Full HD Multiple Streams
Micro Box IP Camera (Wireless)
User’s Manual

Ver. 1.2

001B0HWXZ2A2-WiFi

Table of Contents

1. Overview

The Full HD Multiple Streams Micro Box Wireless IP Camera is not only an easy setup camera, but a versatile solution for homes and small offices. Users can install the Wireless IP Camera in any place with Wi-Fi access. In addition, the Wireless IP Camera has built-in microphone and speaker which allows two-way audio communication. For low light environments, the Wireless IP Camera has incorporated Day/Night ICR technologies to capture clear images. 2 Megapixel resolution is supported for providing high definition images. Quad Streams Compression (H.264 Baseline / Main / High Profile + MJPEG) are available for efficient bandwidth and storage management. Users now can remotely and clearly watch over their families and homes via mobile devices while they are at work or even traveling.

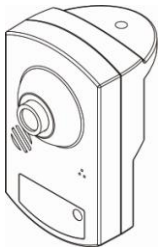
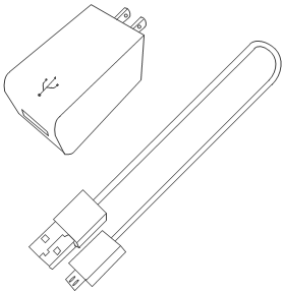
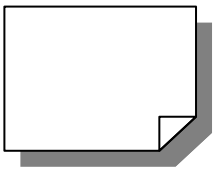
1.1 Features

- Progressive Scan CMOS Sensor
- 2M Resolution
- Quad Streams Support
- Dual streams- Full HD 1080P Real-Time + D1 Real-Time
- Quad Streams Compression- H.264 Baseline / Main / High Profile + MJPEG
- Multi-language Support
- Wide Dynamic Range
- Wireless Network Support
- Built-In Microphone and Speaker*
- Motion Detection
- Privacy Masks
- Smart Picture Quality / 3D Noise Reduction
- Smart IR Mode
- Day/Night (ICR)
- IR LED Module (working distance up to 5 m)*
- microSD Support
- ONVIF Support

(*) Optional

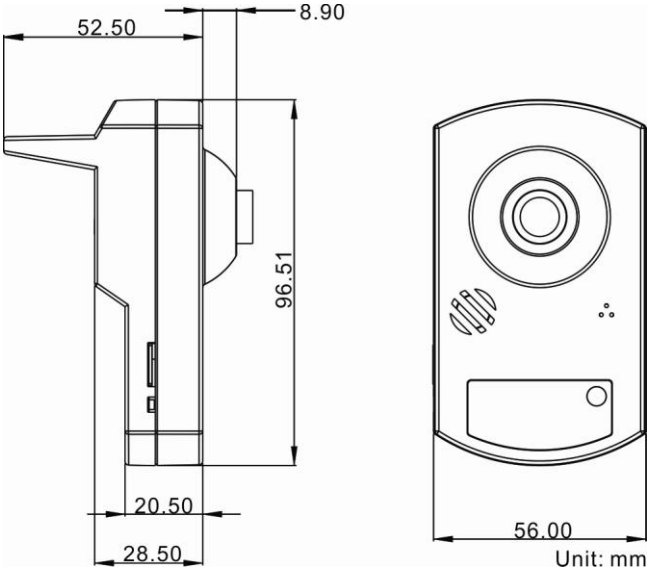
1.2 Package Contents

Please check the package contains the following items listed below.

 Full HD Multiple Streams Micro Box Wireless IP Camera	 Micro USB Power Supply Adapter & Micro USB Cable
 Quick Guide	 CD (bundled software and documentation)

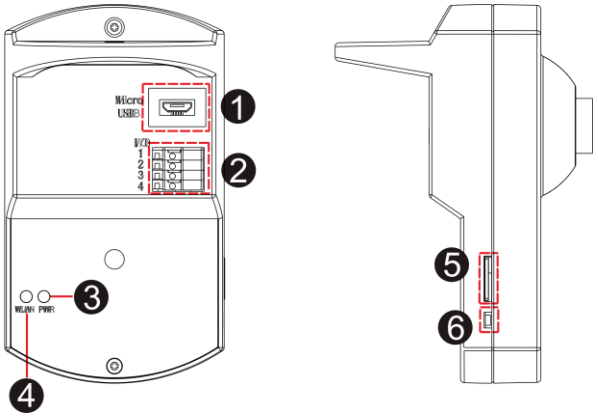
1.3 Dimensions

The dimensions of the IP Camera are shown below.



1.4 Connectors

The diagrams below show the connectors of the IP Camera. Definition for each connector is also given as follows.



No.	Connector	Definition	
1	Micro USB Port	For Power connection	
2	Alarm I/O	1	Alarm Output +
		2	Alarm Output −
		3	Alarm Input +
		4	Alarm Input −
3	Power LED	Power indication	
4	WLAN LED	Wireless network connection and activity indication	
5	microSD Card Slot	For videos and snapshots storage	
6	Default Button	Press the button with a proper tool for at least 20 seconds to restore the system.	

