

COMPACT BODY WORN CAMERA

User Manual

TWC-L6010



Network Camera

User Manual

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※ Design and specifications are subject to change without prior notice.

※ The initial administrator ID is “admin” and the password should be set when logging in for the first time.

Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.

Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a UL Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from the Docking station 5 V, 1.3 A.
16. This product is intended to be supplied by isolation power.
17. If you use excessive force when installing the product, the camera may be damaged and malfunction.
If you forcibly install the product using non-compliant tools, the product may be damaged.
18. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.
This may cause damage to the product.
19. Be careful not to get any chemicals on the product surface.
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.
20. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.
Install the product by referring to "Installation & connection" in the user manual.
21. If the product is used in water, it may cause serious malfunction of the product.
22. Although a rapid change in temperature could cause frost inside the lens, there will be no problem with the video.
23. The operating temperature for the TWC-L6010 product is -20°C to +50°C (-4°F to +122°F).



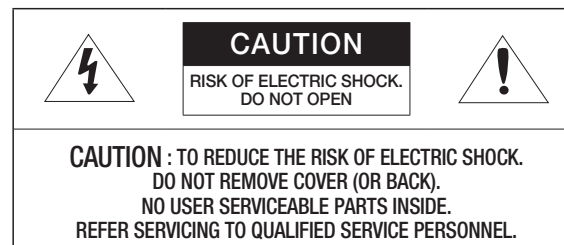
WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

The battery cannot be replaced.

Prohibition of battery abuse

- Do not install and use the wrong type of battery.
- Do not leave the battery in a mechanically crush or cut it because it can explode.
- Do not leave the battery in a high temperature environment.
- Do not leave the battery in a low-pressure environment.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

ATTENTION

IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.
METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

CAUTION

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Be sure to use a docking station suitable for this product.

Do not extend the adapter output cable of the docking station.

When a new product box is opened (or during the initial use of the product), moisture might build up on the glass of the camera. The built-up moisture disappears naturally within a few hours after powered on.

When you mount the camera to your clothes, make sure it is securely and safely attached. If the camera falls, you may have an injury or it may cause damage to the product.

The ITE is to be connected only to PoE networks without routing to the outside plant.

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3at shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.

Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building.

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not leave the product in places with too high or low temperature or high humidity for a long time. Placing the camera in direct sunlight may have negative effects on the product.
- Do not place conductive materials (drivers, coins, metal objects, etc.) or containers filled with water near the camera.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.
The high temperature of the product surface may cause a burn.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

We do not guarantee the quality of third-party products (e.g. lenses, accessories) that you separately purchase.

In particular installation environments, there might be interference in radio communications. When interference of electromagnetic waves occurs between the product and radio communication device, it is recommended to keep a certain distance between the two or change the direction of the receiving antenna.

Simultaneous streaming of 6 or more cameras on a single AP may lead to connection delays or drops.

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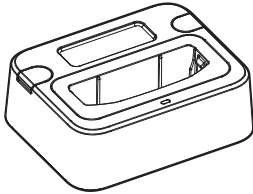
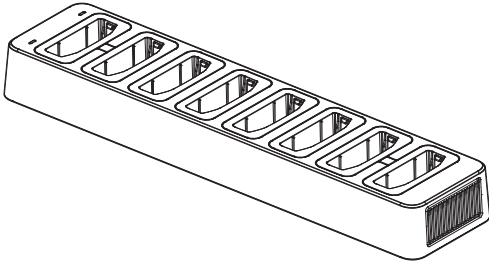
Troubleshooting

RECOMMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM) i7 3.4 GHz or higher
 - RAM : 8G or higher
 - Recommended browser: Chrome
 - Supported browsers: Chrome, Safari, Firefox, MS Edge(chromium based)
 - Supported OS : Windows, Mac, Linux, Android, iOS, Chrome
 - Verification environment
 - Windows 10: chrome Latest version, Firefox Latest version, MS edge Latest version
 - Mac latest version and version being supported
ref.) <https://en.wikipedia.org/wiki/MacOS>
- ※ The video play performance of the web viewer depends on the performance of the user's CPU and GPU.

