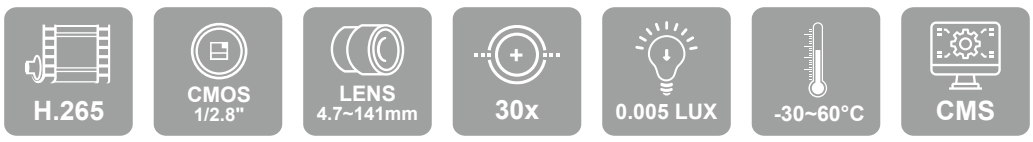
VFI-330B5

IR Network Speed Dome

User Manual



2026 JUL. V1.0



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WARNING

· Do Do not install the unit in humid, hot, poorly ventilated environments, or under direct sunlight.
Doing so may degrade performance, lead to electrical leakage, or cause severe damage and hazards.

· Do not touch the power cord, plug, or outlet
with wet hands to prevent electrical shock.

· Do not excessively bend the power cord or place heavy objects on it.
Failure to comply may cause personal injury or equipment damage.

· Do not use damaged or unplugged power cords
to avoid electrical shock or accidental injury.

· Use only a dedicated power supply.
Do not share an electrical outlet with other appliances to prevent electric shock or accidental injury.

· Do not disassemble, modify, or repair the unit yourself.
Unauthorized servicing may lead to electric shock or physical injury.
For repair and servicing needs, please contact your original distributor or dealer.

· Do not open the casing or insert foreign objects into the machine.
Doing so may result in electric shock or accidental injury.

· Do not use cables other than those supplied with the unit.
For repair or servicing needs, please contact your original distributor or dealer.

CAUTION

· Do not expose the device to rain or excessive moisture (excluding outdoor models).
Doing so may degrade performance or cause functional errors.

· Avoid excessive vibration or shaking during operation.
This can cause damage to internal circuit boards or IC components.



CAUTION

Verify that the input voltage is correct before powering on the unit.



Due to the wide variety of products, please refer to the official VACRON website for detailed model specifications.

Catalogue

Safety Precautions ..... -

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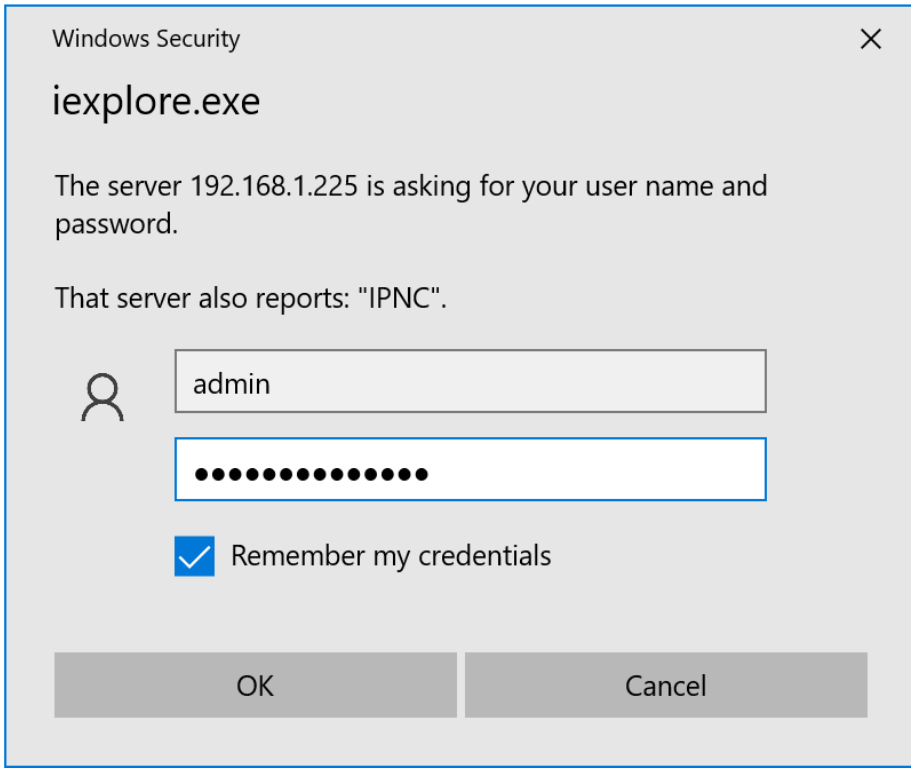
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A. Logging In via Internet Explorer (IE)

Account Authentication on Login Page



To access the camera's settings and interface, users must enter the camera's IP address in the Internet Explorer (IE) address bar. A username and password will be required for authentication.

(Default username and password: admin)

Live View OCX Installation & Button Controls



1. OCX Installation
   When connecting to the camera for the first time, users may be prompted to install the required OCX control if it is not already present on the computer.

2. When entering the IE interface, a system warning may appear as shown below.
   Please adjust your Internet Explorer security settings by navigating to Security Options and setting "Download unsigned ActiveX controls" to "Prompt". This prevents Windows from automatically blocking the installer.

3. The CH1 and CH2 buttons toggle the Live View between the Main Stream and Sub-Stream, allowing users to verify video stream performance.

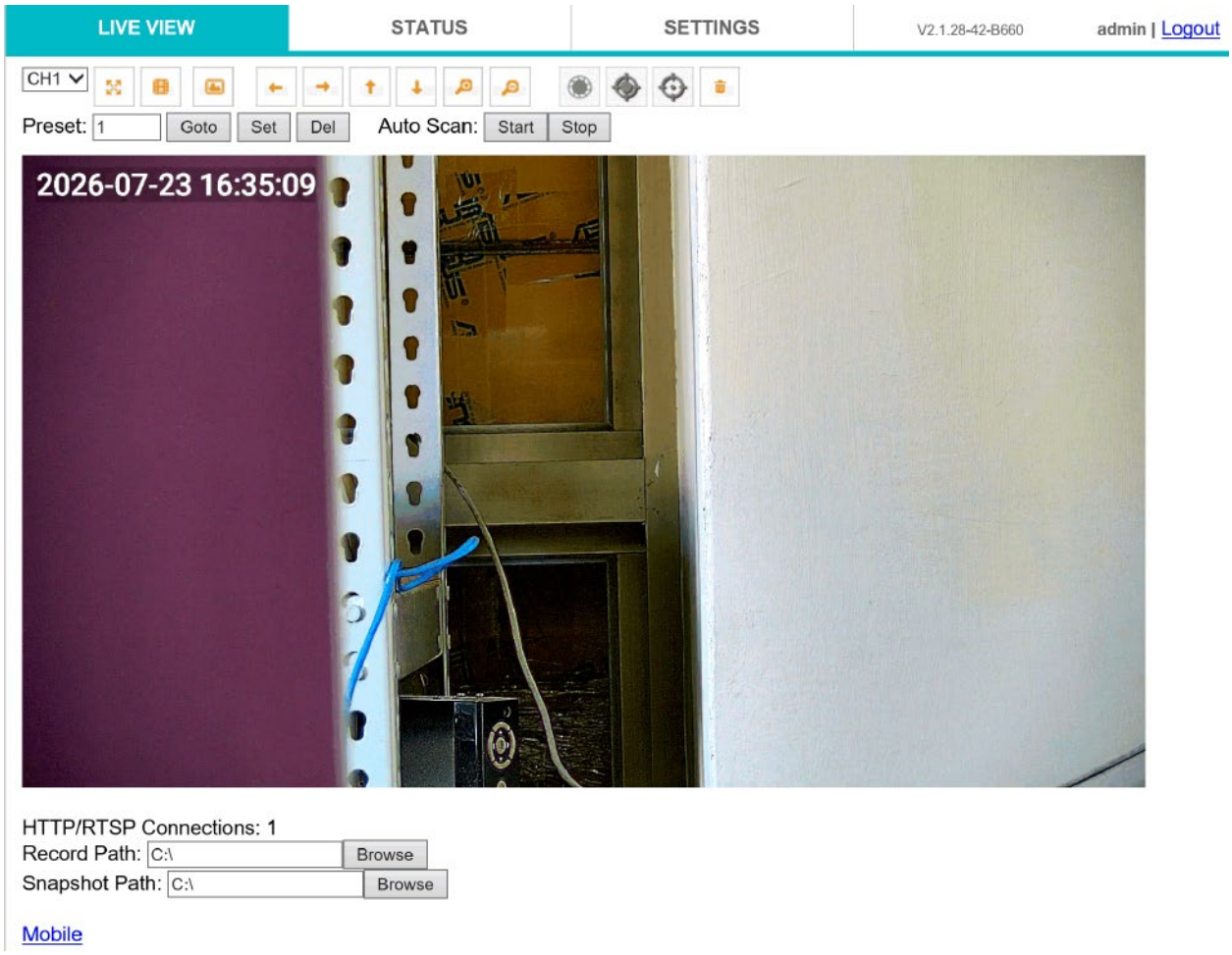
4. The top-left corner of the Live View window provides quick control icons : Full Screen, Instant Recording , and Snapshot.