2. Camera Cabling

Please follow the instructions below to complete IP Camera connection.

2.1 Connect Power

Please refer to section 1.4 Connectors. Plug the camera's Micro USB Power Supply Adapter connecting with the Micro USB cable into the power outlet, and connect the other end of the cable to the camera's Micro USB port. Alternatively, connect the Micro USB Cable to the Micro USB port of the camera and plug the other end of the cable into the USB port of the computer.

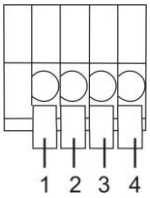
2.2 Wireless LAN Connection Status

Check the status of the Wireless LAN (WLAN) LED. If the LED is unlit, please check if the camera is connected to the network.

The LED in orange light indicates good network connection.

2.3 Connect Alarm I/O

The camera equips one alarm input and one relay output for alarm application. Refer to alarm pin definition below to connect alarm devices to the IP Camera if needed.



PIN 1: Output +
PIN 2: Output −
PIN 3: Input +
PIN 4: Input −

3. System Requirements

To perform the IP Camera via web browser, please ensure the PC is in good network connection, and meet system requirements as described below.

Items	System Requirement
Personal Computer	1. Intel® Pentium® M, 2.16 GHz or Intel® Core™2 Duo, 2.0 GHz 2. 2 GB RAM or more
Operating System	Windows XP / Windows VISTA / Windows 7 / Windows 8
Web Browser	Microsoft Internet Explorer 10 or later Firefox Chrome Safari
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

4. Access Camera

The configuration of the initial camera connection will be introduced in section 4.1 Camera Connection Setup. After users completed the settings of the IP Camera connection, users can use the device search tool, “Device Search”, to search the camera in LAN, and connect to the Browser-based Viewer of the IP Camera. Detailed information is in section 4.2 Device Search.

4.1 Camera Connection Setup

Before accessing the IP Camera, the initial connection setting of the IP Camera must be setup. However, with different ways of powering on the IP Camera, camera connection will also be configured differently. The following describes how to setup the IP Camera via the Power Adapter Connection and USB Connection.

Power Adapter Connection Setup

When the IP Camera is powered on with the power adapter, the camera is an Access Point (AP) by default. As an AP, the camera serves as central transmitter and receiver of Wi-Fi signals. In this case, users have to switch the IP Camera from an AP to a WiFi device. Otherwise, the camera cannot be performed as a surveillance camera. Follow the steps below to switch the IP Camera from an AP to a WiFi device.

Step 1: Power on the IP Camera with the power adaptor.

Step 2: Enable **WLAN** on users’ computer or laptop.

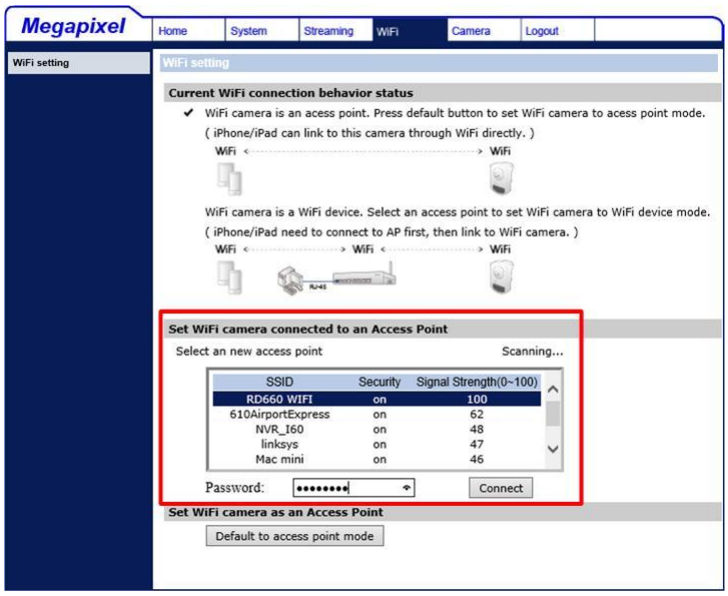
Step 3: Click on the internet connection icon <  > at the bottom-right of the taskbar, a list of Access Points will be displayed.

Step 4: Double click on <**WiFiCamera**> to connect the Access Point. The default password of the AP is **87654321**.

Step 5: Open a web browser and enter the default IP address of the IP Camera, **192.168.0.1**. Then input the default username / password (**Admin** / **1234**).

Step 6: After the Browser-based Viewer is displayed, click on the <**WiFi**> tab to connect the IP Camera to an Access Point.

Step 7: Under <**Set WiFi camera connected to an Access Point**>, select a preferred Access Point and enter its password, and then click <**Connect**>. See the figure below.



