution	When powering on via PoE, this camera is to be connecting only to PoE networks without routing to heterogeneous devices. A heterogeneous network is a network connecting computers and other devices where the operating systems and protocols have significant differences.

3.3   Connecting Process

3.3.1 Default IP address

Since this is a network-based camera, an IP address must be assigned. The camera's default IP address is obtained automatically through a DHCP server in your network; be sure to enable DHCP in "Network Settings." If DHCP is not available, the camera will use APIPA (link-local address); IPv4 link-local addresses are assigned from address block 169.254.0.0/16 (169.254.0.0 through 169.254.255.255).

3.3.2 Connecting from a Computer & Viewing Preparation

Connecting from a computer

1.   Make sure the camera and your computer are in the same subnet.
2.   Check whether the network available between the camera and the computer by executing ping the default IP address. To do this, simply start a command prompt (Windows: from the "Start Menu," select "Program." Then select "Accessories" and choose "Command Prompt") and type ""Ping" and then type in your IP address. If the message "Reply from…" appears, it means the connection is available.
3.   Start a browser e.g., Internet Explorer, and enter IP address. A login window as shown below should pop up. In the window enter the default user name: **ADMIN**; it is required to change the password when you login for the first time for added security**,** which requires at least 8 characters including 1 uppercase letter, 1 special character, alphanumeric characters to log in.
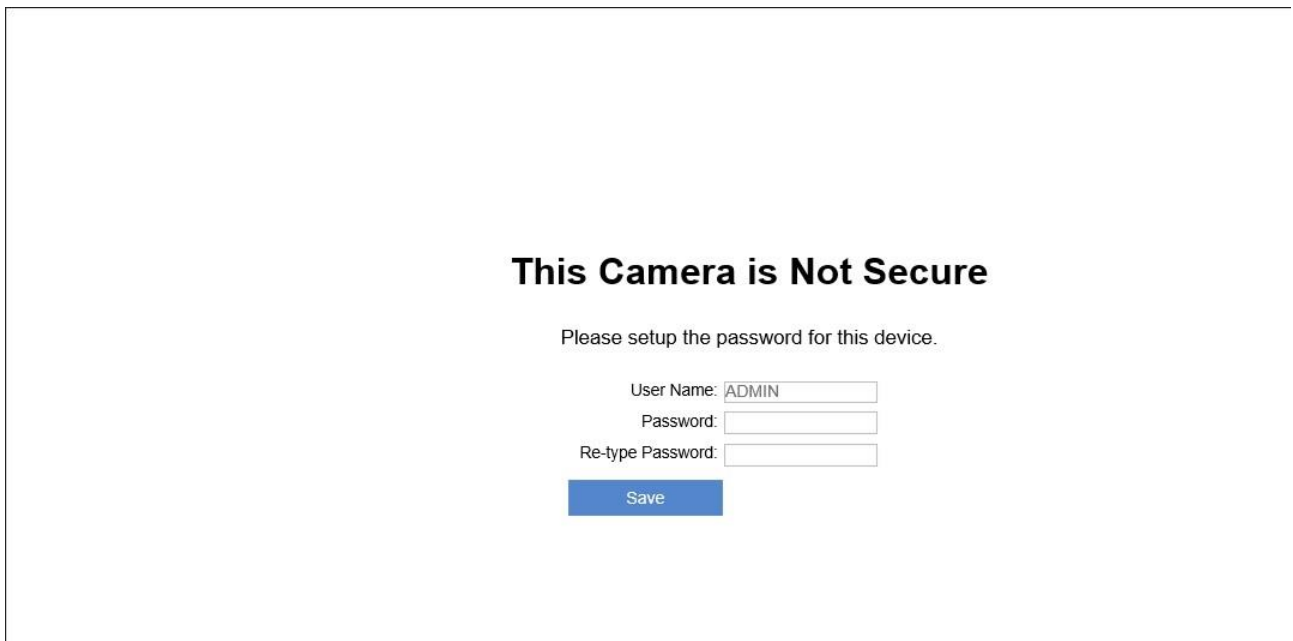
This Camera is Not Secure

Please setup the password for this device.

User Name: ADMIN
Password:
Re-type Password:

Save

Figure 3 - 2: Login Window

<u>Viewing Preparation</u>

Images of the unit can be viewed through various browsers. Before viewing, follow these steps to enable the display.