5. PTZ Controls Demonstration
   (Up/Down/Left/Right) ； (Optical Zoom)；
   (Focus Mode Adjustment)； (Clear Preset Cruise Point)
   Presets (Cruise Points): Supports up to 16 configurable preset positions.
   Users can trigger custom preset positioning and automated cruise scans directly from the UI interface.

B. Status Information

IE Interface Overview

After logging in, the web interface is divided into two main sections:
Top Section: Main navigation menu and category tabs.
Bottom Section: Live camera view display window, local path configuration for manual recording and snapshots, and PTZ control options.



CH1 / CH2 : Stream Switch

: Full Screen

: Recording

: Snapshot

: Camera Contrls

: Zoom In / Out

: Focusing

: Near / Far Focus

: Clear Cruise Data

Preset: 1 : Preset Configuration (Max 16)

Goto : Go to Preset

Set : Save Preset

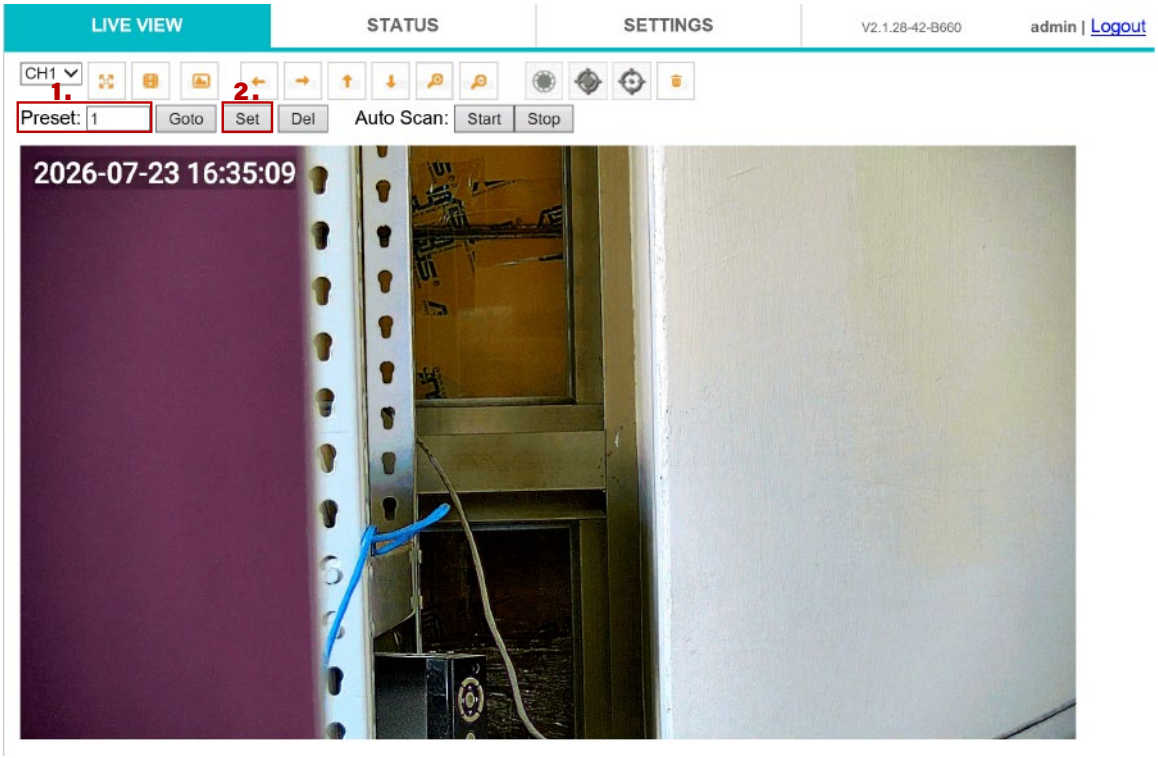
Del : Delete Preset

Auto Pan Start End : A-B Scan Start / Stop

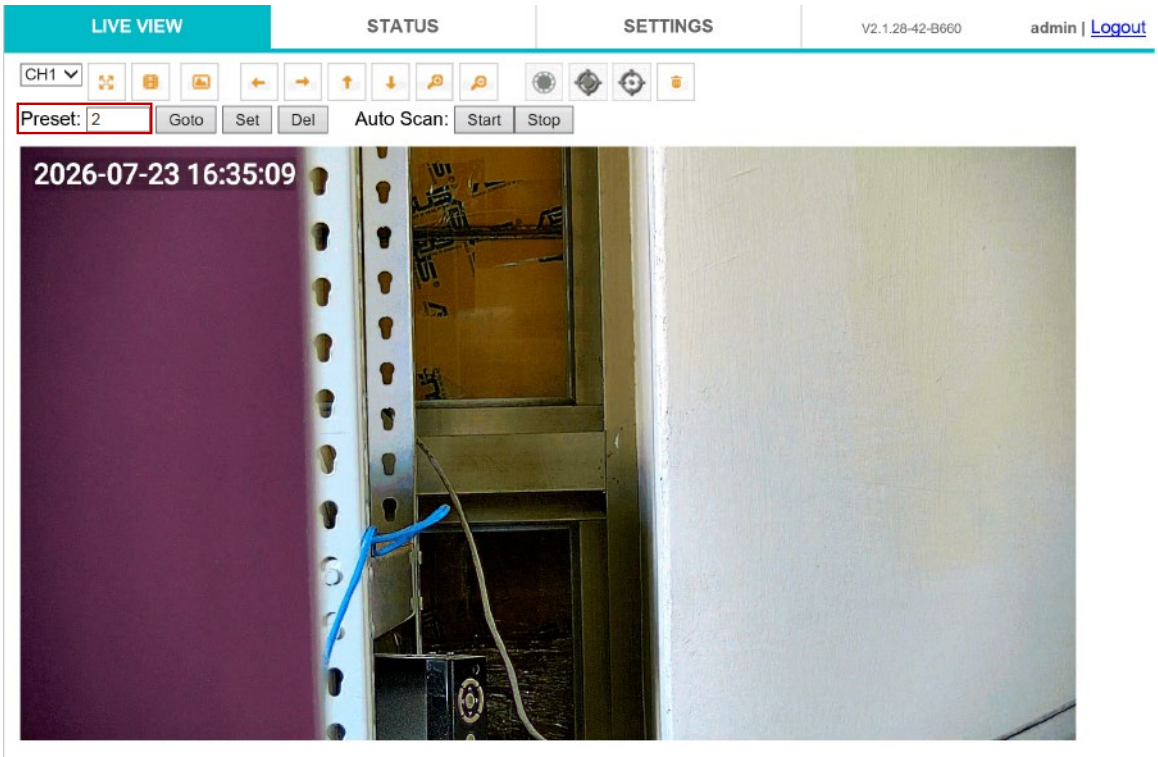
Auto Scan: Start Stop : Start Auto Cruise Tour