Step 8: Click <**OK**> in the prompt window.

Step 9: A message window will be displayed, click <**Yes**> to close the Browser-based Viewer.

The IP address of the IP Camera will be altered. Thus, users have to re-search the new IP address of the IP Camera by running the device search tool. After retrieving the new IP address of the IP Camera, users can continue to access and setup other settings of the camera.

NOTE: For further information about the device search tool, please refer to section 4.2 Device Search.

USB Connection Setup

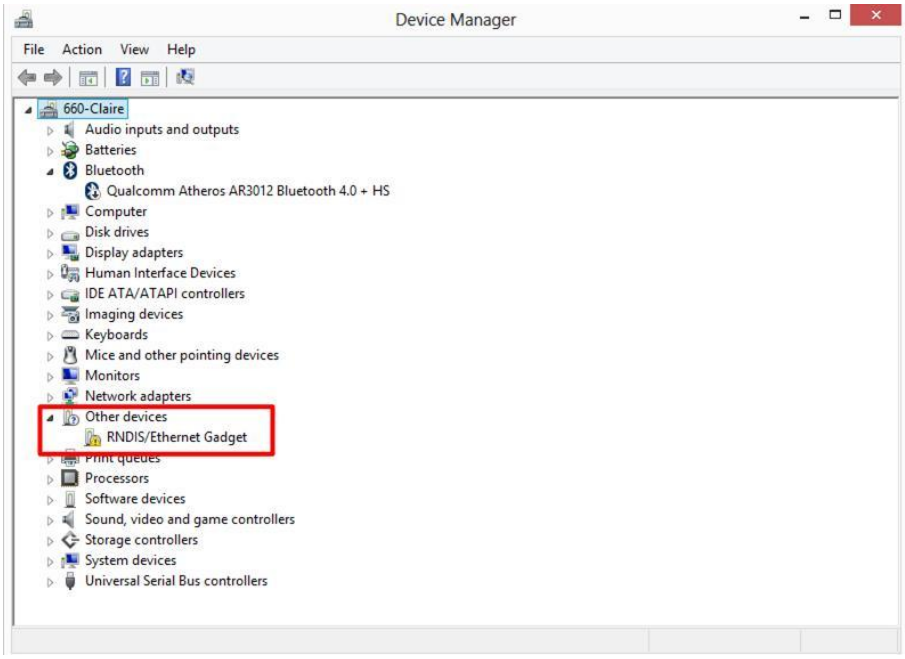
If the power of the IP Camera is supplied via the USB port of a computer, users have to install the IP Camera driver (RNDIS/Ethernet Gadget driver) to the computer. The following describes how to install the driver and setup the IP Camera network connection settings.

Step 1: Connect the IP Camera to the USB port of the computer.

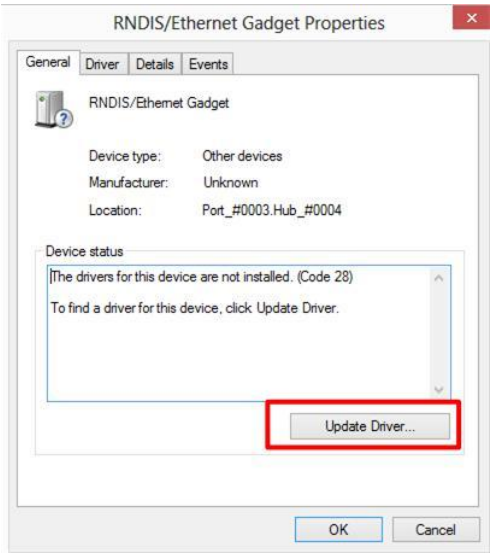
Step 2: Click on <**Start**>, type <**cmd**> in the search bar and select **cmd.exe**. Then, input <**ipconfig**>. Note down the IP address under **Local Area Connection**.

Step 3: Right click on the **Computer** icon on the desktop, and then select <**Properties**> → <**Device Manager**>.

Step 4: Double click on <**RNDIS/Ethernet Gadget**> under <**Other devices**>.



Step 5: The **RNDIS/Ethernet Gadget Properties** window will be displayed. Click <**Update Driver…**>.

