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PREFACE

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Safety Information
Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Follow all warnings and cautions in this manual.
- Do not place the unit on an unstable surface, cart, or stand.
- Do not use the camera in extreme temperature conditions. Please use the camera within -40ºC to 55ºC. Air vent is required at high temperature.
- Do not use or store the camera in humid environment. It may cause poor image quality.
- Do not use the camera in unstable lighting conditions. Inconsistent lighting or flickering may cause poor image.
- Never use the camera close to gas or oil leak. It may not operate properly.
- Do not disassemble the camera. There is no user serviceable part inside.
- Do not drop the camera or apply force on it. It may cause a malfunction.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- Never face the camera to strong light for long periods of time. It may damage the CMOS sensor.
RoHS Compliance

Vicon is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, Vicon has established an engineering and manufacturing task force to implement the introduction of green products. The task force will ensure that we follow the standard Vicon development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which Vicon are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize Vicon RoHS Products?
For existing products where there are non-RoHS and RoHS versions, the suffix “(LF)” will be added to the compliant product name.

All new product models launched after January 2013 will be RoHS compliant. They will use the usual Vicon naming convention.
Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Technical Support and Assistance

1. For the most updated information of Vicon products, visit Vicon’s website at www.vicon-security.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.

2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.
Conventions Used in this Manual

Warning:
Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution:
Information to avoid damaging components or losing data.

Note:
Provides additional information to complete a task easily.
Package Contents

The V1020-WIR-180 package contains the following accessories:

<table>
<thead>
<tr>
<th>Name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP camera</td>
<td>1</td>
</tr>
<tr>
<td>Quick installation guide</td>
<td>1</td>
</tr>
<tr>
<td>Accessory pack</td>
<td>1</td>
</tr>
</tbody>
</table>
CHAPTER 1: PRODUCT INTRODUCTION

Overview

Cable

- Power IN (DC12V 2.5A/AC24V 1.5A)
- RJ45
- Alarm OUT
- Alarm IN
- Audio OUT
- Audio IN
- Reset to default button
Hardware Specifications

Camera
- Image sensor: 20MP, 4pcs 1/1.8” 5MP CMOS progressive sensor
- Maximum resolution: 4 ch x (2592 x 1944)
- Lens: 4 Fixed Lens 5.5mm F1.8
- IR effective distance: 30M
- Day and night: Auto ICR
- Minimum Illumination: Color 0.1 LUX/F1.8, B/W 0 LUX/F1.8
- Electronic shutter speed: Auto/Manual 1/7~1/20000
- Gain control: Global (Sync Brightness)/Auto/Manual
- Backlight compensation: Yes
- White balance mode: Auto/Manual
- Image settings:
  - Brightness, Contrast, Saturation, Sharpness, Mirror, Flip

Video
- Video compression: H.265/H.264/MJPEG
- Video streaming: Triple streaming
- Video resolution: 2592x1944/1080p/720p/640x480/640x360/320x240
- Frame rate: @30 fps
- Bit rate: 64K~8000K

Network
- Interface: 1000Mbps Ethernet, RJ-45
- Supported protocols: TCP/IP, UDP, ICMP, IPv4, IPv6, SNMP v2c/v3, QoS, HTTP, HTTPS, LDAP (client), SSL, SMTP, FTP, RTSP, UPnP, DNS, NTP, RTP, RTCP, DynDNS, Zero Configure
- ONVIF: Profile S, Q, G
- Users: Live viewing/Administrator for up to 10 clients
- Browsers: Internet Explorer, Google Chrome, Mozilla, Firefox

Event Management
- Event trigger: Motion detection, Tampering detection, Alarm In/Out
- Notifications: Send/Record message via e-mail/FTP/NAS/SD card, record JPG/mp4

General
- Power supply: IEEE 802.3at, DC12V/24VAC terminal block
- Power consumption: 25W (max.)
- Support SD Card up to 128GB
- DI/DO: DI*1, DO*1
- Audio: IN*1, OUT*1
- Weight: 5.5 lb (2500g)
- Dimension: Ø 7.7 in. (196 mm) x 7.4 in. (188.4 mm) (H)
- Operating Temp.: -40°F ~ 131°F (-40°C ~ 55°C)
- Humidity: 10% ~ 90%RH (no condensation)
- Certification: CE/FCC class A
- Vandal Resistant: IK10
- Weatherproof: IP66
- Application: SDK available for application development
Hardware Installation

1. Use an Allen key to remove the cap on the bottom of the camera.

2. Loosen the 4 screws on the iron sheet and remove the iron sheet.
3. Loosen the 4 captive screws on the dome bubble and open it.

4. After opening the dome, use the tool provided to loosen the 4 screws and remove the bottom cover.
5. Fix bottom cover in the location where the camera is to be installed (wall or ceiling).
   5.1 Place installation sticker (template) on the installation location (wall or ceiling).
   5.2 Bore 4 holes according to the marks on the installation sticker.
   5.3 Use the 4 expansion bolts provided in the screw installation package and insert them into the 4 holes.
   5.4 Use the 4 screws provided in the screw installation package and screw them into the expansion bolts to fix the bottom cover in the installation location (wall or ceiling).