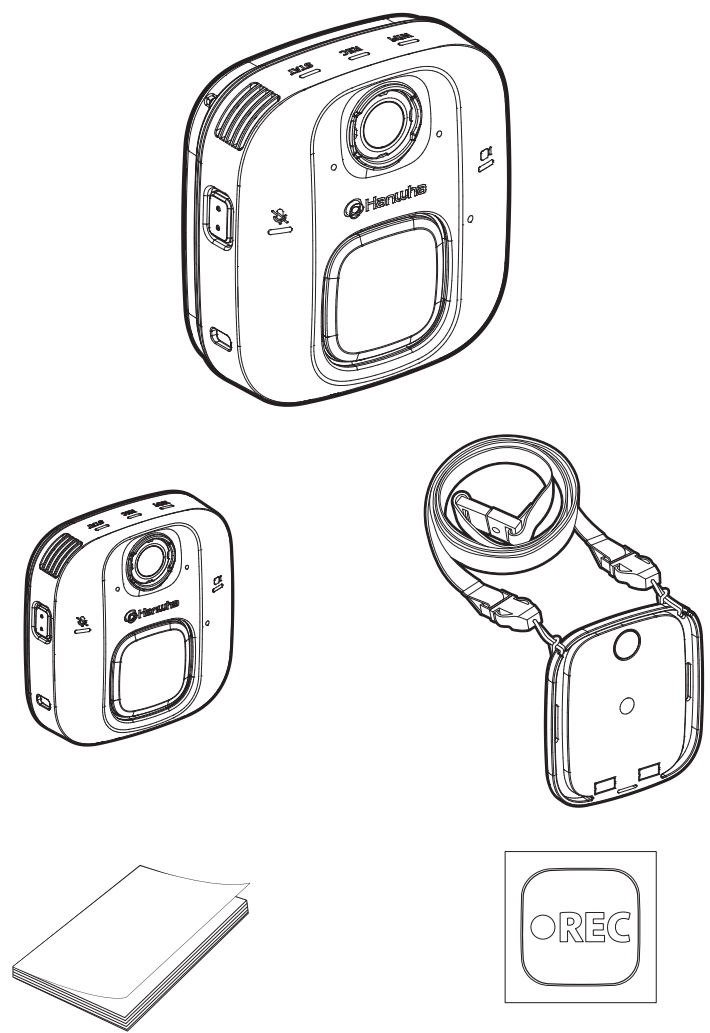
OPTIONAL ACCESSORIES FOR INSTALLATION

Purchase and use the following separately sold product depending on the installation place.

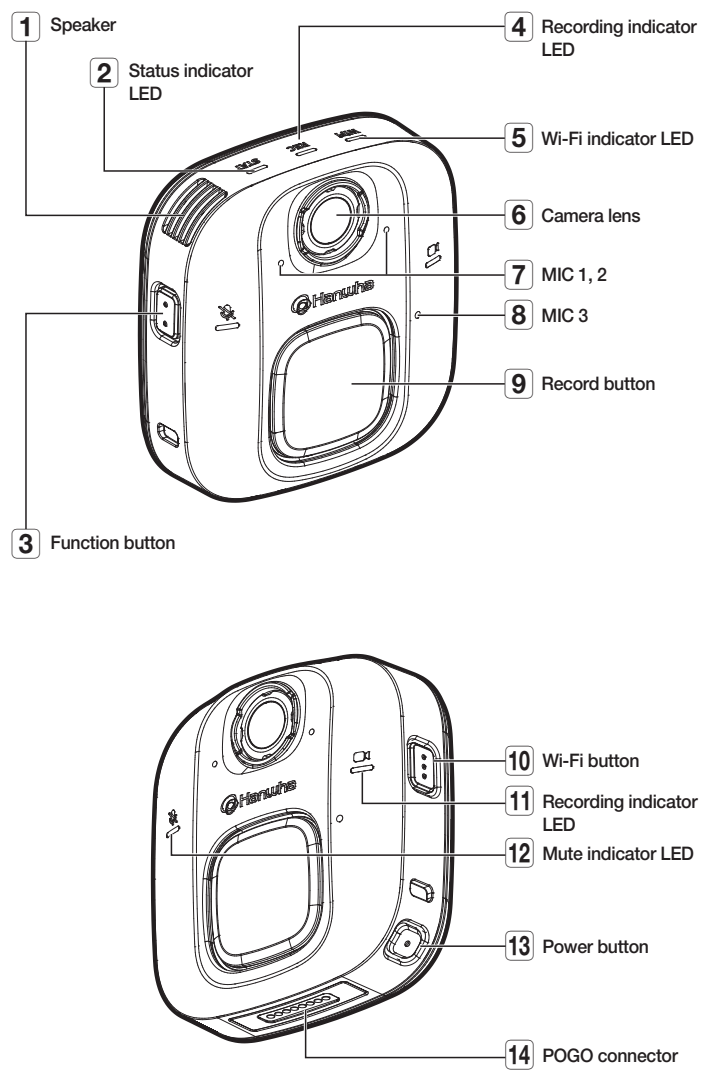
Docking station		Battery Pack
		
TWA-LD010	TWA-LD080	TWA-LB20000

WHAT'S INCLUDED

As for each sales country, accessories are not the same.