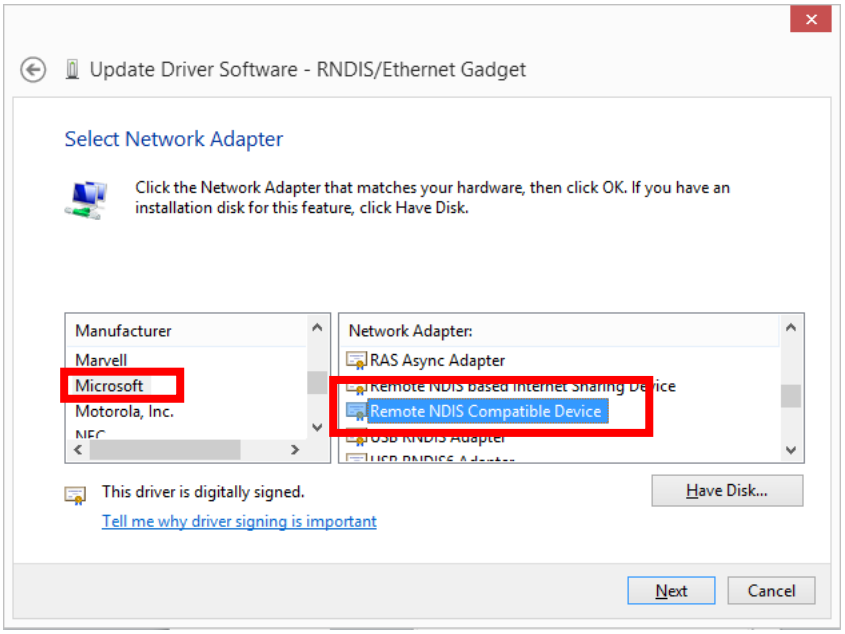


Step 6: Select <**Browse my computer for driver software**>.

Step 7: Select <**Let me pick from a list of…**>.

Step 8: Double click on <**Network adapters**> under <**Common hardware types :**>.

Step 9: Select **Microsoft** from the Manufacturer list first, and then select **Remote NDIS Compatible Device** for Network Adapter. Click <**Next**>.



NOTE: For Windows 7 users, select **Microsoft Corporation** from the Manufacturer list.

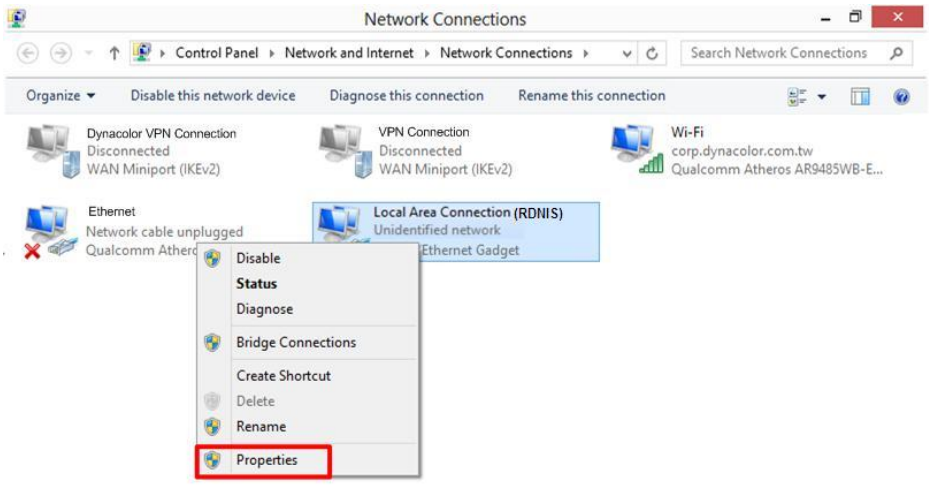
Step 10: A warning window will pop up. Click <**Yes**>.

Step 11: A message window from Windows will pop up, click <**Close**> to exit.

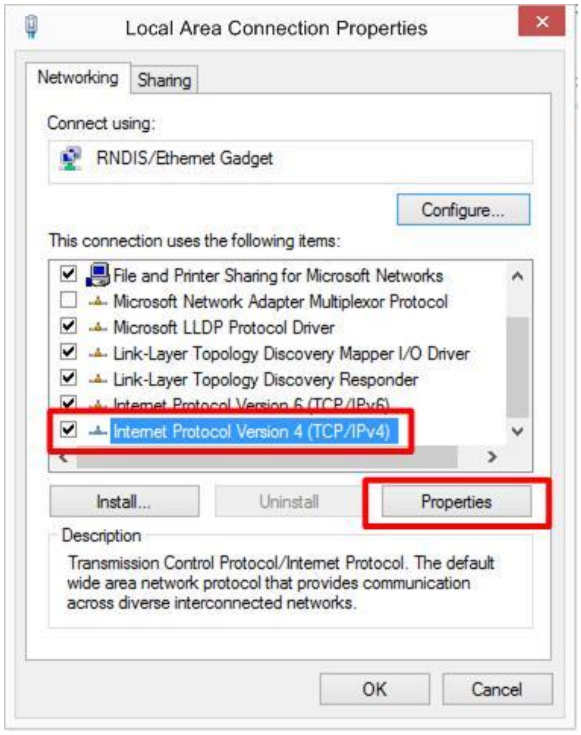
Step 12: Under the **RNDIS/Ethernet Gadget Properties** window, the Device status will describe "**The device is working properly.**" Click <**Close**> to exit.