6. Insert the main body with modules back into the bottom cover. Fix them by the 4 screws previously loosened (on step 3).
7. Rotate the manual easing gear (both sides) to loosen and adjust the viewing direction that the camera will monitor. The camera idirection can be adjusted up/down or left/right directions.

8. After confirming the direction, rotate the manual easing gear (both sides) to fix the camera direction.
9. Retighten the 4 captive screws on the dome to secure it in place.
CHAPTER 2: CAMERA CONFIGURATION

Accessing the Camera’s Configuration Menu (Graphical User Interface)

By default, the camera is set to obtain an IP address via DHCP. If your network does not have a DHCP server, run the IP Finder and click “Search;” you will find the device IP, as shown in the following section.

You can access the camera via a web browser or IP-FINDER software. The following information outlines the instructions for each method.

Installing IP-FINDER Software

Note: If IP-FINDER is already installed, you can skip this section and continue to the next section IP-FINDER on page 11.

1. Download the IP-Finder installer file; the IP-FINDER tool (Discovery tool) can be gotten from the Vicon website, Software Downloads.
2. Unzip the IP-FINDER file to a location on the hard drive.
3. Once unzipped, double click on the setup file to start the installation program.
4. Click the Next button on the Welcome screen to continue.
5. Confirm the directory that the program will be installed on. To specify a different folder, click on the **Browse** button and locate the desired installation folder.

6. To check the available drives you can install the software to and their available and required disk space, click on the **Disk Cost** button.

7. Specify which user accounts on the computer can access the program; the options are **Everyone** and **Just me**.

8. Click on the **Next** button to continue.
9. Click on the **Next** button to begin installation.

10. Once the installation process is complete, click on the **Close** button to finish. A shortcut will be created on the desktop.
**IP-FINDER**

1. Locate and open the **IP-FINDER** software shortcut on the desktop.

2. When the program is launched, it will begin searching the network for IP cameras automatically (the search will last for up to 90 seconds). You can also manually search cameras by clicking on the **Search** button.

3. Once the camera is discovered, it will show the following information:
   - Model Name
   - IP address
   - MAC address
   - UUID
   - Serial Number
   - Version

4. You can access the menu by double clicking the camera’s **IP address** under **Camera List**. The IE will be opened automatically.
Introduction to the IP-FINDER User Interface

**Control Bar**
- Contains [Search], [Assign IP], [Home Page] and [Firmware Upgrade] buttons.

**Preview**
- Displays the selected camera image.

**Information**
- Displays the selected camera information such as **Model Name**, **IP**, **MAC**, **UUID**, **SN** and **Version**.

**Camera List**
- Lists the cameras discovered by the search function. Each camera shows the **“IP”**, **“Status”**, **“Model Name”** and **“Device Mark”**. Users can also click the column headers to sort the list.

**Device Mark**
- Asterisk sign indicates that this device has **“Preview”**, **“Assign IP”** and **“Firmware Upgrade”** functions.

**Button Functions**

<table>
<thead>
<tr>
<th>Function</th>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td></td>
<td>Discovers IP cameras available on the network.</td>
</tr>
<tr>
<td>Assign IP</td>
<td></td>
<td>Changes the IP address of the camera.</td>
</tr>
<tr>
<td>Home Page</td>
<td></td>
<td>Opens the web browser to the home page of the camera.</td>
</tr>
<tr>
<td>Firmware Upgrade</td>
<td></td>
<td>Upgrades the camera firmware.</td>
</tr>
</tbody>
</table>

**Search**
When the [Search] button is clicked, the application will start searching cameras on the network. To stop searching, click the [Done] button.

**Assign IP**
When the [Assign IP] button is clicked, a pop-up window “IP Address Configuration” will appear, providing options to use DHCP or static IP address.

**Home Page**
To view the home page of a particular camera, double click on the camera in the list; the web browser will open and redirect to the home page. To access the home page of two or more cameras, tick the box of the cameras you want to view and click on the [Home Page] button.

**Firmware Upgrade**
To update the camera firmware, tick the box of the cameras you want to update and click on the [Firmware Upgrade] button. Follow the on-screen prompts to complete the upgrade. If the camera does not support firmware upgrade, a pop-up window will be displayed.

**NOTE:** Different IP camera models use different firmwares, please do NOT update the firmware of different models using the same firmware.
Web Browser

1. Locate and open one of the web browsers (such as Internet Explorer, Chrome, Firefox, etc.).
2. In the address bar, type IP address of the camera and then press the Enter button.
3. You will be prompted with a pop-up window asking for login information, type in “ADMIN” (default login name) and “1234” (default password).
4. Once logged in, you will see the main screen.