Cruise & Live View Path Settings

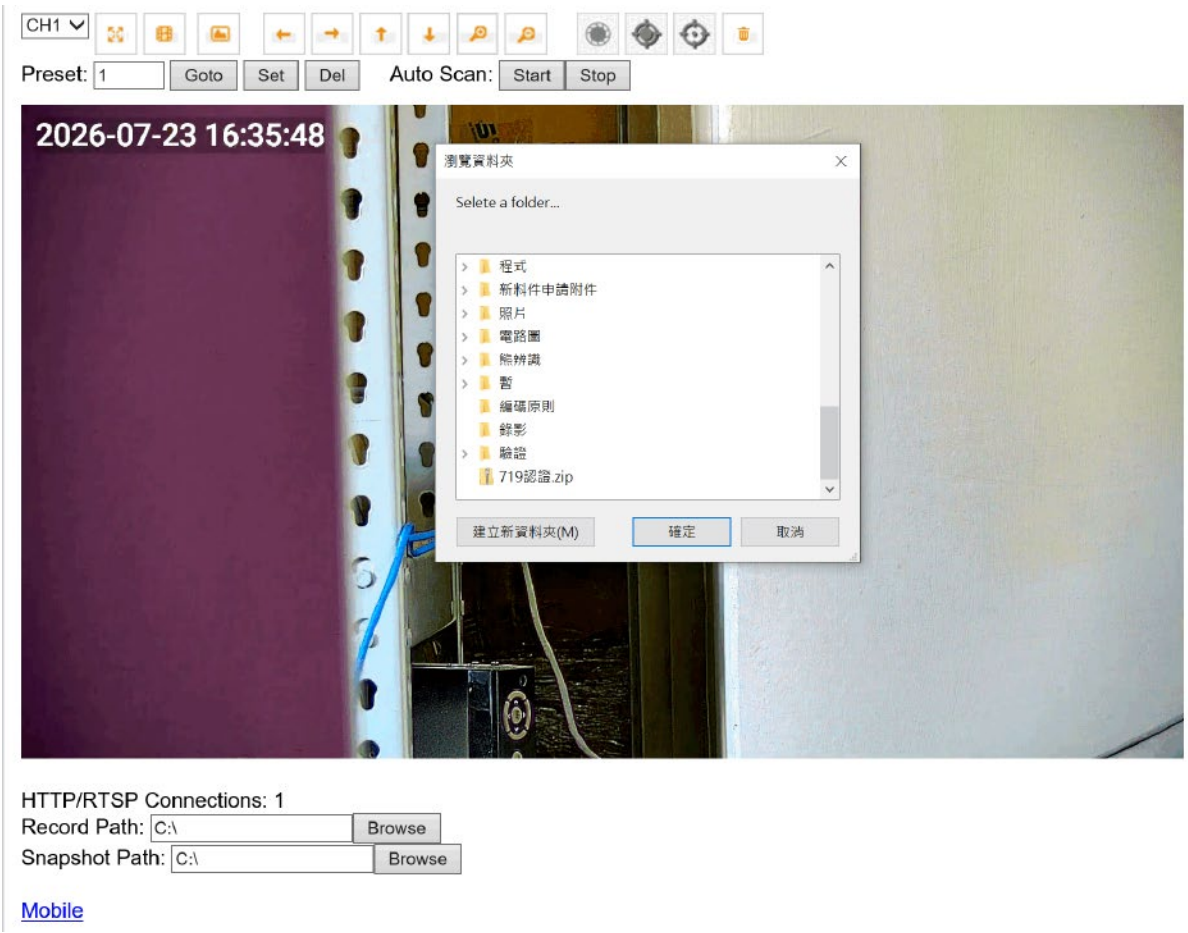
1. Position the camera to the desired Live View angle.
   As shown in the image below, select Preset: 1 , and click Set to save the position (supports up to 16 presets).



Repeat the above steps to configure additional presets. Once set, click Auto Scan: Start to initiate automatic scanning across all saved presets. To stop the tour, click Stop .



Live View Display & Path Configuration



1. Live video will display automatically once the ActiveX is installed.

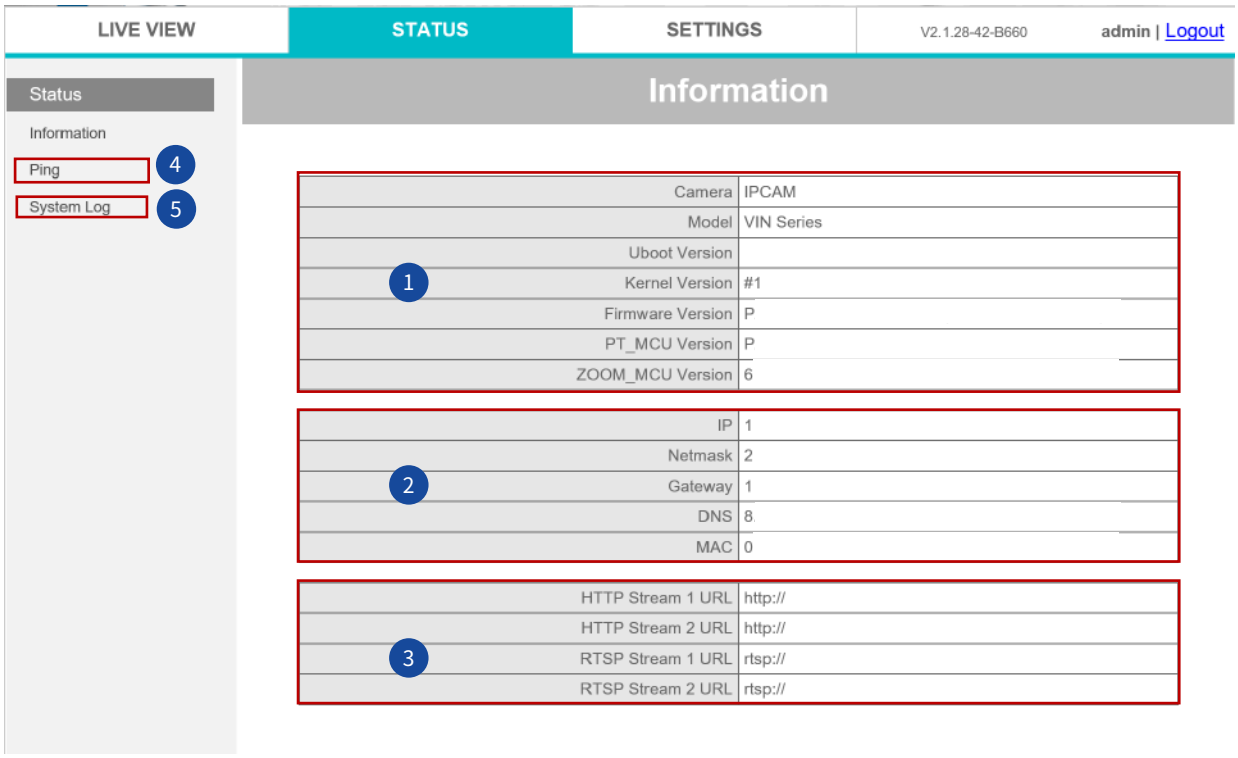
2. The bottom of the Live View pane displays active HTTP and RTSP connection counts, warning users if the maximum IP Camera connection limit is reached.

3. The directory paths for Instant Recording and Snapshot can be configured at the bottom of the Live View page.

   Record Path: C:\ Browse :Configures the destination directory for recorded video files. (Note: The web browser must be run with Administrator privileges).

   Snapshot Path: C:\ Browse :Configures the destination directory for captured snapshot images. (Note: The web browser must be run with Administrator privileges).

Status Page Overview



The Information page is divided into three sections: 【Firmware Versions】, 【Local IP Address】 and 【Network Protocols】

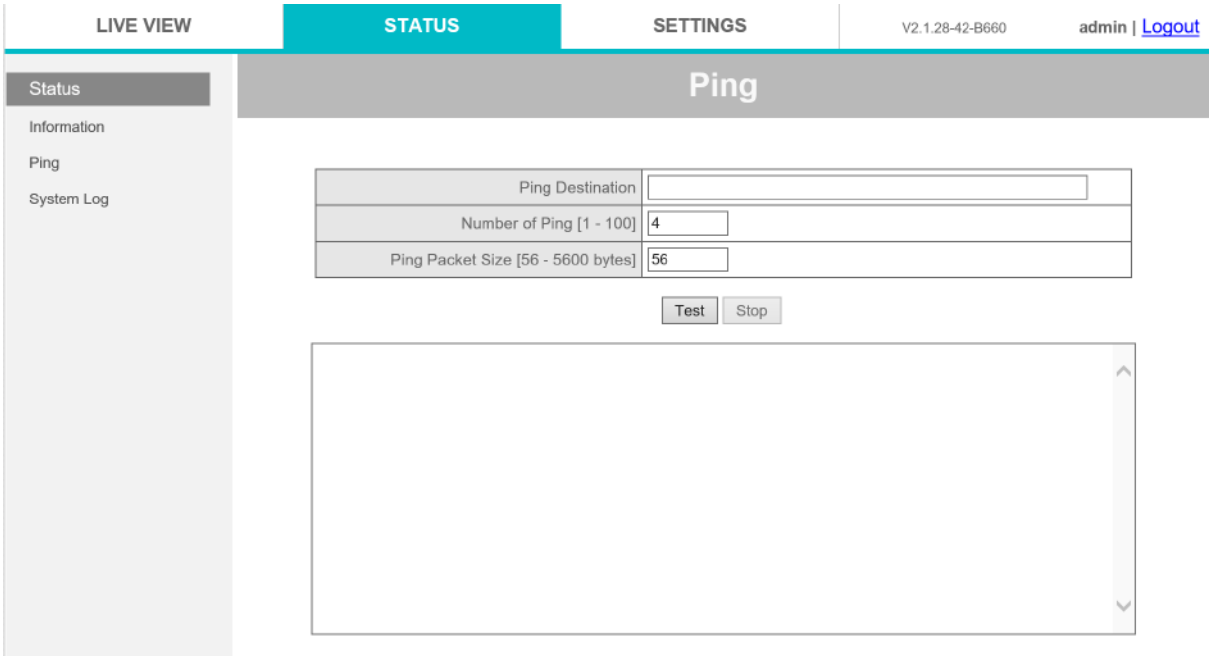
1. Firmware Versions displays key technical information concerning CPU and DDR operating frequencies, including:U-Boot Version (bootloader firmware)Kernel Version (core system firmware) Firmware Version (overall system firmware)