Step 13: Right click on the **Network** icon on the desktop, and then select <**Properties**> → <**Change adapter settings**>.

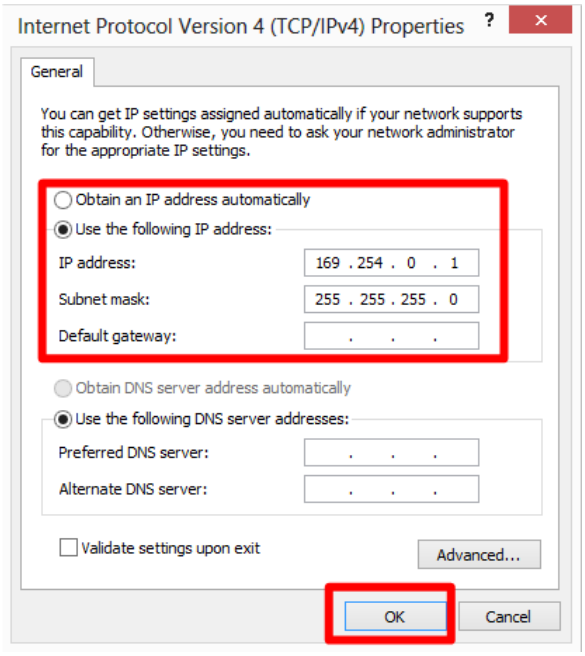
Step 14: Right click on the **Local Area Connection (RDNIS)** icon, and select <**Properties**>.



Step 15: Select **Internet Protocol Version 4 (TCP/IPv4)**. Click <**Properties**>.



Step 16: Setup the IP address as the picture below. The IP address must be: **169.254.0.XXX**. Note that the range of the last decimal number "**XXX**" is from 1 to 249. Subnet must be: **255.255.255.0**. After finishing the settings, click <**OK**> to exit.



Step 17: Click <**Close**> to exit the **Local Area Connection Properties** window.

After the above settings are completed, the last step is to go to the camera's Browser-Based Viewer to connect the camera to an Access Point. Open a web browser and enter the default IP address of the IP Camera (**169.254.0.250**). Next, please follow the same instruction from **Step 6** to **Step 9** in previous subsection, **Access Point Connection Setup**.

The IP address of the IP Camera will be altered. Thus, users have to re-search the new IP address of the IP Camera by running the device search tool. After retrieving the new IP address of the IP Camera, users can continue to access and setup other settings of the camera.

NOTE: Before accessing the camera, users **MUST** modify the IP address of the computer to its original IP address, which users previously noted down. Otherwise, users cannot access the camera.

NOTE: For further information about the device search tool, please refer to the next section, 4.2 Device Search.

4.2 Device Search

To access the IP Camera, users can search the camera through the installer program: DeviceSearch.exe, which can be found in “DeviceSearch” folder in the supplied CD.

Accessing the Camera by Device Search Software

Step 1: Double click on the program Device Search.exe. After its window appears, click on the <Device Search> button on the top side.

Step 2: All found IP devices will be listed in the Device Search page. Find the IP Camera by its MAC address.

NOTE: Users can check the MAC address of the IP Camera from the sticker on the package.

Step 3: Double click or right click and select <Browse> to access the camera directly via web browser.

Step 4: A Prompt window requesting for default username and password will appear. Enter the default username and password shown below to login to the IP Camera.

Login ID	Password
Admin	1234

NOTE: ID and password are case sensitive.

NOTE: It is strongly advised that administrator’s password be altered for the security concerns. Refer to Full HD Multiple Streams IP Camera Menu Tree for further details.

Installing DC Viewer Software Online

For initial access to the IP Camera, a client program, DC Viewer, will be automatically installed on the PC when connecting to the IP Camera.

If the Web browser does not allow DC Viewer installation, please check the Internet security settings or ActiveX controls and plug-ins settings (refer to chapter Appendix C: Setup Internet Security) to continue the process.

The Information Bar (just below the URL bar) may come out and ask for permission to install the ActiveX Control for displaying video in browser. Right click on the Information Bar and select <Install ActiveX Control…> to allow the installation.