5. If no video is displayed on the screen, make sure you have VLC Media Player installed on the computer. If not, download and install it; then the video will display from the web browser.

Note: The recommended browsers to use are Internet Explorer, Safari, Firefox and Chrome. However, Chrome only supports the viewing of the web Setup menu; Live View of the video stream is not supported.
Main Screen Overview

The main screen will be shown after successfully logging into the IP camera. The main screen allows users to view the live video of the 4 channels in the camera and provides options and status icons for configuring and monitoring the camera.

![Live View (4 ch)](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setup</strong></td>
<td>Enters the setup menu for configuring the IP camera.</td>
</tr>
<tr>
<td><strong>Current Time</strong></td>
<td>Displays the current date and time.</td>
</tr>
<tr>
<td><strong>Gray</strong>: Event detection is disabled or no triggered event is detected. <strong>Red</strong>: When a sabotage detection event is triggered, the icon will flash red continually as a warning.</td>
<td></td>
</tr>
<tr>
<td><strong>Gray</strong>: Event detection is disabled or no triggered event is detected. <strong>Red</strong>: When a motion detection event is triggered, the icon will flash red continually as a warning.</td>
<td></td>
</tr>
<tr>
<td><strong>Gray</strong>: Event detection is disabled or no triggered event is detected. <strong>Red</strong>: When an alarm detection event is triggered, the icon will flash red continually as a warning.</td>
<td></td>
</tr>
<tr>
<td><strong>Refresh</strong></td>
<td>Refreshes the page.</td>
</tr>
<tr>
<td><strong>Full-screen</strong></td>
<td>Switches to full-screen view.</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>Options to change the display language.</td>
</tr>
<tr>
<td><strong>Account</strong></td>
<td>Displays the current logged in account. Move the mouse close to the icon to see which user is currently logged in. “Admins” indicates administrator account and “User” indicates user account.</td>
</tr>
<tr>
<td><strong>Logout</strong></td>
<td>Logs out from the current login session.</td>
</tr>
</tbody>
</table>
Configuring the Camera’s Setting

1. To configure the camera’s setting, click on the Setup button on the main screen to enter the configuration menu.
Browsing Through the Configuration Menu
The layout of the configuration menu is divided into two sections. All the camera settings are located on the left hand side of the interface; clicking on each of them will open their corresponding sub-menu on the right.

The following are the camera settings available on the left hand side:

- **A/V Streams**
  - Video Configuration
  - Audio Configuration
- **Image**
  - Exposure
  - Basic Settings
  - ROI
  - Privacy Zone
  - OSD
- **Network**
  - Basic
  - FTP
  - SSL
  - 802.1x
  - SNMP
  - Firewall
  - LDAP
  - DDNS
  - RTSP
  - GB28181
- **System**
  - Date/Time
  - Maintenance
  - User Management
- **Event**
  - Alarm Handler
  - Motion Detection
  - Sabotage Detection
  - FTP Upload
  - SMTP Notification
  - Network Storage
  - Relay Handler
  - SD Record
Chapter 2: Camera Configuration

Video - Video Configuration

Primary Stream 1

Codec
Configures the format of the video stream. The available options are **H.265** and **H.264**.

Resolution
Configures the resolution of the video stream. The available options are **2592x1944**, **1920x1080**, and **1280x720**.

Rate Control
Configures the Rate Control mode as **CBR** (constant bit rate) or **CVBR** (constrained variable bit rate) for the stream. Selecting **CVBR** will show the setting options for **Smart ROI**, **Smart FPS** and **Smart GOP**.

Smart ROI
Enables or disables Smart ROI feature. Enabling it will increase the bit rate of moving objects and make them clearer. Bit rate of images around the moving objects will not be modified.

Frame Rate
Adjusts the frame rate of the video stream; the range is 1~30FPS. The stream will be off if 0 is selected.

Smart FPS
Enables or disables Smart FPS feature. Enabling it will increase the FPS to 30FPS when a moving object is detected. If no moving object is detected, FPS will be reduced to save bandwidth.

GOP Length
Configures the GOP length of the stream; the range is 1~120. Users can enter the value or adjust it through the slider bar.
Video Configuration, cont.

Smart GOP
Enables or disables Smart GOP feature. Enabling it will allow GOP to automatically increase when no moving objects are detected to save bandwidth. When moving objects are detected, GOP will automatically decrease.

Bit Rate
Configures the bit rate; the range is 2~8000. Users can enter the value or adjust it through the slider bar.

Secondary Stream
Codec
Configures the format of the video stream. The available options are H.265 and H.264.

Resolution
Configures the resolution of the video stream. The available options are 640x480, 640x360 and 320x240.

Rate Control
Configures the Rate Control mode as CBR (constant bit rate) or CVBR (constrained variable bit rate) for the stream.

Frame Rate
Adjusts the frame rate of the video stream; the range is 0~30FPS. The stream will be off if 0 is selected.