1.   Enable Cookies per instructions below:

   •   In Internet Explorer, click **Internet Options** on the **Tools** menu.

   •   On the **Privacy** tab, move the settings slider to **Low** or **Accept All Cookies**.

   •   Click **OK**.

2.   When a proxy server is used, click **Internet Options** on the Tools menus of Internet Explorer, select **Connect** tab, click **LAN** button, and set proxy server.

3.   Change Security in Internet options per instructions below:

   •   On tool menu, click **Internet Options**.

   •   Press the **Security** tab.

   •   If the camera operates inside of the intranet, click the **Intranet** icon.

   •   If the camera operates outside of the intranet, click the **Internet** icon.

   •   Click **Custom Level**. This will open the Security Settings – Internet Zone screen.
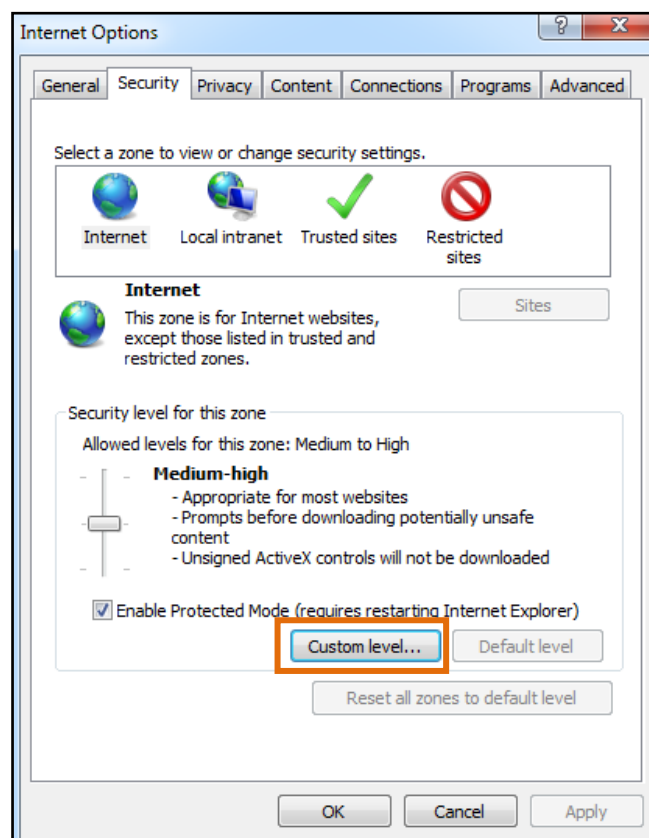

Figure 3 - 3: Security Settings 1/4

- Scroll down to the ActiveX controls and plug-ins radio buttons and set as follows:

  【Download signed ActiveX controls】➜ Prompt (recommended)

  【Download unsigned ActiveX controls】➜ Prompt

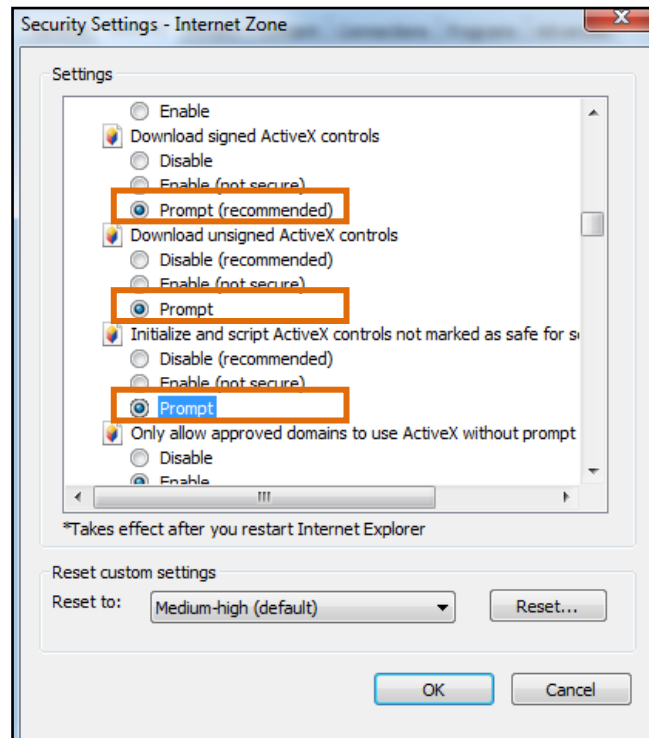 【Initialize and script ActiveX not marked as safe for scripting】➜ Prompt