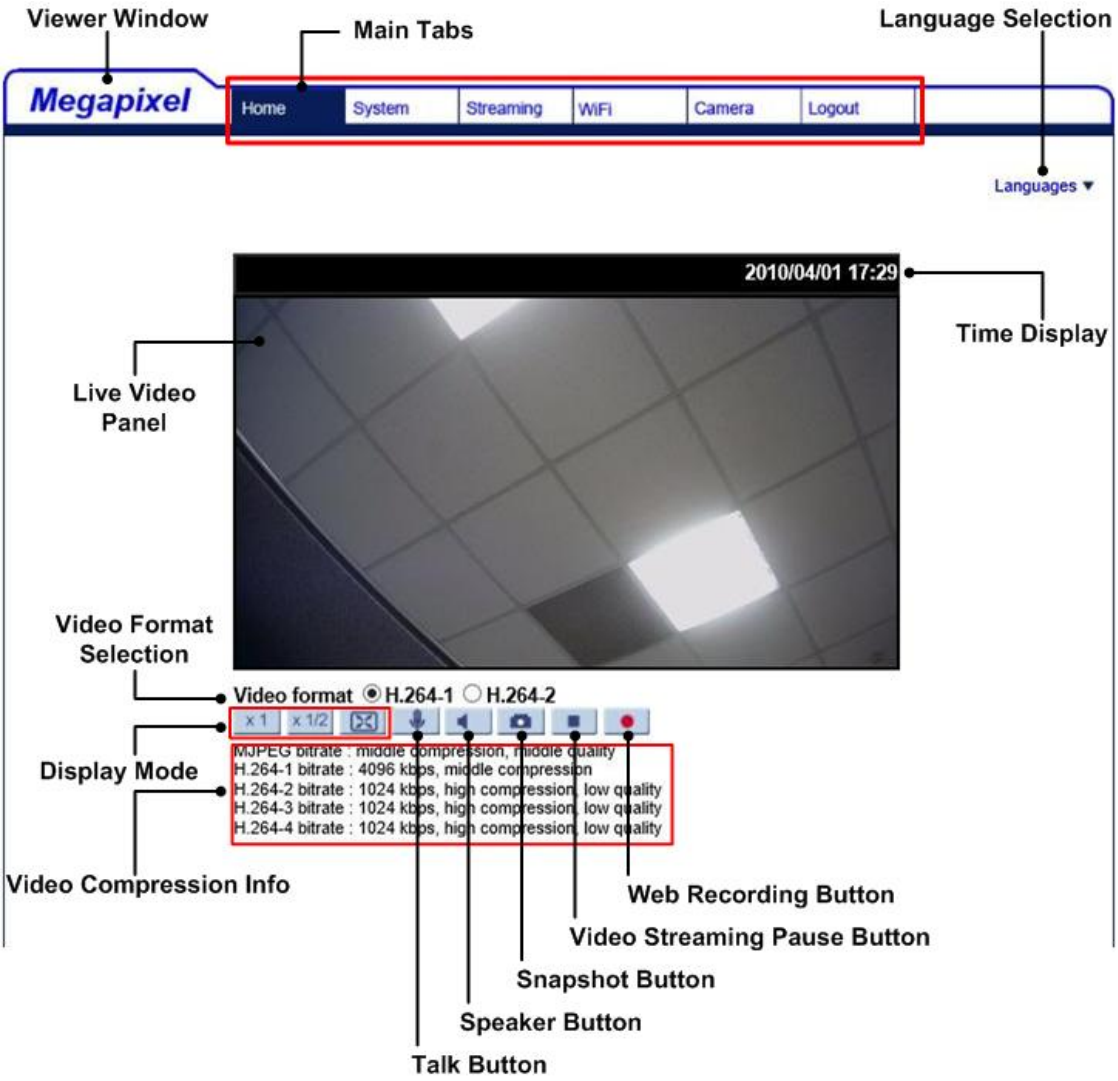
The download procedure of DC Viewer software is specified as follows.

Step 5: In the DC Viewer installation window, click on <Next> to start installation.

Step 6: The status bar will show the installation progress. After the installation is completed, click on <Finish> to exit the installation process.

Step 7: Click on <Finish> to close the DC Viewer installation page.

Once the DC Viewer is successfully installed, the IP Camera's Home page will be able to correctly display as the figure below.