AT A GLANCE



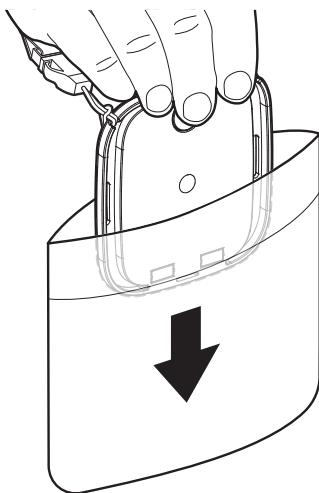
INSTALLATION

Precautions before installation

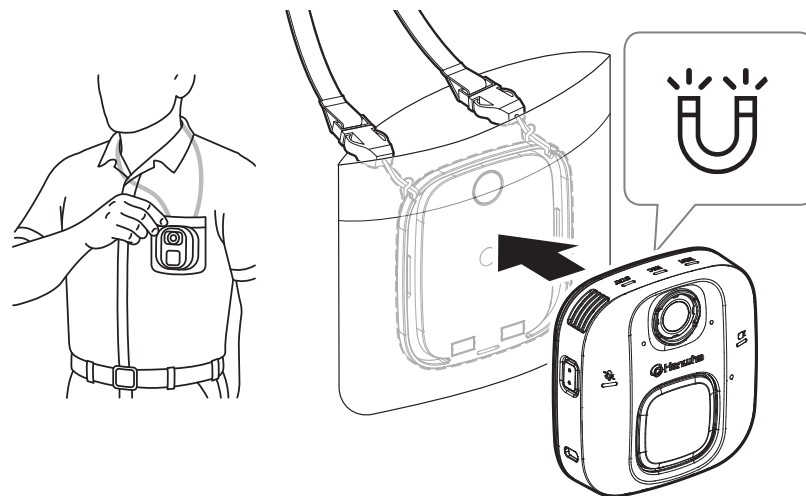
- You must install the camera on clothes or wearable attachments that can withstand five times the weight of the camera.
- The product is recommended to be worn on the chest or shoulder.

Using a neck strap

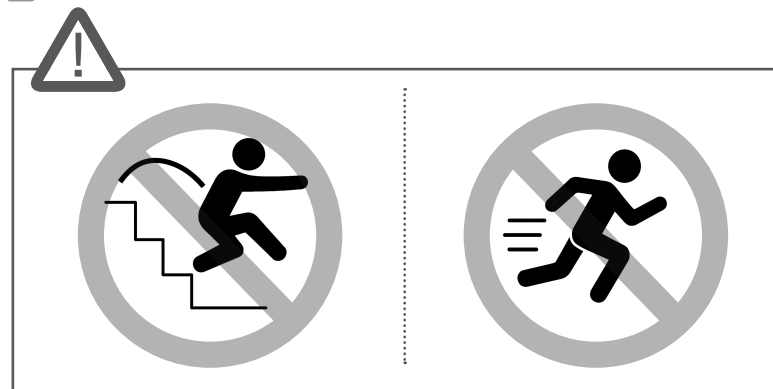
1. Hang the camera mount bracket around your neck with the magnets facing outward.
2. Place the mount bracket in your top pocket.



3. Attach the camera body from the outside of the top pocket to the mount bracket inside the pocket.



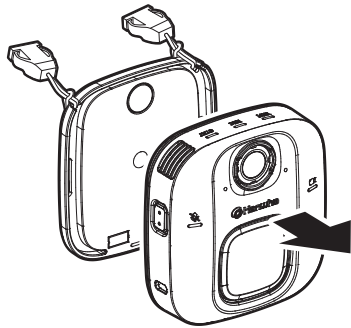
- Be careful not to drop the camera when running fast or jumping high.



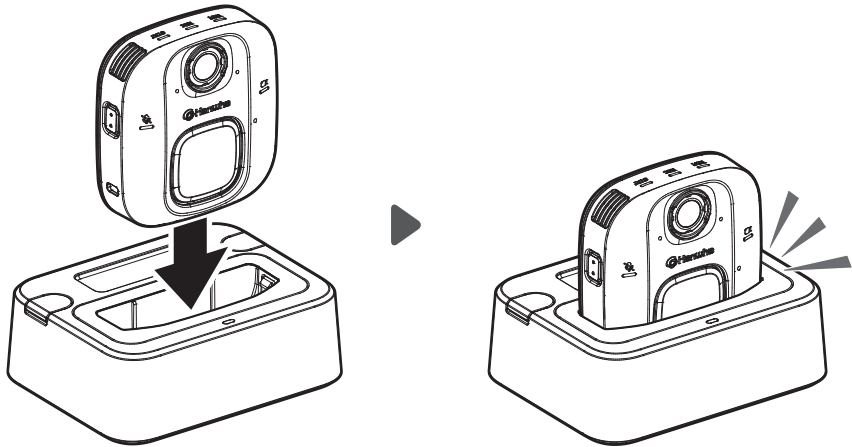
CHARGING ON THE DOCKING STATION (NOT INCLUDED)

The camera body must be docked into the docking station for camera charging and initial setup, content transfer, software updates, etc.