Figure 3 - 4: Security Settings 2/4
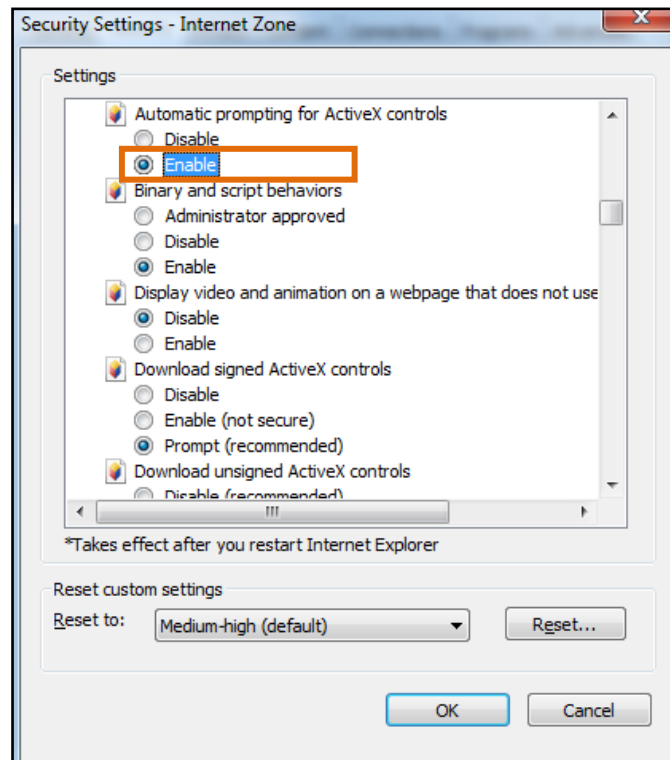
【Automatic prompting for ActiveX controls】➜ **Enable**

Figure 3 - 5: Security Settings 3/4

【Run ActiveX controls and plug-ins】 ➔ Enable

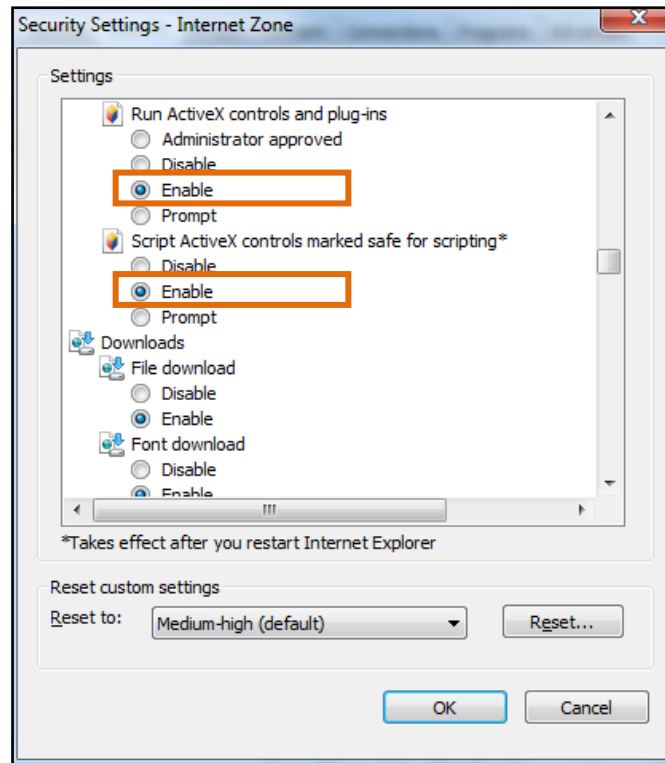【Script ActiveX controls marked safe for scripting*】 ➔ Enable

Figure 3 - 6: Security Settings 4/4

- Press **OK** to save the settings.
- Close the all browser windows and restart the browser. This will allow the new settings to take effect.
- Type your IP address into the browser.
- You should be able to see the camera image screen.