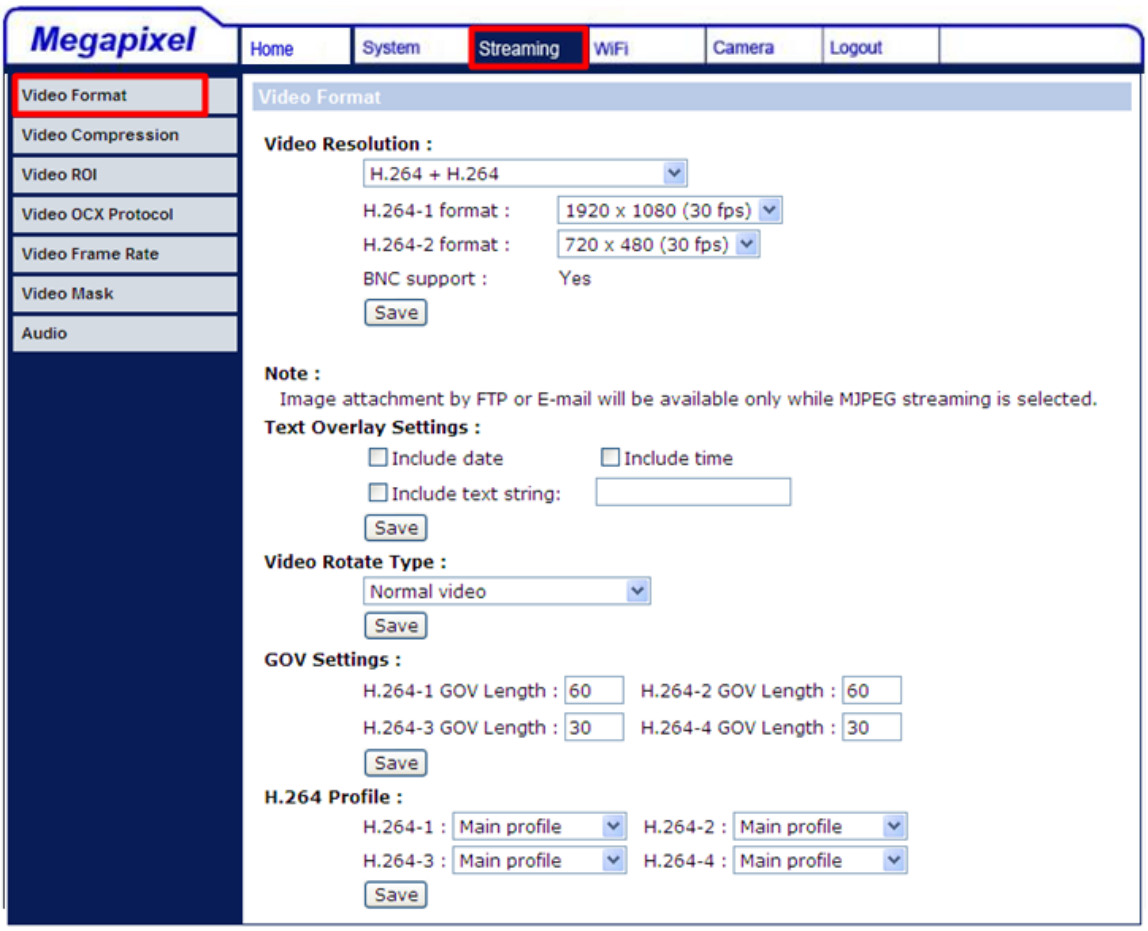


NOTE: Please refer to Full HD Multiple Streams IP Camera Menu Tree for more button function detail.

5. Setup Video Resolution

Users can setup Video Resolution on the Video Format page of the user-friendly browser-based configuration interface.

Video Format can be found under this path: **Streaming> Video Format**.



The default value of Video Resolution is as below.

2M	H.264- 1920 x 1080 (30 fps) + H.264- 720 x 480 (30 fps)

For more Video Resolution combination details, please refer to chapter Appendix D: Video Resolution. Click on <Save> to confirm the setting when finish setting up the video resolution.

6. Configuration Files Export / Import

To export / import configuration files, users can access the Maintenance page on the user-friendly browser-based configuration interface.

The Maintenance setting can be found under this path: **System> Maintenance**.

Users can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the IP Camera. This is especially convenient to make multiple cameras having the same configuration.

Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Click on the <Export> button, and the popup File Download window will come out. Click on <Save> and specify a desired location for saving the configuration file.

Upload

To upload an existing configuration file to the IP Camera, please first click on <Browse> to select the configuration file, and then click on the <Upload> button for uploading.