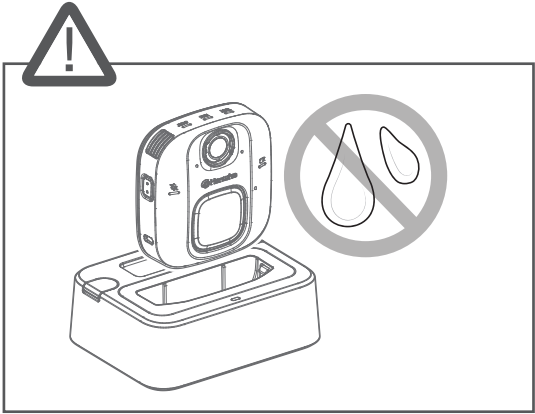
- 1. Separate the camera body from the mount bracket.



- 2. Dock the camera by aligning it with the docking groove as shown in the figure below.



- ! Do not dock your camera in the docking station while it is wet. This may damage the docking station and the camera.

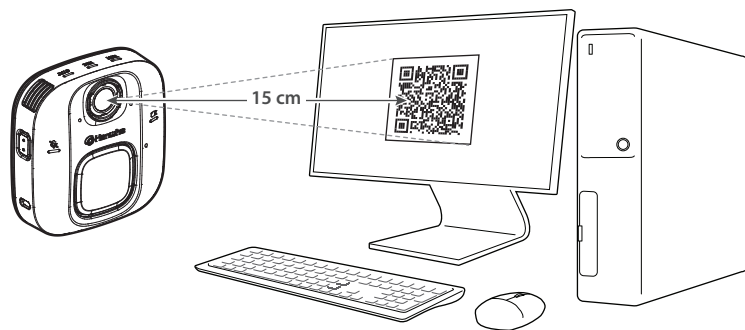


Status indicator LED depending on state of charge

LED Color	State of charge
Green	90 ~ 100 %
Yellow	20 ~ 90 %
Red	0 ~ 20 %

GETTING A QR CODE

1. Enter relevant information (Wearer ID, etc.) in the Body-worn camera SW to receive a QR code.
2. After undocking the camera, take a picture of the QR code from a distance of about 15 cm to have it recognized.



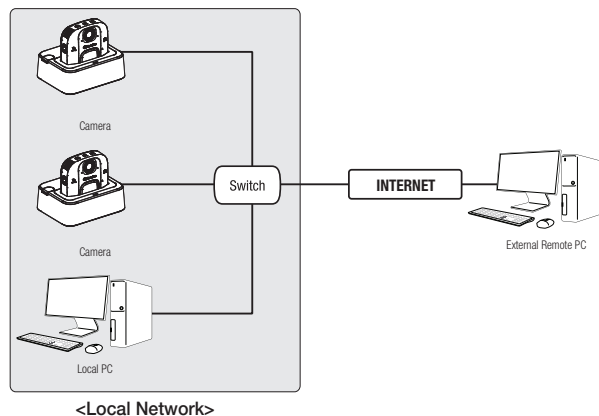
network connection and setup

You can set up the network settings according to your network configurations.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the camera from a local PC in the LAN

1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



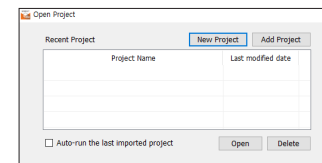
- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.
- By factory default, the IP address will be assigned from the DHCP server automatically. If there is no DHCP server available, the IP address will be set to 192.168.1.100. To change the IP address, use the Device Manager. For further details on Device Manager use, refer to "Using Device Manager". (Page 13)

USING DEVICE MANAGER

- Device manager program can be downloaded from <Support>-<Tool> menu at Hanwha Vision website (<https://www.HanwhaVision.com>).
- More instructions of Device Manager can be found at <Help> menu of the main page.

SETTING UP PROJECTS

You can save and import cameras for each project. To create a new project, set the project name and a password. You need to enter a password to run the created project.



AUTOMATICALLY SEARCHING CAMERA

If a camera is connected to the same network of the PC where device manager is installed, you can find network camera by using search function.

1. Click <Search> at the main page of device manager.
2. Check the camera from the list.
 - Check MAC address at the sticker attached to the camera.

CONFIGURING IP ADDRESS

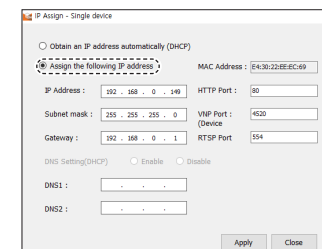
If you want to change camera network setting, <Login OK> sign must be displayed at <Status>. Click <Credential> at the main page to log in.

Configuring Static IP

Manually insert and configure IP address & port information.

When setting one camera

1. Click the camera from the list that you want the change the IP setting.
2. Click <IP Assign> at the main page of device manager.
3. Select <Assign the following IP address>.
 - IP information of the camera will be displayed as previously set.
4. Fill in IP & Port related categories.



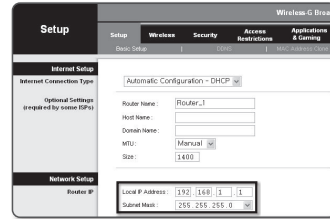
If not using a Broadband Router

For setting <IP Address>, <Subnet Mask>, and <Gateway>, contact your network administrator.