GOP Length
Configures the GOP length of the stream; the range is 1~120. Users can enter the value or adjust it through the slider bar.

Bit Rate
Configures the bit rate; the range is 64~4000. User can enter the value or adjust it through the slider bar.
Third Stream

Resolution
Configures the resolution of the video stream. The available options are 640x480, 640x360 and 320x240.

Quality
Configures the video quality of the stream. The available options are High, Normal and Low.

Frame Rate
Adjusts the frame rate of the video stream; the range is 1~30FPS. The stream will be off if 0 is selected.

Save
Save button to apply the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
A/V Streams - Audio Configuration

Audio Settings

Audio In
Enables or disables audio-in on the camera. The available options are **ON** and **OFF**.

Audio In Volume
Volume adjustment for audio-in of the camera. The available options are **High**, **Mid** and **Low**.

Audio Out
Enables or disables audio-out on the camera. The available options are **ON** and **OFF**.

Audio Out Volume
Volume adjustment for audio-out of the camera. The available options are **High**, **Mid** and **Low**.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Image - Exposure

**Global Mode**
The available options are **ON** and **OFF**.

**Enable Global Mode (ON)**
Set up the parameters for all 4 image channels together. After enabling **Global ON**, also select “**Sync Brightness**” from the **AE Mode**. Then the parameters of all the 4 image channels will be the same and can be adjusted together. Press **Save** to keep the configurations.

**Disable Global Mode (OFF)**
Set up the parameters for each image channel independently. Each image channel can be adjusted individually. After setting up the parameters, press **Save** to keep the configurations.
**Exposure, cont.**

**AE Mode**
When **Global Mode** is set to **ON**, the available options for AE mode are **Sync Brightness**, **Sync Brightness 50Hz**, **Sync Brightness 60Hz**, **Auto**, **50Hz**, **60Hz** and **Lock**.

When **Global Mode** is set to **OFF**, the available options for AE mode are **Auto**, **50Hz**, **60Hz** and **Lock**.

If **Lock** is selected, then Exposure Time Control, Gain Control and BLC cannot be edited. Only Exposure Time can be edited (the range is 1/7~1/20000).

**Adjustment**
Adjusts the exposure from 0~255. Users can enter the value or adjust it through the slider bar.

**Exposure Time Control**
Select **User Define** to enter the values of Maximum Exposure Time (the range is 1/7~1/30) and Minimum Exposure Time (the range is 1/30~1/20000) manually.

**Exposure Time**
The range is 1/7~1/20000. It can only be edited when **Lock** is selected as the AE Mode.

**Gain Control**
The available options are **OFF**, **Low**, **Medium**, **High** and **User Define**.

Select **User Define** to enter the value of Maximum Gain (the range is 1~512) manually.

**Gain**
The range is 1~512. It can only be edited when **Lock** is selected as the AE Mode.
Exposure, cont.

BLC
Enables or disables backlight compensation function; enable this option if an image in the camera is too dark.

WDR
Enable this function if the camera is exposed to bright backlight, glare or high contrast lighting. The available options are OFF, Low, Medium and High.

AWB Mode (Auto White Balance Mode)
White balance allows the camera to produce more accurate colors under different lighting conditions. The default setting is Auto, which automatically adjusts the white balance to suit the current lighting condition. You can also adjust the white balance manually through RG Gain or BG Gain. The range is 0.00~10.00.

Noise Reduction
Enable this function to reduce noise. The available options are OFF and 1~11.
Exposure, cont.

Day/Night Settings

DayNight Control
Select the Day and Night control mode. The available options are Auto, Force Day and Force Night.

IR Cut Control
Select the IR cut control mode to use. The available options are Auto, Force Day and Force Night.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Image - Basic Settings

Image Adjustment (Stitch)

Users can adjust the image slightly according to the various conditions in the local environment to visually stitch the images together. The following adjustment methods are available:

Direction Symbols
Move the mouse cursor on the image and press the symbols to slightly move the image (stitch) to the left, right, top or down directions in order to get the best visual effect. Each image channel can be adjusted individually.

Step Pixels
On the center of each image channel, a text box is available for entering a number from 1 to 9. Each step is moved by pixels depending on the value entered.
Basic Settings, cont.

**Mirror**

*Flip left-to-right & Flip top-to-bottom*

Flips the image horizontally (flip left-to-right) or vertically (flip top-to-bottom). Both can be selected at the same time.

**Digital Processing**

**Defog**

Configures the defog level to enhance the image quality in foggy conditions. The available options are **OFF**, **Low**, **Medium** and **High**.

**Sharpness Adjust**

Configures the sharpness of the image; the range is 0 ~ 255, with 0 being the lowest sharpness. Enter the values or adjust the bar to increase or decrease the values. The default value is 127.

**Saturation Adjust**

Configures the color saturation of the image; the range is 0 ~ 100, with 0 being the lowest saturation. Enter the values or adjust the bar to increase or decrease the values. The default value is 50.