2. Local IP AddressShows the current IP address, gateway, and the device's MAC address.

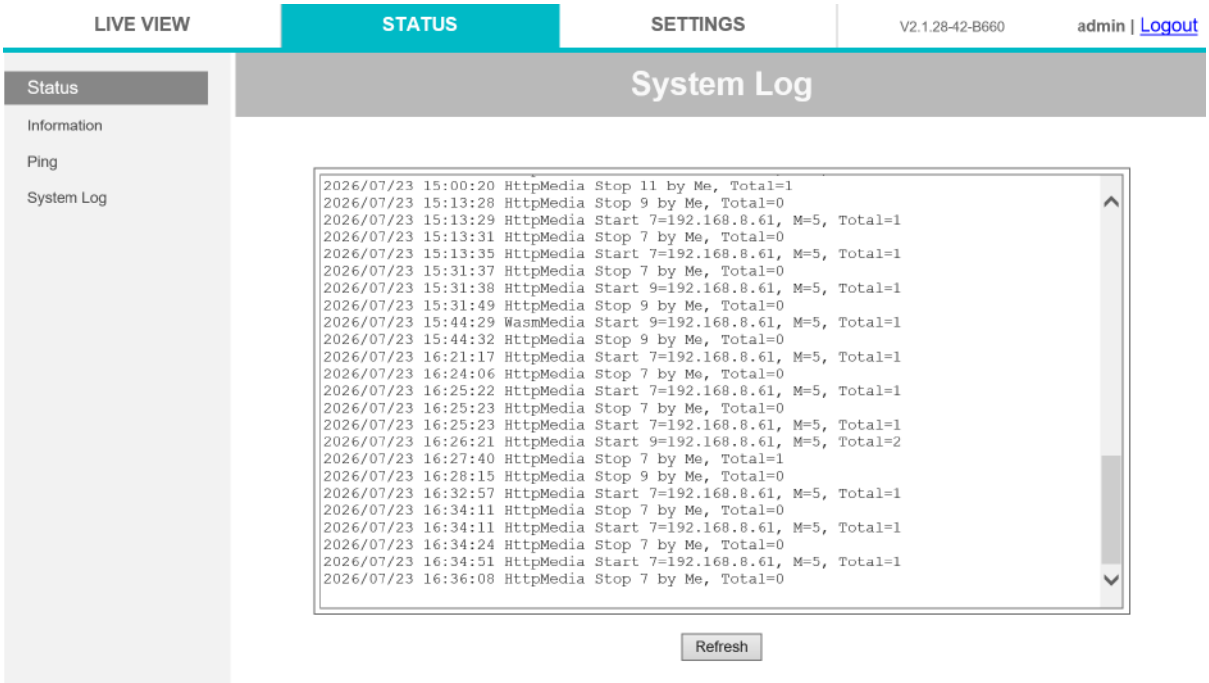
3. Network ProtocolsLists the enabled streaming protocols for both video and audio. These streams are compatible with media players that support network streaming.

4. Ping Tool (Left Panel)Allows the camera to send a ping to the connected host device to test whether the network connection is stable and functioning properly (see Picture 1).

5. System Log (Left Panel)Allows users to view system logs, which provide diagnostic information for the manufacturer's R&D team to determine whether the IP camera is operating normally (see Picture 2).



(Picture 1)



(Picture 2)

C. Settings Instructions

Image Settings



On the Image Settings page, you can configure and adjust image-related parameters for the selected camera. As shown in the diagram, the interface is divided into two main sections:
The upper section displays the camera's live view, along with settings related to stream resolution and bitrate values.
The lower section contains additional configuration options for the camera's output.
Each section and its functions are explained in the order listed below.

1. Camera Name: Modifies the camera's display name shown in search software or NVRs, helping users easily identify the camera's location.

2. Stream: Allows users to select the output stream standard, such as Main Stream (Stream1) or Sub-stream (Stream2).

3. Codec: Allows users to select the appropriate video compression format based on the chosen stream type.
The default codec options are optimized for performance based on the camera's hardware capabilities.
Options include: H.264 and H.265

4. Resolution: After selecting the stream type, users can configure the output resolution to match their specific usage and system compatibility needs.
Default resolutions are VGA (640x480), 720P(1280x720), and1080P(1920x1080)
Default resolutions for Sub Stream: CIF(352x240),NHD(640x360),VGA(640x480)

5. Framerate: This value sets the total number of P-frames and I-frames output by the camera per second. Measured in FPS (frames per second).
It is adjustable from 1 to 30 FPS. The default is 25 FPS. A higher number provides smoother video, while a lower number may result in choppier playback.

6. GOP: This setting controls the ratio of I-frames displayed per second. The calculation is FPSGOP = number of I-frames per second. This can help reduce frame stuttering in some NVR models that do not generate an I-frame per second.(Default value: 40)

7. Rate control: VBR (Variable Bit Rate) dynamically adjusts bitrate, or CBR (Constant Bit Rate) maintains a fixed bitrate, to optimize storage usage.
Default setting: VBR.

8. OSD Overlay Settings: Overlays Date, Time, and Custom Text directly onto the live feed and recorded video files using On-Screen Display (OSD), making it easy to identify the camera location and timestamp during playback.

   Allows users to easily identify the camera source and recording time during playback.

   Date: Supports three display formats: YYYY-MM-DD, MM-DD-YYYY, and DD-MM-YYYY.

   Time: In 24-hour or 12-hour display modes.

   Text Display: Supports custom text strings up to 32 bytes (equivalent to 16 Traditional/Simplified Chinese characters).
   Text can be placed in five positions across the screen: Top-Left, Bottom-Left, Top-Right, Bottom-Right, or Center (Top/Bottom).

   Offers 16 display colors to enhance visibility and distinction.

9. Mirror: Corrects image orientation when the camera is mounted upside down or at unusual angles.
   Available modes include Horizontal Mirror, Vertical Flip, and Horizontal + Vertical (180° Rotation).

Camera Settings

Camera	IPCAM

Lighting Condition



Scene Mode	◉ Normal ○ Starlight ○ Day ○ Night ○ Indoor
Brightness [0 - 200]	Day 100 Night 100
Contrast [0 - 200]	Day 100 Night 100
Saturation [0 - 200]	Day 100 Night 100
Sharpness [0 - 200]	Day 100 Night 100
Hue [0 - 360]	Day 0 Night 0
DNR [0 - 200]	Day 100 Night 100
BLC [0 - 4095]	R 256 Gr 256 Gb 256 B 256
Flicker Control	◉ 60 Hz ○ 50 Hz
Night Color	◉ OFF ○ ON
Auto Adjust ISP	◉ OFF ○ ON
Whitebalance	○ OFF ◉ ON
WDR	◉ OFF ○ Auto ○ Manual
Defog	◉ OFF ○ ON
Digital Image Stabilization	◉ OFF ○ ON

Exposure Settings

◉ Dynamic ○ Static

Day	Min. Shutter [1 - 100000]	1 / 100000 sec
	Max. Shutter [1 - 100000]	1 / 30 sec
	Min. Gain [0 - 8192]	1
	Max. Gain [0 - 8192]	4096
Night	Min. Shutter [1 - 100000]	1 / 100000 sec
	Max. Shutter [1 - 100000]	1 / 30 sec
	Min. Gain [0 - 8192]	1
	Max. Gain [0 - 8192]	4096

IR Setting

◉ Auto ○ Schedule

Light Sensor Detect	
IR Cut Confirm	☐

Privacy Mask

Enable	☐

Accept Reset Default

Within the Camera Settings page, users can adjust various image parameters related to brightness and contrast.As shown in the diagram above, the settings are divided into three main sections:
The top section contains camera settings related to image brightness and exposure;
the middle section is dedicated to shutter control settings, allowing precise adjustments of exposure time.
The bottom section includes additional camera functions for further customization.
Each section and its functions are explained in the order listed below.