- HTTP Port : Used to access the camera using the Internet browser, defaulted to 80.
- RTSP Port: A port that controls real-time streaming. The initial value is 554.

If using a Broadband Router

- IP Address : Enter an address falling in the IP range provided by the Broadband Router.
ex) 192.168.1.2~254, 192.168.0.2~254, 192.168.XXX.2~254
- Subnet Mask : The <Subnet Mask> of the Broadband Router will be the <Subnet Mask> of the camera.
- Gateway : The <Local IP Address> of the Broadband Router will be the <Gateway> of the camera.



- The settings may differ depending on the connected Broadband Router model.
For more information, refer to the user manual of the applicable router.
- For more information about port forwarding of the broadband router, refer to "Port Range Forward (Port Mapping) Setup". (Page 15)

If the Broadband Router has more than one camera connected

Configure the IP related settings and the Port related settings distinctly with each other.

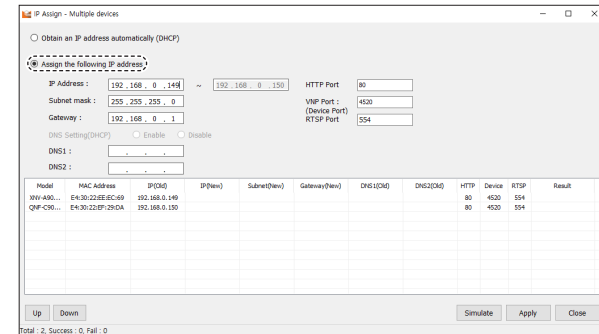
ex)

Category		Camera #1	Camera #2
IP related settings	IP Address	192.168.1.100	192.168.1.101
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
Port related settings	HTTP Port	8080	8081
	RTSP Port	554	555

- If the <HTTP Port> is set other than 80, you must provide the <Port> number in the address bar of the Internet browser before you can access the camera.
ex) http://IP address : HTTP Port
http://192.168.1.100:8080

5. Click [Apply] Button.
6. If the success message is displayed, click [OK].

When setting multiple cameras



1. Click the camera from the list that you want the change the IP setting.
2. Click <IP Assign> at the main page of device manager.
3. Select <Assign the following IP address>.
4. Enter the initial address of the IP address range to be assigned.
5. Click the [Simulate] button to check the IP address to be assigned for each equipment.
 - You can edit each address by double-clicking the IP address item.
6. Click the [Apply] button to start IP assignment.
7. Check the <Result> item for the success of IP assignment.

Configuring Dynamic IP

Receive IP address from DHCP

- Example of the Dynamic IP environment
 - If a Broadband Router, with cameras connected, is assigned an IP address by the DHCP server
 - If connecting the camera directly to modem using the DHCP protocols
 - If IPs are assigned by the internal DHCP server via the LAN

When setting one camera

1. Click the camera from the list that you want to change the IP setting.
2. Click **<IP Assign>** at the main page of device manager.
3. Select **<Obtain an IP address automatically (DHCP)>**.
4. Click **[Apply]** button.
5. If the success message is displayed, click **[OK]**.

IP Assign - Single device

☒ Obtain an IP address automatically (DHCP)

☐ Assign the following IP address

MAC Address : E4:30:22:8F:6C:49

IP Address : 192.168.0.149 HTTP Port : 80

Subnet mask : 255.255.255.0 VMP Port : 4320

Gateway : 192.168.0.1 RTSP Port : 554

DNS Setting (DHCP) ☐ Enable ☒ Disable

DNS1 : . . .

DNS2 : . . .

Apply Close

When setting multiple cameras

IP Assign - Multiple devices

☒ Obtain an IP address automatically (DHCP)

☐ Assign the following IP address

IP Address : 192.168.0.149 ~ 192.168.0.150 HTTP Port : 80

Subnet mask : 255.255.255.0 VMP Port : 4320

Gateway : 192.168.0.1 RTSP Port : 554

DNS Setting (DHCP) ☐ Enable ☒ Disable

DNS1 : . . .

DNS2 : . . .

Model	MAC Address	IP (DHCP)	Subnet (DHCP)	Gateway (DHCP)	DNS1 (DHCP)	DNS2 (DHCP)	HTTP	Device	RTSP	Result
HW-430...	E4:30:22:8F:6C:49	192.168.0.149					80	4320	554	
QVF-CR...	E4:30:22:8F:29:DA	192.168.0.150					80	4320	554	

Up Down Simulate Apply Close

Total : 2, Success : 0, Fail : 0

1. Click the camera from the list that you want to change the IP setting.
2. Click **<IP Assign>** at the main page of device manager.
3. Select **<Obtain an IP address automatically (DHCP)>**.
4. Click the **[Apply]** button to start IP assignment.
5. Check the **<Result>** item for the success of IP assignment.