**Contrast Adjust**

Configures the contrast of the image; the range is 0 ~ 100, with 0 being the lowest contrast. Enter the values or adjust the bar to increase or decrease the values. The default value is 50.

**Brightness Adjust**

Configures the brightness of the image; the range is 0 ~ 100, with 0 being the lowest brightness. Enter the values or adjust the bar to increase or decrease the values. The default value is 50.
Basic Settings, cont.

Hue Adjust
Configures the overall hue of the image; the range is 0 ~ 100. Increasing the value will adjust the image hue towards red. Decreasing the value will adjust the image hue towards blue. The default value is 50.

Restore Settings to Defaults
Discards all the settings applied to the image and resets to the default settings.

Default All Image Settings
Discards all the settings applied to the image and reverts to the previous settings.
Configurations

ROI is used to select which areas will be monitored and recorded with higher image quality while using lower image quality for other non-ROI zones to save bandwidth and storage. The instructions below illustrate how to set up ROI.

1. Select Stream 1 or Stream 2 to set the ROI on. Each channel can be edited individually.
2. There are 5 ROI zones that can be configured (zone 1 ~ zone 5). Switch to ON to enable ROI function. The default is OFF.
3. Set the image quality of the ROI in the Level drop-down menu; the options are Low, Medium or High.
4. Select the area to set the ROI by holding down the mouse button and drag to make a rectangular square; release the button once the desired area is covered.
5. Press the Set Area button for the setting to take effect. The ROI area will then be seen on the video stream.
6. Press the Del Area button or select OFF to delete the ROI area.
Image - Privacy Zone

Configurations

Configures which area of the video stream will be masked for privacy. There are 5 privacy zones that can be configured.

1. Select ON to enable Privacy Zone function. The default is OFF. Each channel can be edited individually.
2. Select the area to set the privacy zone by holding down the mouse button and drag to make a rectangular square; release the button once the desired area is covered.
3. Press the Set Area button for the setting to take effect. The masked area will be filled with black and the label Mask will be seen on the video stream.
4. Press the Del Area button or select OFF to delete the privacy zone.
Image - OSD

General Settings

Camera Name
Specifies a name for the device. The maximum length is 32 characters.

Background
Configures the background color of the text overlay; the options are Translucent (light gray) or Transparent.

Text Color
Configures the text color as Black, White, Green or Yellow.

Text Overlay
There are 4 content positions (Top Left, Top Right, Bottom Left and Bottom Right) to display the camera name, current date/time and text overlay.

Content
OFF: The default setting is OFF.
Date/Time: Displays the current date/time.
Camera Name: Displays the device name.
Camera Name + Date/Time: Displays the device name and date/time.
Custom Text: Customized text can be specified here.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
**Network - Basic**

**IPv4 Settings**

**DHCP**
Enables or disables DHCP. Use this feature if the camera is connected to a network with DHCP server.

To manually configure an IP address, disable DHCP and input the IP address, subnet mask, default gateway, primary and secondary DNS server address.

**System Settings**

**HTTP Port**
Configures the HTTP port number of the web configuration menu.

**HTTPS Port**
Configures the HTTPS port number of the web configuration menu.

**Hardware Address**
Unique MAC address for each camera device.
IPv6 Settings

Enables or disables IPv6 function.

To manually input an IP address, enable IPv6 and input the address prefix, default route, enable/disable router advertisement and DNS server address.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
### Network - FTP

#### Configurations

**Enable**
Enables or disables FTP access to this camera. This function is only available when an SD card is inserted. You can access files in the SD card inserted in the IP camera.

**Password**
Specifies the FTP login password to access the IP camera.

**Max Connection**
Specifies the maximum number of FTP connections the IP camera can support.

**Save**
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

**Reset**
Click the Reset button to discard all the settings and revert to the previous settings.
Network - SSL

SSL Configurations
Mode
Disabled: Support for http only.
Optional: Support for http and https.
Required: Support for https only.

Certificate
Certificate
Provides options to install a new CA certification.

Select Certificate Install Method
Selects the certificate installation method. The available options are Self-Signed Certificate, Certificate Request and Upload Certificate. Press Next after selecting the installation method.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Network - 802.1x

802.1x Configurations

Protocol
The default is **None** to disable 802.1x function. Select the protocols to enable 802.1x function. The available protocols are **EAP-MD5, EAP-TLS, EAP-TTLS** or **EAP-PEAP**.

After the protocol has been selected, manually configure the username, password and other required information.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Network - SNMP

SNMP Configurations

No SNMP Server
Disables SNMP function.

SNMP V2c
Enables or disables SNMPv2c support.

Community String
Configures the community string.

Trap Configuration
Specifies the destination IP address to send SNMP trap messages.

SNMP V3
Enables or disables SNMPv3 support.

User
Configures the SNMPv3 username.

Authentication
Configures the Authentication mode. The options are None, MD5 and SHA.