1. Image Adjustment Parameters: Users can manually fine-tune the image quality of the IP camera using the following parameters: Brightness, Contrast, Saturation, and Sharpness.
   Each of the above values ranges from 0 to 200, tone setting ranges from 0 to 360.By default, all values are set to 100.
   These parameters can be adjusted to optimize the camera's image performance as needed.

2. Color Mode: This function allows users to set the camera's image mode depending on the lighting conditions or monitoring needs.

   Normal: The camera uses the light sensor on the IR board to automatically detect ambient lighting. Based on the detected conditions, the camera switches between day (color) and night (black and white) modes, while synchronously controlling the IR-cut filter.

   Day: Forces the camera to operate in day (color) mode.
   In this mode, signals from the IR board that trigger day/night switching are ignored. However, the IR LEDs may still activate based on the ambient lighting conditions.

   Night: Forces the video feed into black-and-white night mode and engages the IR cut filter, allowing infrared lights to provide non-visible illumination in low-light conditions.
   In this mode, day/night switching signals generated by the IR LED board are ignored, though the IR lights will still activate automatically based on ambient lighting.

3. Flicker Control: Fluorescent lighting operates at frequencies of 50Hz or 60Hz, depending on the regional power grid.
   If light flickering or rolling water ripples (banding) appear in the video feed, adjust this parameter to match the local grid frequency.
   While rare in digital imaging, multi-source lighting overlaps may cause this effect. Configuring this setting effectively suppresses flickering, rolling ripples, and light pulses on the monitoring screen.

4. White Balance: Enable or Disable.The default setting is Enabled.

5. Electronic Shutter: This section controls the shutter exposure time with options for Dynamic (Auto) and Fixed shutter modes.
In Dynamic Mode, the software automatically adjusts shutter speed based on ambient light to prevent overexposure. Dynamic Mode allows separate day and night configurations, where modifying min/max shutter values defines the auto-adjustment range.
In Fixed Mode, the shutter speed is locked to meet specific scene requirements. In Fixed Mode, higher denominator values reduce motion blur but decrease light intake, whereas slower shutter speeds allow more light intake.

6. DNR (Digital Noise Reduction): Low illumination is the primary cause of image noise. Enabling DNR applies noise-smoothing algorithms to eliminate snow and grainy artifacts in low-light environments.
For security surveillance under low-light conditions, noise reduction is a critical feature that enhances image clarity.

7. PTZ: PTZ stands for Pan, Tilt, and Zoom, allowing omnidirectional camera movement (left/right, up/down) and focal length adjustments. Settings include protocol switching between Pelco-P and Pelco-D, as well as baud rate and transmission speed configurations. These parameters must match the control keyboard to enable remote operation.

8. IR Settings (Custom Day/Night Switching): Configure infrared lighting and custom Day/Night mode switching parameters using the available options below.

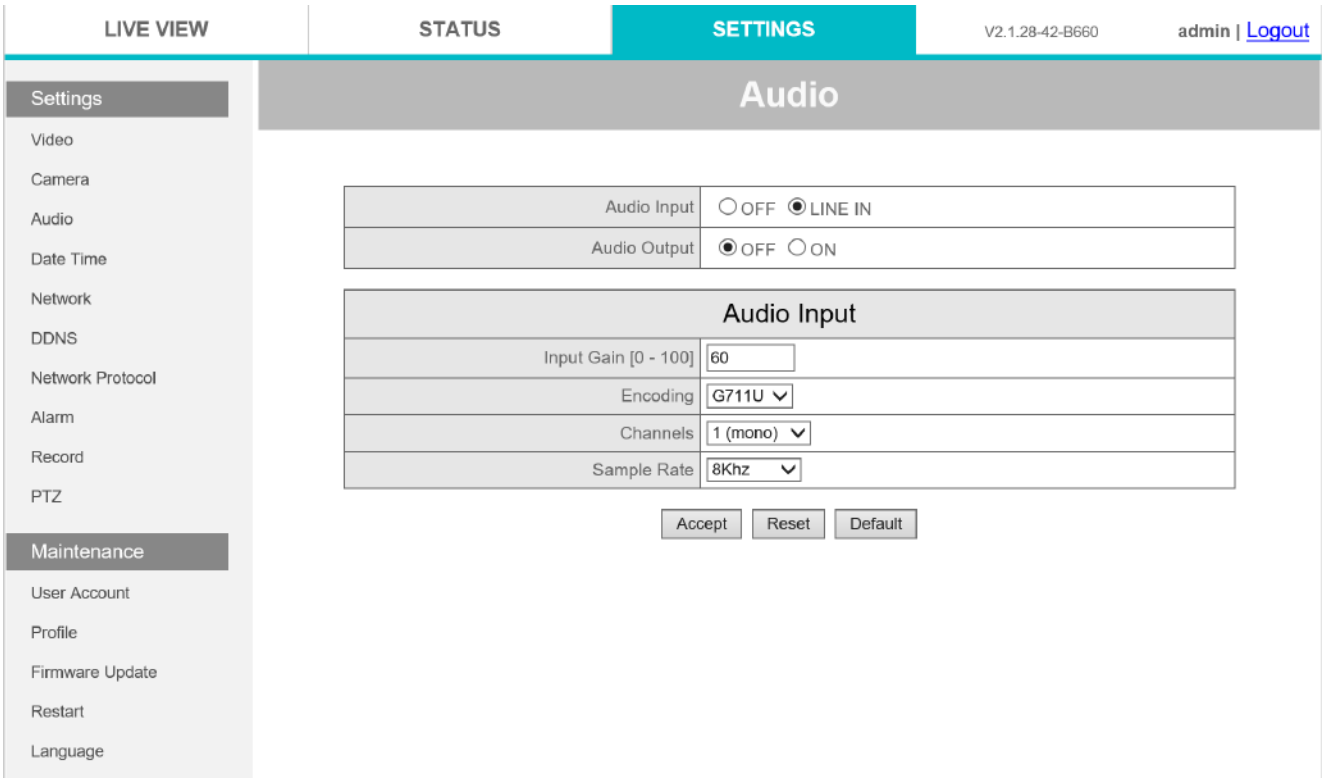
Light Sensor Detect
Uses an external light sensor to detect ambient brightness and determine whether to switch to day or night mode.Some models are equipped with a built-in digital light sensor, allowing users to manually input the lux threshold for switching.

Schedule Mode
Automatically switches between day and night modes based on a set schedule.

IR Cut Confirm
When enabled, this feature prompts the IP camera to verify the status of the IR-Cut filter every 5 minutes after startup, performing the check up to three consecutive times.

9. Privacy Mask: Allows users to draw solid-colored rectangular blocks over designated areas of the video feed using OSD overlays to protect personal privacy