MANUALLY REGISTERING CAMERA

If the camera cannot be found using search function, the camera can be registered remotely by manually inserting IP information, if the camera is connected to external network.

1. Click **<Add Devices>** - **<Manually Add Device>** at the main page of device manager.
2. Insert the range of IP address that you search.
3. Select the **<Model Name>** of the camera that you register, and insert HTTP port, HTTPS port, ID, and password.
4. Click **[Register]** button.
5. Check if camera is registered.
 - Check MAC address at the sticker attached to the camera.

Manually Add Device

Model Name : Hanwha Camera

IP Address Range

Start : . . .

End : . . .

HTTP Port : 80

HTTPS Port : 443

Device Port : 4320

ID : . . .

Password : . . .

Advanced Register Close

AUTOMATICALLY CONFIGURING IP

1. Click the camera from the list that you want to automatically configure the IP.
2. Click **<+>** at the main page of device manager.
 - Equipment Setting menu appears.
3. At the menu, click **<Auto IP Configure>**.
4. To use the **<UPnP>** or **<Bonjour>** protocol, select **<Enable>** and click the **[Apply]** button.

Auto IP Configure

Model	MAC Address	IP Address	UPnP	Bonjour	Result
HW-430...	E4:30:22:8F:6C:49	192.168.0.149	Enable	Disabled	

UPnP ☒ Enable ☐ Disable

Bonjour ☐ Enable ☒ Disable

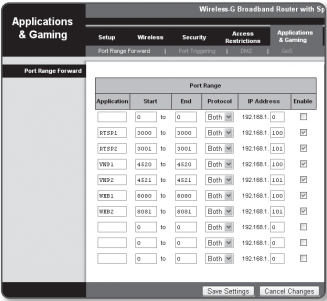
Apply Close

PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a Broadband Router with a camera connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the camera in it.

Manual Port Range Forwarding

1. From the Setup menu of the Broadband Router, select **<Applications & Gaming>** - **<Port Range Forward>**.
For setting the port range forward for a third-party Broadband Router, refer to the user guide of that Broadband Router.
2. Select **<TCP>** and **<UDP Port>** for each connected camera to the Broadband Router.
The number of each port to be configured to the IP router should be set according to the port number designated in **<Setup>** - **<Basic>** - **<IP & Port>** on the camera web viewer.
3. When done, click **[Save Settings]**.
Your settings will be saved.

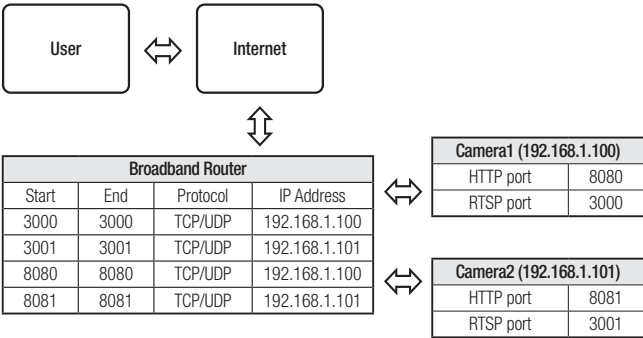


- Port forwarding setting is an example of setting CISCO IP router.
- The settings may differ depending on the connected Broadband Router model.
For more information, refer to the user manual of the applicable router.

Setting up Port Range Forward for several network cameras

- You can set a rule of Port Forwarding on the Broadband Router device through its configuration web page.
- A user can change each port using the camera setting screen.

When Camera1 and Camera2 are connected to a router :



CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

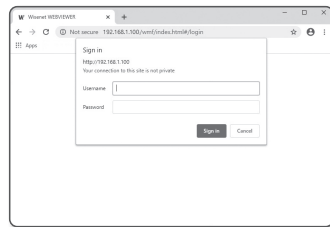
1. Run device manager.
It will scan for connected cameras and display them as a list.
2. Select the desired project, then click the **[Open]** button.
3. Entering the password will display the list of cameras in the project.
4. Double-click a camera to access.
The Internet browser starts and connects to the camera.

- Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

CONNECTING TO THE CAMERA

Normally, you would

1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.
ex) • IP address (IPv4) : 192.168.1.100 → http://192.168.1.100
- the Login dialog should appear.
• IP address (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111 → http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - the Login dialog should appear.



If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera in the address bar.
ex) IP address : 192.168.1.100:HTTP Port number(8080)
→ http://192.168.1.100:8080 - the Login dialog should appear.

Connecting via UPnP

1. Run the client or operating system in support of the UPnP protocol.
2. Click the camera name for search.
In the Windows operating system, click the camera name searched from the network menu.
- The login window is displayed.

Connecting via Bonjour

1. Run the client or operating system in support of the Bonjour protocol.
2. Click the camera name for search.
In the Mac operating system, click the camera name searched from the Bonjour tab of Safari.
- The login window is displayed.