Privacy
Configures encryption for SNMPv3. The options are DES and AES.

Trap Configuration
Specifies the destination IP address to send SNMP trap messages.

Download MIB
Download MIB file for SNMP

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Network - Firewall

Firewall Configurations

Mode
Select **OFF** to disable the filtering of the specified IP address. Select **Allow** or **Deny** in the drop-down menu to specify the type of filtering rule applied to the IP address entered.

Address1 to Address8
The IP address and associated protocol (TCP, UDP or None) to filter can be entered here. A total of 8 IP addresses can be added to the list.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Network - LDAP

LDAP Configurations

Enables or disables LDAP; use this feature if the camera is connected to a network with LDAP server.

After enabling LDAP, manually configure the LDAP server and other required information.

**Save**

Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

**Reset**

Click the Reset button to discard all the settings and revert to the previous settings.
Network - DDNS

DDNS Configurations

Enable
Enables or disables DDNS service.

Hostname
Hostname of the DDNS account.

DDNS Server
Select the DDNS service provider from the drop-down menu; the available providers are DynDNS, NO-IP, and Two-DNS. The default option is DynDNS.

Username
Username of the DDNS account.

Password
Password of the DDNS account.

Re-type Password
Type the same password again for confirmation.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Network - RTSP

RTSP Configurations

Authentication
Enables or disables verification of the account and password. The account and password are the same as the camera’s login username and password.

Port
Configures the port number for stream 1 to stream 3. The range is 554/1025~65535.

Stream 1 to Stream 3
Enables or disables RTSP unicast for stream 1 to stream 3. The RTSP port number and pathname for each stream can be configured here.

Default URL Path of Stream 1 to Stream 3
Stream 1: rtsp://cameraIP/stream1
Stream 2: rtsp://cameraIP/stream2
Stream 3: rtsp://cameraIP/stream3
RTSP, cont.

Multicast (Stream 1 to Stream 3)

Enable RTSP Multicast
Enables or disables RTSP multicast streaming.

Always Multicast
Check this option to enable the video stream to start multicast streaming without using RTCP.

Video IP
Configures the multicast address to stream video.

Video Port
Configures the port number of the video stream.

Audio IP
Configures the multicast address to stream audio.

Audio Port
Configures the port number of the audio stream.

Meta IP
Configures the multicast address for the html meta.

Meta Port
Configures the port number of the html meta.
**RTSP, cont.**

- **Path**
  Configures the URL address of the video stream.

- **TTL**
  Configures the time-to-live threshold of the multicast datagram before it is discarded by the router.

- **Save**
  Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

- **Reset**
  Click the Reset button to discard all the settings and revert to the previous settings.
Network - GB28181

GB28181 Configurations

Enable
Enables or disables GB28181 settings.

After enabling GB28181, manually configure the related information for GB28181 settings.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
System - Date/Time

Date/Time Configurations
Display Format
Displays the current date and time. There are various formats to select from the drop-down menu.

Time Setting
Time Server
None: Disables synchronization of the current date/time through the internet.
DHCP: If your DHCP server provides NTP server information, select this setting to enable NTP information retrieval.
Manual: Select this option to configure the NTP server address manually for date and time synchronization.

Manual setting
Manually define the date and time. The format is yyyy/mm/dd or hh:mm:ss.

Sync with computer time
Manually synchronize with the current computer date and time.

Time Zone Setting
Time Zone
Select the time zone relevant to your location in the drop-down menu.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
System Information

Firmware Version & Model Name
Displays the current firmware version and IP camera model number.

Serial Number & MAC Address
Displays the IP camera serial number and MAC address.

Firmware Update
To update the camera’s firmware, click on the Choose a file button and locate the firmware image file. Once the file is selected, press the Upload button to begin.

During update, please do not disconnect the network cable, reset or power off the IP camera, as you may damage the device.

Reboot Camera
Click this button to reboot the camera.

Reset to Default
Click this button to restore all the camera’s setting back to factory default except IP address (keeps all the settings on the Network Basic setting page).

Reset to Factory Default
Click this button to restore all the camera’s setting back to factory default, including IP address (default is DHCP).

Download Log File
Records all the status information of the camera in list format when the camera is connecting to the PC. Downloads the log file to the computer as a text file.
Maintenance, cont.

**Backup**

*Download Now*

Downloads the current camera settings to a backup file.

**Restore**

*Update and Restore*

Click on the **Choose a file** button and locate the backup file; once the file is selected, press the **Update and Restore** button to restore camera settings.

*NOTE:* Restoring will cause the camera to restart.
System - User Management

Admin Setting

Admin
The default username is admin. Users cannot change username.

Password
Set up the password for administrator’s authorization.

Re-type Password
Retype the same password to confirm.

User List
Displays user accounts available on the camera.

Press Add New User to add a new account and set up the authorization level of this user under User Information. Press Give Up to delete the new user if you do not want to continue the setup.

To delete an account, press the Del User button.
User Management, cont.