Audio Settings



1. Audio Enable: Users can choose to enable or disable audio input and output.

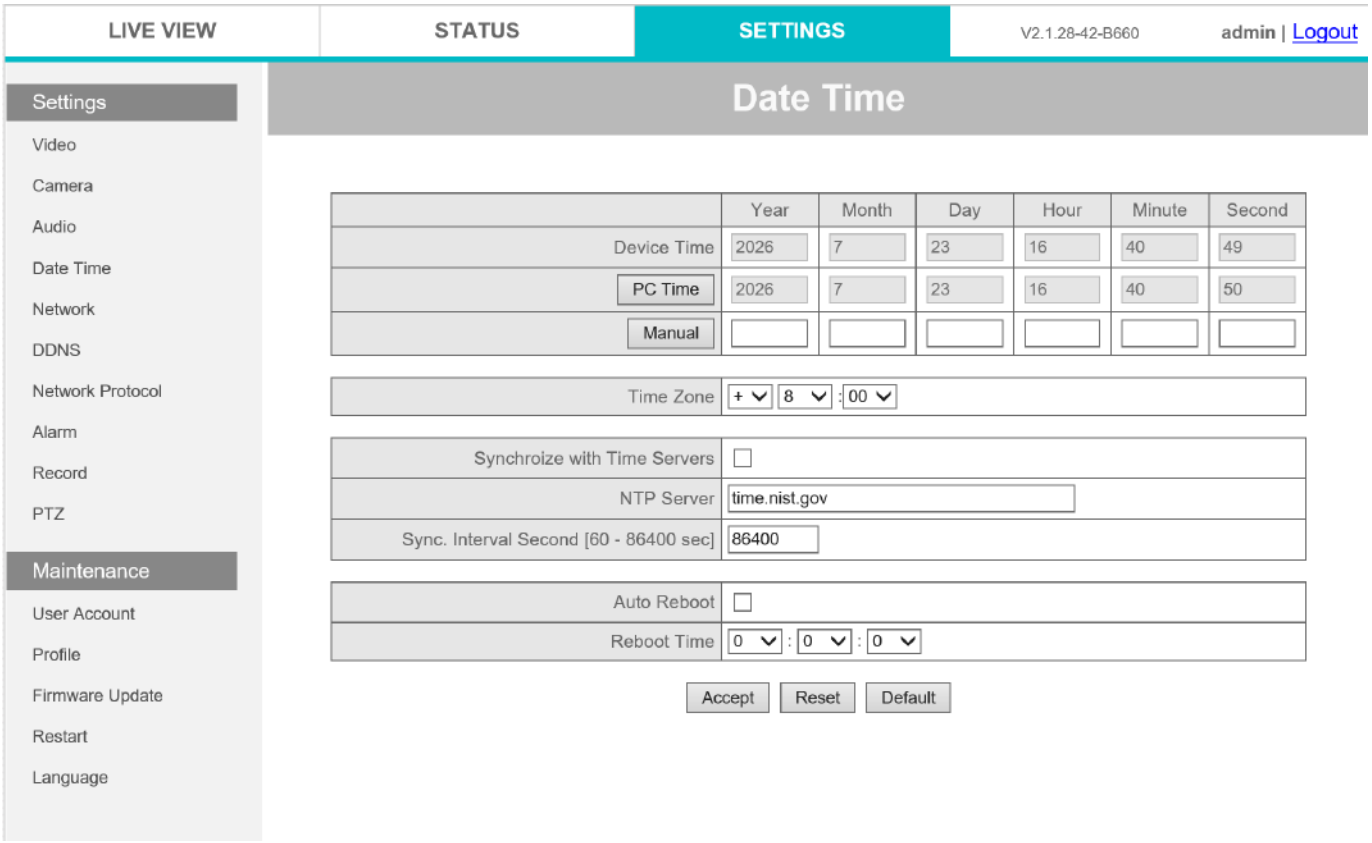
2. Input Gain (Volume Level): Configures the audio input volume within a range of 0 to 100.
   Excessive gain may introduce distortion or audio noise.
   If clipping occurs, lower the camera's input gain level and increase the sound source output volume to maintain audio stability.

3. Codec: The Audio Codeco supports G.711u, PCM, G.711a, and AAC compression formats.
   These options cover the vast majority of standard audio codecs, allowing seamless compatibility with various back-end recording requirements.

4. channel: Allows users to select between Mono (Channel 1) and Stereo (Channel 2).

5. Sample Rate: Defines the number of audio samples captured per second.
   Higher sampling rates provide finer waveform division, delivering higher fidelity audio that closely mimics the original sound source.

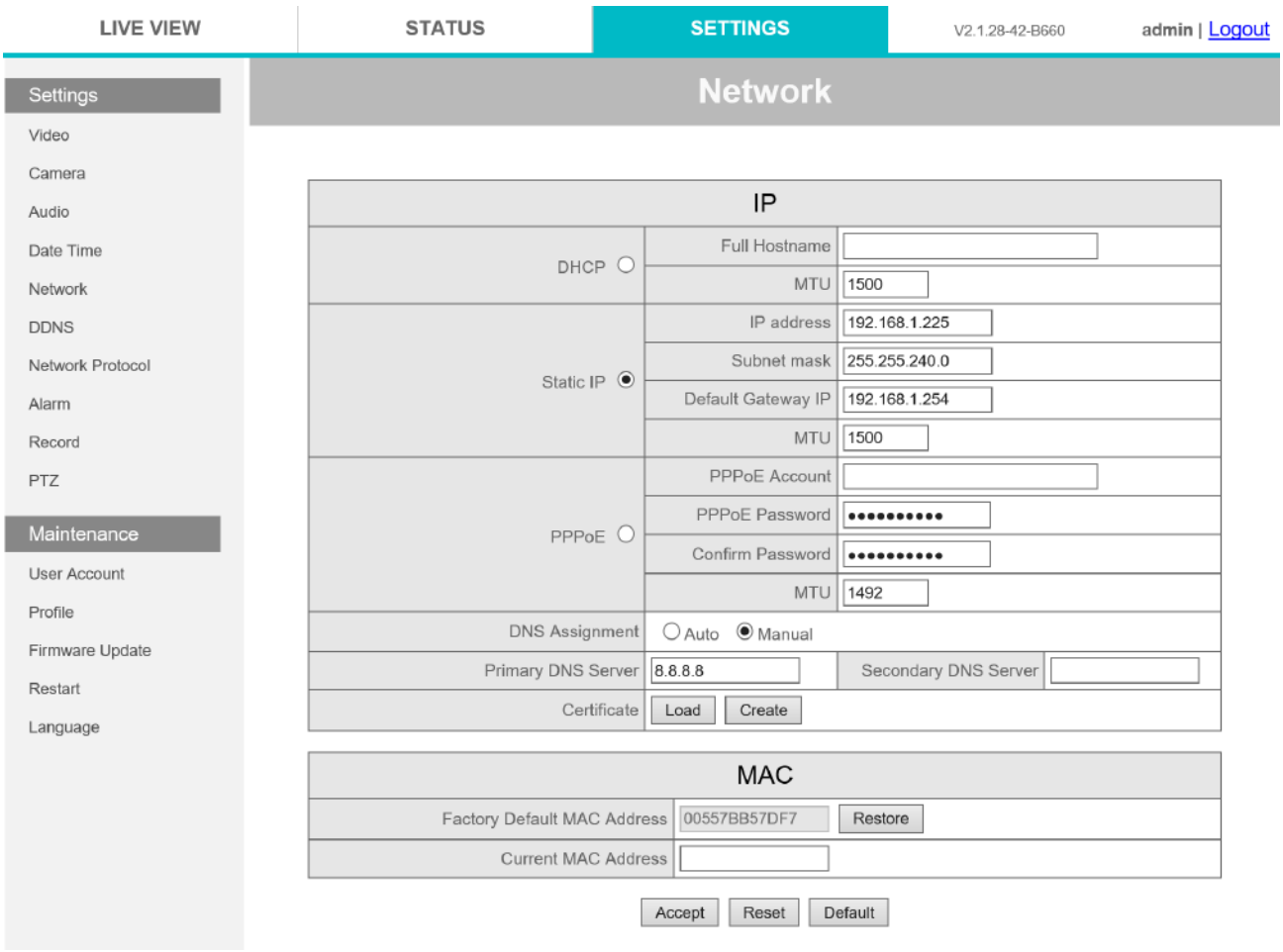
Date & Time Settings



1. Time Settings: Allows users to set the device time manually, synchronize it with the connected PC, or use SNTP (Simple Network Time Protocol) for automated clock synchronization. Note that SNTP requires an active internet connection or a local time server. The time zone parameter can also be configured to sync with local time.

2. Auto Reboot: Continuous network operation leads to accumulated network packets and buffer memory usage.
Enabling Auto Reboot automatically restarts the camera at a scheduled time (with a randomized offset of a few seconds) to flush accumulated data packets and ensure long-term operational stability.

Network Settings



Network Settings: Enables users to modify the camera's internal IP address directly through the browser interface.

This allows easy integration into specific local subnet configurations and supports multi-subnet deployment when paired with network switches to build versatile network topologies.