 ■ To use the UPnP or Bonjour protocol, refer to "Automatically configuring IP".

PASSWORD SETTING

When you access the product for the first time, you must register the login password.



- For a new password with 8 to 9 characters, you must use at least 3 of the following: uppercase/lowercase letters, numbers and special characters. For a password with 10 characters or longer, you must use at least 2 types of those mentioned. (support up to 64 characters)
 - Special characters that are allowed :
~!@#\$%^&*()_+=[]{}|~;"'<>.,?/
- Space is not allowed for password.
- For higher security, you are not recommended to repeat the same characters or consecutive keyboard inputs for your passwords.

LOGIN

Whenever you access the camera, the login window appears. Enter the User ID and password to access the camera.

1. Enter "admin" in the <User name> input box.
The administrator ID, "admin", is fixed and can not be changed.
2. Enter the password in the <Password> input field.
3. Click [Sign in].
If you have logged in successfully, you will the Live Viewer screen.



- When you access the camera web viewer, pay special attention to the security by checking whether the image data is encrypted.



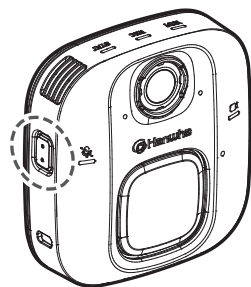
- You will experience the best video quality if the screen size is 100%. Reducing the ratio may cut the image on the borders.

CAMERA WEB VIEWER SETUP

1. Click the [Setup (⚙)] icon.
2. The Settings window appears.
3. You can run basic information on the camera, video and audio, network, function, and system settings on the network.
4. Click <Help (🔍)> to view detailed descriptions of each function.

LEARN ABOUT THE FUNCTION OF INDIVIDUAL BUTTON

Function button



How to operate buttons	Default function	Button fuction assign
Short press	Mute/Unmute	Fixed
Long press	Battery status notification	Fixed

Wi-Fi button



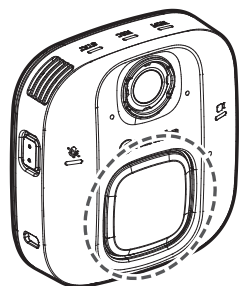
How to operate buttons	Default function	Button fuction assign
Long press	Wi-Fi streaming start/stop	Fixed

Power button



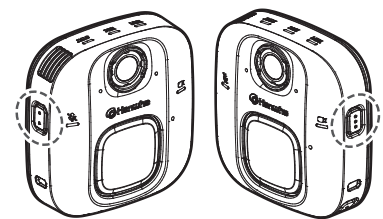
How to operate buttons	Default function	Button fuction assign
Short press twice	Sleep mode start/stop	Fixed
Long press (approx. 3 seconds)	Power on/off	Fixed

Record button



How to operate buttons	Default function	Button fuction assign
Short press	Start recording	Fixed
Long press (approx. 5 seconds)	Stop recording	Fixed

Wi-Fi button & Function button



How to operate buttons	Default function	Button fuction assign
Simultaneous short press	Taking a snapshot	Fixed

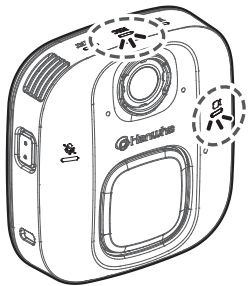
LED INDICATION DEPENDING ON CAMERA STATUS

You can check the current camera status by looking at the color and lighting status of the camera status indicator LED.



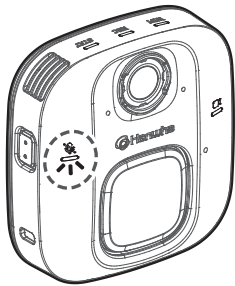
Camera status	LED color	LED lighting indication
In docking mode _ battery : under 20%	Red	Blinking
In docking mode _ battery : between 20% and 90%	Yellow	Blinking
In docking mode _ battery : over 90%	Green	Blinking
Standby mode _ battery : between 20% and 50%	Yellow	Constant
Standby mode _ battery : between 50% and 100%	Green	Constant
Power saving mode	Red	Constant
Critical Power mode	Red	Constant
Sleep mode	Green	Blinking

Wi-Fi indicator LED



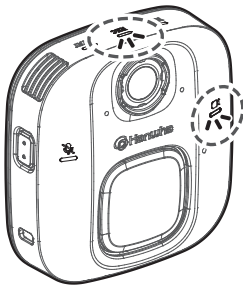
Camera status	LED color	LED lighting indication
Wi-Fi connected	Green	Constant
Wi-Fi connecting	Yellow	Blinking
Wi-Fi disconnected	Red	Constant

Mute indicator LED



Camera status	LED color	LED lighting indication
MIC Off	Yellow	Blinking

Status indicator LED



Camera status	LED color	LED lighting indication
Recording	Red	Blinking

POWER MODE PER BATTERY'S LEVEL OF CHARGE

The power mode is switched depending on the camera battery's state of charge.