This section allows users to set up each new user's authorization level. A total of ten accounts can be created for **Admins/Views**.

**Access Level**
- **Admins**: Has full control (read/write) over every configuration menu item.
- **Views**: Only has access (read) to the live view of the camera (main screen).

**User Name**
Username must be at least 1 and up to 16 characters.

**Password**
Password must be at least 1 and up to 16 characters.

**Re-type Password**
Retype the same password to confirm.

**Save**
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

**Reset**
Click the Reset button to discard all the settings and revert to the previous settings.
Event - Alarm Handler

Alarm Handler Configurations

Enable
Enables or disables the alarm schedule setup.

Alarm Schedule Settings

S
Press S for a particular weekday to set up a 24-hour schedule automatically.

D
Press D for a particular weekday to clear all the previously scheduled settings automatically.

Configure the scheduled time by holding down the mouse button and clicking the time block to enable the schedule settings on the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light gray color indicates that the alarm schedule is disabled.

Alternatively, you can manually enter numbers to configure the hours and minutes from start to end for all weekdays.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Event - Motion Detection

Motion Configurations
This section configures which area of the live video will be monitored for detecting motion.

Enable
Enables or disables motion detection function.

Sensitivity
Configures the sensitivity of motion detection; the range is 0 to 100.

Zone1 to Zone5 Setup
Configures the type of area layout to use for motion detection. You can configure up to 5 zones. The instructions below illustrate how to set up 5 zones. Each channel can be setup individually.

1. To create zone 1, on the live video screen, select the area to set the zone by holding down the mouse button and drag to make a rectangular square; release the button once the desired area is covered.
2. Press the Set Area button in zone 1 to set this area as motion zone 1.
3. Repeat the above steps to create motion areas for zones 2 to 5.

To delete an area, find the motion zone number you would like to remove, and press the Del Area button.
Motion Detection, cont.

Motion Schedule Settings

S
Press S for a particular weekday to set up a 24-hour schedule automatically.

D
Press D for a particular weekday to clear all the previously scheduled settings automatically.

Configure the scheduled time by holding down the mouse button and clicking the time block to enable the schedule settings on the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light gray color indicates that the alarm schedule is disabled.

Alternatively, you can manually enter numbers to configure the hours and minutes from start to end for all weekdays.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Close
Press to leave this schedule setting page.
Event - Sabotage Detection

Sabotage Detection Configurations

Enable
Enables or disables sabotage detection function.

Sabotage Sensitivity
Configures the sensitivity level of sabotage detection; the options are High, Medium and Low.

Sabotage Schedule Settings
S
Press S for a particular weekday to set up a 24-hour schedule automatically.

D
Press D for a particular weekday to clear all the previously scheduled settings automatically.

Configure the scheduled time by holding down the mouse button and clicking the time block to enable the schedule settings on the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light gray color indicates that the alarm schedule is disabled.

Alternatively, you can manually enter numbers to configure the hours and minutes from start to end for all weekdays.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Close
Press to leave this schedule setting page.
Event - FTP Upload

FTP Upload Handler Configurations
Configures which type of event trigger to enable and the FTP server address that the camera will connect to. The options are:

- Trigger Alarm Detection
- Trigger Motion Detection
- Trigger Sabotage Detection
- Trigger Scheduled

Remote Server

Host Address
Specifies the host name or IP address of the FTP server.

Port
Specifies the port number of the FTP server.

Username
Specifies the login username for the FTP server.

Password
Specifies the login password for the FTP server.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Event - SMTP Notification

SMTP Notification Handler Configurations
This section configures the SMTP mail server address that the camera will use for sending emails.

From
Specifies the email address of the sender.

Trigger Event
Configures which type of event trigger to enable and the SMTP server address that the camera will connect to. The options are:

- Trigger Alarm Detection
- Trigger Motion Detection
- Trigger Sabotage Detection

Message
Specifies the message content.

Subject
Specifies the subject of the message.

Attach JPEG Snapshot
Enables or disables email delivery of trigger event snapshots.
SMTP Notification, cont.

SMTP Server

Host Address
Specifies the host name or IP address of the SMTP mail server.

Port Number
Specifies the port number of the SMTP mail server.

Username
Specifies the login username for the SMTP mail server.

Password
Specifies the login password for the SMTP mail server.

Authentication Mode
Specifies the SMTP server authentication mode; the options are NO_AUTH, SMTPPLAIN, LOGIN and TLS_TLS.

Recipient List
Specifies the email address to send the email to when an event is triggered by Alarm, Motion or Sabotage. A maximum of 10 email addresses can be configured.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Chapter 2: Camera Configuration

Event - Network Storage

Network Storage Configurations

Network Storage
This section configures the network storage server address that the camera will use when an event trigger is detected.