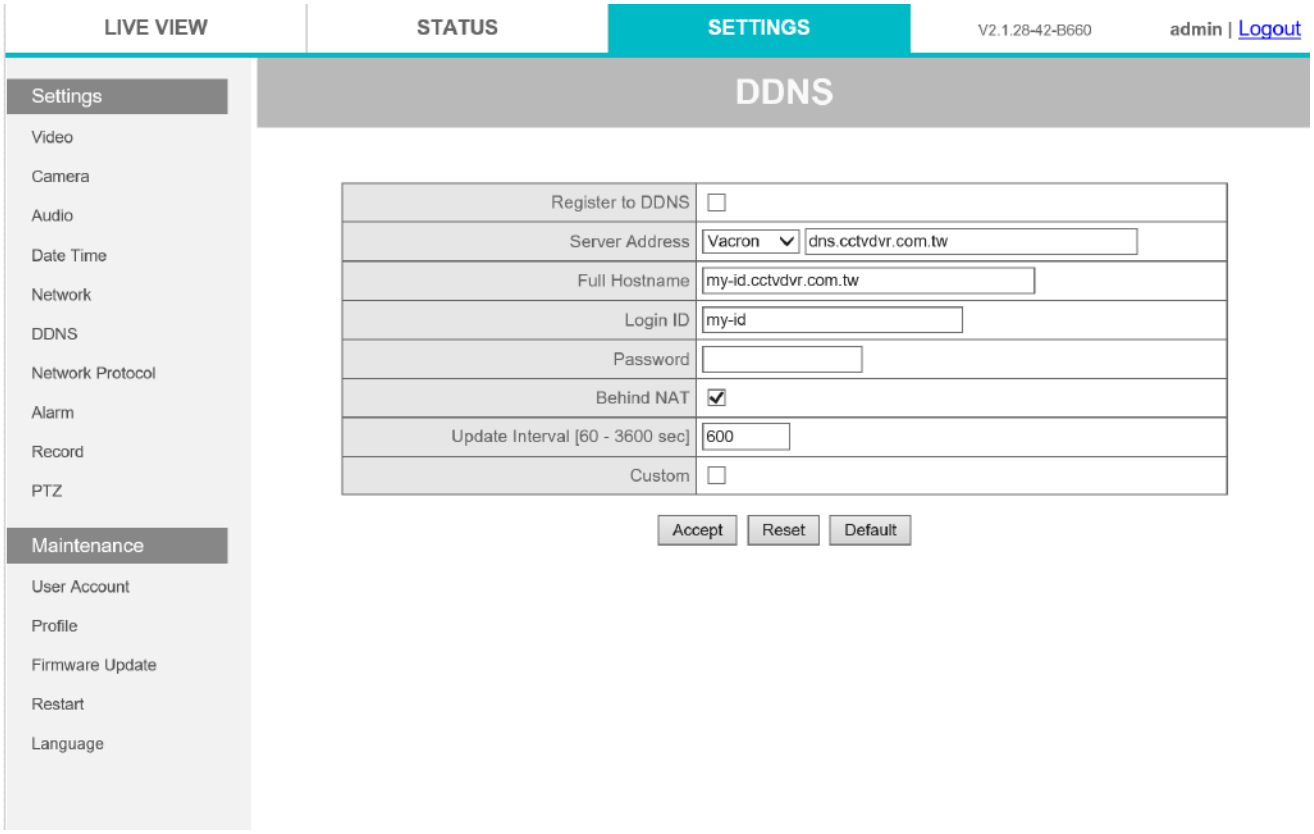
1. DHCP: The router automatically assigns an IP address to the camera via DHCP.

2. Static IP: Users can manually configure a IP address for the camera.

3. PPPoE: This function allows the camera to connect directly to the internet using a fixed IP account provided by an ADSL service.when remote access is required, it allows quick and direct external network connection.

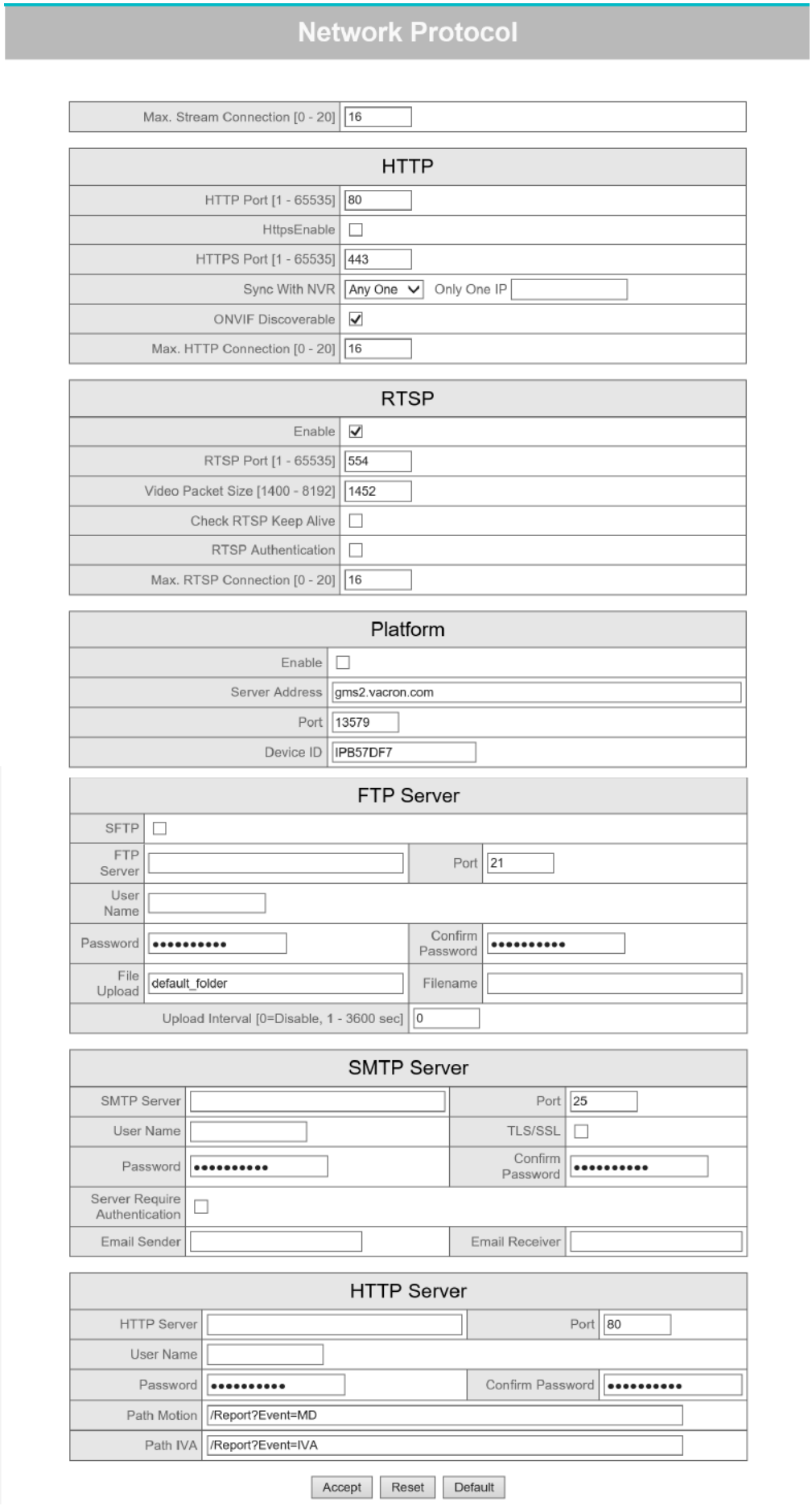
4. MAC: Displays the unique MAC address reserved for manufacturer identification, providing production batch and model information. When paired with our IPCam Searcher utility, this address allows users to identify connected IP cameras on the network even when devices remain on their default IP settings.

DDNS Configuration



1. DDNS Settings: DDNS (Dynamic Domain Name System) is a domain redirection service.
   After registering with a supported DDNS service provider
   (standard registration options can be requested through your sales representative),
   users can assign a unique host domain name to the camera.
   Remote users can then enter this domain name to automatically redirect to the
   registered IP address. The system currently integrates built-in support for DynDNS,
   NO-IP, and Vacron (free services).

Network Protocol Settings



1. Max Stream Connections: Limits the maximum number of concurrent stream connections to the camera, protecting system stability and preventing operational overload caused by excessive client requests. The parameter can be adjusted from 0 to 20.

2. HTTP: This section is used to configure HTTP-related network protocol.

HTTP Server Port: Allows users to modify the camera's network port. This enables specific port mapping for local network planning under a single IP or external port forwarding through network routers/switches.

Accept NVR Settings: Determines whether the camera accepts configuration command packets from connected backend systems or remote IP addresses. By default, Any Device is allowed to remotely control and adjust the camera settings.

ONVIF Discoverable: Toggles whether the camera responds to ONVIF discovery and command packets on the network. Enabled by default.

3. Platform: This function is for communication between the camera and a central management server. When connected to the internet, the camera can transmit video streams.
Note: This feature is only supported by models with independent network connectivity.

4. RTSP: This section is for configuring RTSP (Real-Time Streaming Protocol) parameters
.

RTSP Server Port: Specifies the RTSP streaming port, with the default ONVIF protocol channel set to 554.
Users can modify this port number to resolve port conflicts or integrate with third-party systems using custom network protocols.