3.4   IP Toolbox

IP Toolbox is a utility program that helps users to locate the camera(s) in local area network that computer is connected to. Note that IP Toolbox works only in Microsoft Windows XP, Microsoft Windows Vista, and Microsoft Windows 7 or above. Steps to get the utility program running are listed below.

1. Download the IP Toolbox folder to local computer. The latest IP Toolbox can be found on Vicon's website Camera Software Download page, vicon-security.com.
2. Double click on **IPToolbox.exe** in the IP Toolbox's folder, and the IP Toolbox window should pop up as below.
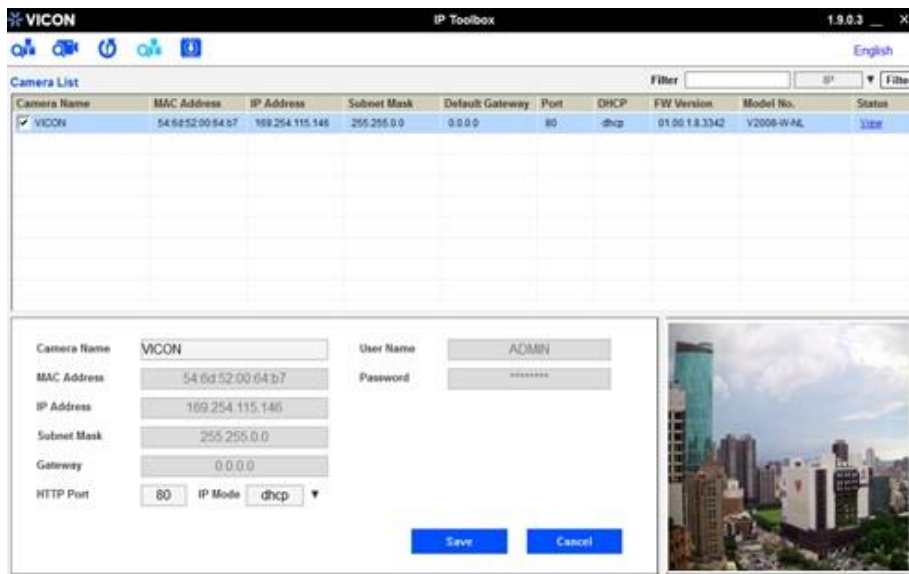

Figure 3 - 7: IP Toolbox

3. The window lists information of camera(s) in operation at the present time. Click the camera in the list for which you want to configure the network settings.
4. Configure the following settings as needed.
    - **User Name & Password:** Before performing any operation to any listed camera, enter username and password for the selected camera, and then click "**Verify**" for authentication purposes.
    - **Camera Name:** Enter a descriptive name for the camera.
    - **Network Settings:** If you have a DHCP server on your network to assign IP addresses to network devices, enable the "dhcp" option from dropdown menu of **IP MODE**. Otherwise, select "manual" to manually enter the values for **IP Address**, **Subnet Mask**, **Gateway** and **HTTP Port** fields.
    - Click **"Save"** to enable the settings. Click "**Cancel**" to discard the settings.
5. Press 📷 **"View"** button; the designated browser page of the selected camera will pop up. Input the corresponding **User Name** & **Password** to log in to the specific page of camera.
6. Press 📷 **"Refresh"** button; all the cameras currently connected to the network will appear on the list.
7. Press ⏻ **"Initialize"** button; there are three options, Software default, Hardware default, and Reboot camera, for user to perform the factory default or reboot the camera. After clicking the preferred item, a warning message will appear. Confirm again before you perform the selected function.
8. The "**Filter**" button on the upper-right corner allows user to perform a filtering search, which means you

can input certain keywords into the field and also narrow down the range by selecting the criteria from the dropdown menu for a target search on cameras connected.