Appendix A: Technical Specification

Camera		**2M**	**2M Real-Time**
Image Sensor		1/2.7” Progressive CMOS	
Effective Pixels		1920 (H) x 1080 (V)	
Minimum Illumination		TBD	
White Balance		Manual / AWB / ATW	
Shutter Speed		1 ~ 1/10000 sec.	
Lens			
Focal Length		2.8 mm / 3.6 mm	
F Number		F 2.0 / F 1.8	
Operation			
Multiple Languages		English / French / German / Italian / Korean / Simplified Chinese / Traditional Chinese / Russian / Portuguese / Spanish / Japanese	
Image Setting	Backlight Compensation	On / Off	
	White Balance	Auto / Manual / ATW	
	Noise Reduction (3D)	On / Off	
	Wide Dynamic Range	On / Off	
	Privacy Mask	On / Off	
	Brightness	Manual	
	Exposure	Auto / Manual	
	Sharpness	Manual	
	Contrast	Manual	
	Saturation	Manual	
	Hue	Manual	
	Digital Zoom	Support	
	Motion Detection	On / Off / By Schedule	
	Privacy Mask Type	Color	
	ICR	Auto / On / Off / Smart	
	ICR + IR LED	Auto / LED On / LED Off / Smart IR / Light Sensor	
	Tampering Alarm	On / Off / By Schedule	
Audio	Two-way Audio	Built-in Mic In / Built-in Speaker Out*	
	Compression	G.711 / G.726	
Network			
Interface		10/100Mbps / WiFi 802.11 b/g/n 2.4GHz	
Video Compression		H.264 / MJPEG	
Video Streaming		Dual Streams- H.264 + MJPEG / H.264 + H.264 Quad Streams- H.264 x 4 / H.264 x 3 + MJPEG	
Video Resolution		H.264- Full HD 1080P / SXGA / HD 720P / XGA / SVGA / D1 / VGA / CIF MJPEG- Full HD 1080P / SXGA / HD 720P / XGA / SVGA / D1 / VGA / CIF	
Frame Rate		Dual Streams- 1080p (15/13 fps) + 720p (30/25 fps)	Dual Streams- 1080P (30/25 fps) + D1 (30/25 fps)
Protocol		IPv4/v6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, PPPoE, UPnP, IGMP, SNMP, QoS, ONVIF	
Security / Authorization		HTTPS / IP Filter / WEP / WPA / WPA2 Wireless Security	
Alarm	Input	1 Set, 5V 10kΩ pull up	
	Output	1 Set, Photo Relay Output 300V DC/AC	
Event Notification		HTTP / FTP / SMTP	
microSD		microSDHC 32GB Support	
Supported Web Browser		Internet Explorer (10.0+) / Chrome / Firefox / Safari	
User Account		20	
Password Levels		User and Administrator	
Mechanical			
Built-in IR Illuminator*	Working distance	up to 5 m	
	Wavelength	850 nm	
	Number of LEDs	2	
Power Connection		Micro USB (with 1A USB Adapter)	
LED Indicator		Power (Green) / WiFi (Orange)	
Connectors	Alarm	4 Pin Terminal Block (Female)	
	Power	Micro USB Port	

General	
Operating Temperature	-10°C ~ 50°C (14°F ~ 122°F)
Humidity	10% ~ 90%, No Condensation
Dimension	96.51 x 56.00 x 61.40 mm (3.78 x 2.20 x 2.42 in.)
Weight	120 g
Power Source	1A USB Adapter
Power Consumption	System: 3 W (Built-in IR Illuminator: +0.8 W)
Regulatory	FCC / CE / LVD / RoHS

(*) Optional

Appendix B: Delete the Existing DC Viewer

For users who have installed DC Viewer in the PC previously, please first remove the existing DC Viewer from the PC before accessing to the IP Camera.

Deleting the DC Viewer

In the Windows <Start Menu>, activate <Control Panel>, and then double click on <Add or Remove Programs>. In the <Currently installed programs> list, select <DCViewer> and click on the button <Remove> to uninstall the existing DC Viewer.

Deleting Temporary Internet Files

To improve browser performance, it is suggested to clean up all the files in the Temporary Internet Files.

The procedure is as follows:

Step 1: In the web browser, click on the <Tools> tab on the menu bar and select <Internet Options>.

Step 2: Click on the <Delete> button under <Browsing history> section. In the appeared window, tick the box beside the <Temporary Internet Files>.

Step 3: Click on <Delete> to start deleting the files.

Appendix C: Setup Internet Security

If ActiveX control installation is blocked, please either set Internet security level to default or change ActiveX controls and plug-ins settings.

Internet Security Level: Default

Step 1: Start the Internet Explorer (IE).

Step 2: Click on the <Tools> tab on the menu bar and select <Internet Options>.

Step 3: Click on the <Security> tab, and select <Internet> zone.

Step 4: Down the page, click on the <Default Level> button, and click on <OK> to confirm the setting. Close the browser window, and restart a new one later to access the IP Camera.

ActiveX Controls and Plug-ins Settings

Step 1: Repeat **Steps 1~3** of the previous section above.

Step 2: Down the page, click on the <Custom Level> button to change ActiveX controls and plug-ins settings. The Security Settings window will pop up.

Step 3: Under <ActiveX controls and plug-ins>, set **ALL** items (as listed below) to <Enable> or <Prompt>. Please note that the items vary by IE version.

ActiveX controls and plug-ins settings:

1. Binary and script behaviors.
2. Download signed ActiveX controls.
3. Download unsigned ActiveX controls.
4. Allow previously unused ActiveX controls to run without prompt.
5. Allow Scriptlets.
6. Automatic prompting for ActiveX controls.
7. Initialize and script ActiveX controls not marked as safe for scripting.
8. Run ActiveX controls and plug-ins.
9. Only allow approved domains to use ActiveX without prompt.
10. Script ActiveX controls marked safe for scripting*.
11. Display video and animation on a webpage that does not use external media player.

Step 4: Click on <OK> to accept the settings. A prompt window will appear for confirming the setting changes, click <Yes(Y)> and close the Security Settings window.

Step 5: Click on <OK> to close the Internet Options screen.

Step 6: Close the browser window, and restart a new one later to access the IP Camera.

	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
	The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.
	NOTE: 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.
	RF exposure warning This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.