Trigger Event
Configures which type of event trigger to enable and the network storage server that the camera will connect to. The options are:

- Enable Trigger Alarm Detection
- Enable Trigger Motion Detection
- Enable Trigger Sabotage Detection
- Enable Trigger Scheduled

Recipient Setup

Network Storage Status
Displays the current connection status with the network storage server (not mounted or ok).

Network Address
Specifies the IP address of the network storage server.

Share
Specifies the shared folder name on the network storage server.

Record Type
Specifies the event trigger action. The options are Snapshot and Video.
Network Storage, cont.

Login Certificate
Username and Password
Specifies the login username and password for the network storage server.

Mount and Remove Network Storage
Mount
Set up a network connection with the network storage server. All the video recordings or snapshots from event triggers will be uploaded to the network storage server. After the setting is complete, the Network Storage Status field will display ok.

Remove
Delete the previous setting or set up a new one. After the setting is removed, the Network Storage Status field will display not_mounted.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
Event - Relay Handler

Relay Handler Configurations
This section configures the event trigger options for devices connected to the DI/DO of the camera.

Trigger Alarm: When a signal is detected from Alarm in, the Alarm out will be triggered.

Trigger Motion Detection: When a motion detection event is detected, the Alarm out will be triggered.

Trigger Sabotage Detection: When a sabotage detection event is detected, the Alarm out will be triggered.

Types
The options are N.O. and N.C.

Off Time
Configure the seconds from 0 to 30 seconds.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
**Event - SD Record**

**SD Record Handler Configurations**

Configures which type of event trigger to enable the SD recording and scheduling function. The following options are available:

- Enable Trigger Alarm Detection
- Enable Trigger Motion Detection
- Enable Trigger Sabotage Detection
- Enable Trigger Scheduled

**SD Information**

**Available**

If an SD card is installed, this section will display information on the availability of the SD card.

**Usage**

If an SD card is installed, this section will display the percentage of the total storage used.

**Format SD Card**

Formats the SD card; all data stored on the SD card will be erased if this option is used.

**Status**

Displays whether an SD card is installed or not. If an SD card is detected, ok will be displayed; if an SD card is not detected (or a faulty SD card is used), not_mounted will be displayed.
Overwrite
Enables or disables SD card overwrite.

Record Type
Configures the recording method to record the stream on to the SD card. The options are Video or Snapshot.

Save
Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

Reset
Click the Reset button to discard all the settings and revert to the previous settings.
SD Record, cont.

Alarm/Motion/Sabotage Detection Settings

Record Type Selected: Snapshot

Pre-event Snapshots
Configures the number of pre-event snapshots to upload to SD card. The options are 0, 1, 3, 5 and 10.

Post-event Snapshots
Configures the number of post-event snapshots to upload to SD card. The options are 0, 1, 3, 5, 10, 30 and 60.

Pre-event Snapshot Interval
Configures the interval of pre-event snapshots. The options are 1, 3, 5 and 10.

Post-event Snapshot Interval
Configures the interval of post-event snapshots. The options are 1, 3, 5 and 10.

FileName Prefix
Configures a prefix to append to the filename. The default prefixes for Alarm, Motion and Sabotage Detection are Alarm, Motion and Sabotage, respectively.

The format of the filenames:
Alarm_yyyymmdhhmmss
Motion_yyyymmdhhmmss
Sabotage_yyyymmdhhmmss

Server Path
Configures a folder name on the SD card. The default folder names for Alarm, Motion and Sabotage Detection are Alarm, Motion and Sabotage, respectively.
### SD Record, cont.

**Alarm/Motion/Sabotage Detection Settings**

**Record Type Selected: Video**

**Pre-event Record**

Configures the length of the pre-event recording. The range is 1~5 seconds.

**FileName Prefix**

Configures a prefix to append to the filename. The default prefixes for Alarm, Motion and Sabotage Detection are **Alarm**, **Motion** and **Sabotage**, respectively.

The format of the filenames:

- **Alarm_yyyymmddhhmmss**
- **Motion_yyyymmddhhmmss**
- **Sabotage_yyyymmddhhmmss**

**Post-event Record**

Configures the length of the post-event recording. The range is 5~100 seconds.

**Server Path**

Configures a folder name on the SD card. The default folder names for Alarm, Motion and Sabotage Detection are **Alarm**, **Motion** and **Sabotage**, respectively.
### SD Record, cont.

#### Trigger Scheduled Settings

**Schedule1 and Schedule2**

Configures the **Start** time and **End** time to trigger the scheduled record video or snapshot event. Two time slots (*Schedule1* and *Schedule2*) are available.

**FileName Prefix**

Configures a prefix to append to the filename.

**Server Path**

Configures a folder name on the SD card.

#### Day/Time Inclusion Filter

Select the day of the week to trigger the schedule. *Schedule1* and *Schedule2* previously configured or **AllDay** for whole day recording can be selected for each weekday.

**Save**

Save button applies the configurations. Click on this button once to confirm all the settings for the new changes to take effect.

**Reset**

Click the Reset button to discard all the settings and revert to the previous settings.
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