9. Press **"Auto Set IP Address"** button to automatically give each camera an IP address from predefined range and connected to predefined network internet controller.
   - **User Name & Password:** Enter username and password for the current auto set IP address setting.
   - **Network Interface Controller:** Select desired network interface controller that each camera(s) will be connected to and also select the IP address and IP address range of the controller.
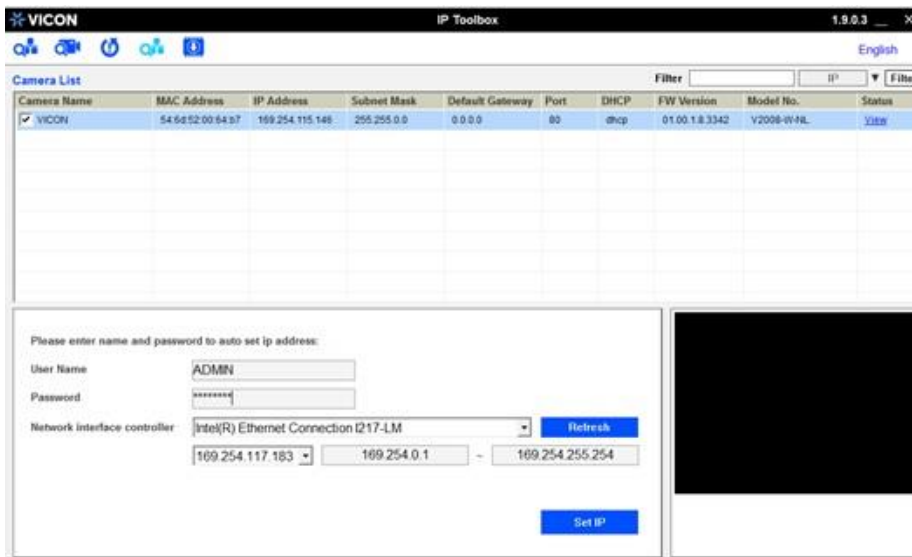
Figure 3 - 8: Auto Set IP Address

10. Click **"FW Upgrade"** button to upgrade the firmware of selected camera. A pop up window like the image below will show up.
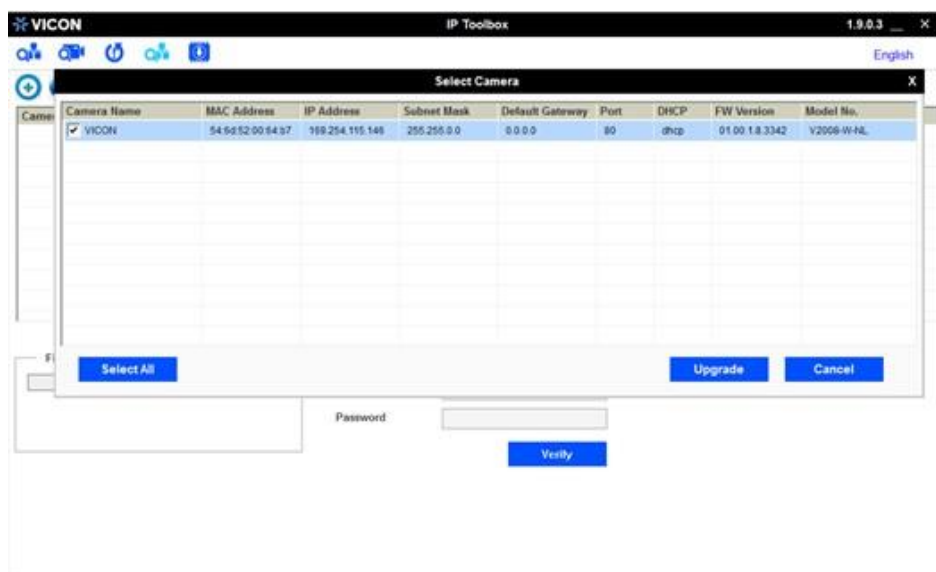

Figure 3 - 9: IP Toolbox FW Upgrade

Follow the steps below to complete firmware upgrade:

- Click ⊕ or ⊖ to add or remove camera to be upgraded (only verified cameras will be shown on this list).

- Select a camera or click "**Select All**" button to select a camera or all the cameras on the firmware upgrade list, respectively.

- Click "**Add**" or "**Cancel**" button to confirm the selected cameras for upgrade or to cancel the selection, respectively.

- Enter the path for the desired firmware (.tar) or click ⊡ and then follow the instructions to find and upload the .tar file.

- When the process is complete, click ▦ again to return to the list of all cameras located in the local network.

VICON

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For office locations, visit the website: vicon-security.com