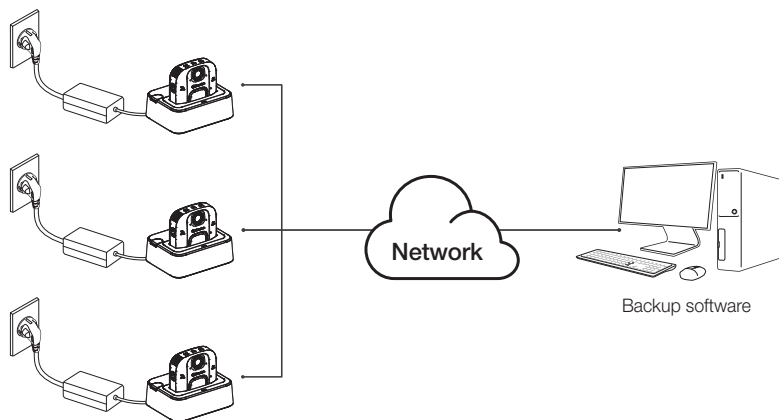
Over 20% : Standby mode

Over 10% and under 10% : Power Saving mode

Under 10% : Critical Power mode

BACKUP

When the camera is docked to the docking station, the recorded video is automatically transferred to the backup software.



- When docking is cancelled in the middle of video backup, transfer will stop. When docking resumes, backup will start from the point where transfer was not made.
- Metadata and snapshots are also backed up equally.
- If the camera's storage capacity is full and video backup has not been done, a new video will be saved in an overwritten manner.

TROUBLESHOOTING

PROBLEM	SOLUTION
No video is displayed when accessing the plug-in free webviewer on Safari via HTTPS.	- On the authentication popup window prompted when initially accessing https, click "View Authentication Certificate" and select the "Always trust when connecting to the designated webviewer IP" check box. - If the webviewer continues failing to display a video after you select "Next" on the message window below, press the command key + Q to exit the Safari browser, access again and follow the procedures stated above.
I can't access the camera from a web browser.	- Check to make sure that the camera's Network settings are appropriate. - Check to make sure that all network cables have been connected properly. - If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. - If the camera is connected to a Broadband Router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	- Connected Viewers become disconnected upon any change to camera or network configurations. - Check all network connections.
The camera connected to the network is not detected in the Device Manager program.	Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.
I can't connect to Wi-Fi.	Check the camera's Wi-Fi settings (SSID, Password) are correct.

IEEE 802.11b/g/n operation of this product in the USA & Canada is firmware-limited to channels 1 through 11.

Antennas Statement

This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie II) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Specific Absorption Rates (SAR) for Wireless Devices

The SAR is a value that corresponds to the relative amount of RF energy absorbed by the user of a wireless device. The SAR value of a device is the result of an extensive testing, measuring and calculation process. It does not represent how much RF the device emits. All devices are tested at their highest value in strict laboratory settings. But when in operation, the SAR of a device can be substantially less than the level reported to ICSED. This is because of a variety of factors including its proximity to a base station antenna, design and other factors. What is important to remember is that each device meets strict federal guidelines. Variations in SARs do not represent a variation in safety. All devices must meet the federal standard, which incorporates a substantial margin of safety. As stated above, variations in SAR values between different model devices do not mean variations in safety.

SAR values at or below the federal standard of 1.6 W/kg are considered safe for use by the public.

This equipment should be installed and operated with a minimum distance of 0.5 cm between your body.

Taux d'absorption spécifique (SAR) des appareils sans fil

Le SAR est une valeur qui correspond à la quantité relative d'énergie RF absorbée par l'utilisateur d'un appareil sans fil. La valeur SAR d'un appareil est le résultat d'un processus approfondi de tests, de mesures et de calculs. Elle ne représente pas la quantité d'énergie RF émise par l'appareil. Tous les appareils sont testés à leur valeur maximale dans des conditions de laboratoire strictes. Cependant, lorsqu'il est en fonctionnement, le DAS d'un appareil peut être nettement inférieur au niveau déclaré à l'ICSED. Cela s'explique par divers facteurs, notamment la proximité d'une antenne de station de base, la conception et d'autres facteurs. Il est important de retenir que chaque appareil est conforme à des directives fédérales strictes. Les variations du DAS ne reflètent pas une variation de la sécurité. Tous les appareils doivent respecter la norme fédérale, qui prévoit une marge de sécurité importante. Comme indiqué ci-dessus, les variations des valeurs du DAS entre différents modèles d'appareils ne signifient pas des variations de la sécurité.

Les valeurs du DAS égales ou inférieures à la norme fédérale de 1,6 W/kg sont considérées comme sûres pour l'utilisation par le public. Cet équipement doit être installé et utilisé à une distance minimale de 0,5 cm de votre corps.



Hanwha Vision cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.

The Eco mark represents Hanwha Vision's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.



Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