Check RTSP Connection: When enabled, the camera periodically monitors the status of RTSP connections and records the data in the system log for troubleshooting and connection tracking.

5. FTP Settings: FTP operates on a client-server architecture. To use this feature, an FTP server must first be hosted on the master side. Once the camera (client) is configured with the FTP server address, snapshot images of the live feed can be automatically uploaded to the server for backup. Users can specify the time interval (in seconds) in the Upload Interval field to enable continuous periodic snapshot monitoring, which can also be post-processed to create time-lapse videos.

6. Email Settings: Configures email notifications for system events.
Once configured, the camera can automatically send alert notifications and alarm-triggered snapshots directly to the specified email address.

Alarm Settings

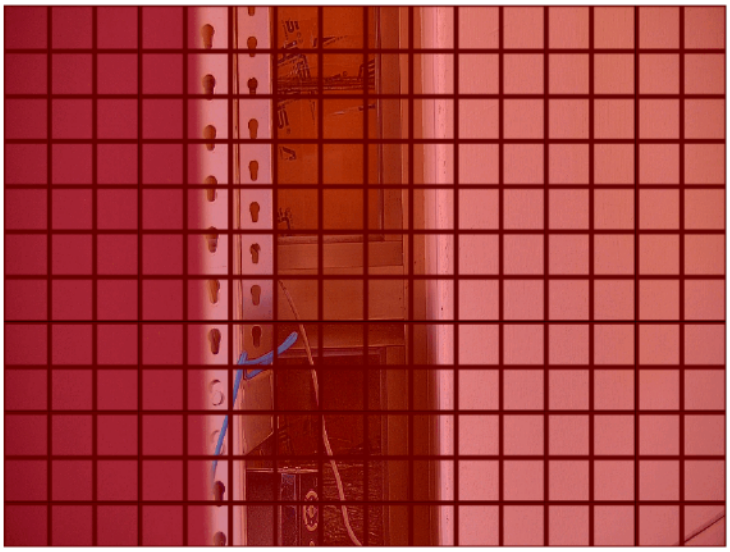
Alarm

#	Enable	Schedule	From	To
1	☐	Everyday	0 : 0	0 : 0
2	☐	Everyday	0 : 0	0 : 0
3	☐	Everyday	0 : 0	0 : 0
4	☐	Everyday	0 : 0	0 : 0
5	☐	Everyday	0 : 0	0 : 0
6	☐	Everyday	0 : 0	0 : 0
7	☐	Everyday	0 : 0	0 : 0
8	☐	Everyday	0 : 0	0 : 0

Motion Detection	Ethernet Lost	Tamper Detection

Motion Detection

Enable Alarm	◉ OFF ○ Continuous ○ Single
Alarm Duration [0 - 60 Minute]	0 Minute 30 Second
Sensitivity [0 - 100]	○ Low ◉ MEDIUM ○ HIGH ○ 50



Select All | Clear All

Interlocking setting

Upload Via FTP	☐
Upload Via SMTP	☐
Report Via HTTP	☐

Accept | Reset | Default

1. Schedule Settings: Allows users to configure time-based alarm detection according to location requirements or work hours.
During unscheduled hours, the system automatically disables alarm detection.
Schedules can be customized by day of the week and specific time slots.

2. Motion Detection: Once enabled, a camera snapshot with a 12x16 grid overlay appears below.
Selected detection areas are highlighted in red. When motion or visual changes occur within designated zones, alarm signals are transmitted to the camera or integrated backend system.
Paired with motion-triggered recording, this feature facilitates quick incident searches and significantly optimizes storage space.
Sensitivity levels can be adjusted to suit different environments, or users can enter precise numerical values ranging from 0 to 100 for fine-tuned alarm thresholding.

3. Alarm Duration: Once alarm triggers and detection areas are configured, users can customize the alarm duration based on site requirements.
The duration ranges from 2 seconds to 10 minutes of continuous alarm output.
Paired with on-screen visual alerts, this provides effective warning coverage.

4. Obstruction Detection: Enables camera occlusion alerts.
If the camera lens is deliberately blocked or covered
(e.g., spray-painted or obstructed), the alarm will trigger.
Sensitivity can be adjusted (High, Medium, Low) to prevent false alarms.

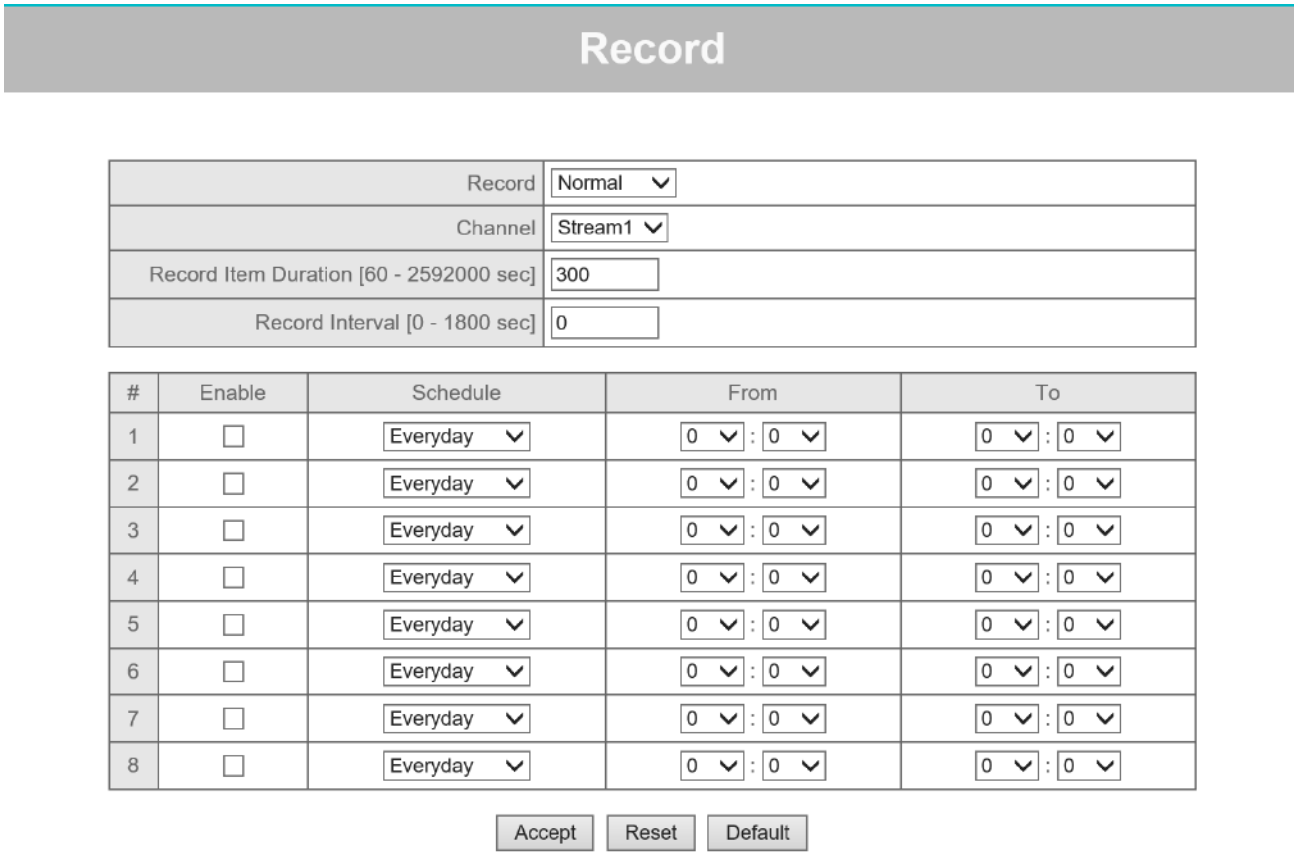
5. Network Disconnection: Detects network failures.
When integrated with a back-end NVR or management platform, real-time alerts are displayed on the host system.
It can also trigger FTP upload or Email notifications (if configured below) to notify administrators.

6. External Trigger: When enabled on models equipped with Alarm I/O terminals or external wiring interfaces, this feature allows direct connection to external sensors or detectors.
Rather than relying on video motion detection, external input signals trigger camera alarms and subsequent actions.
Available input/output ports vary by camera model, and users can select High or Low active voltage triggers based on requirements.

7. Send to FTP: Requires valid FTP server parameters configured under Network Settings.

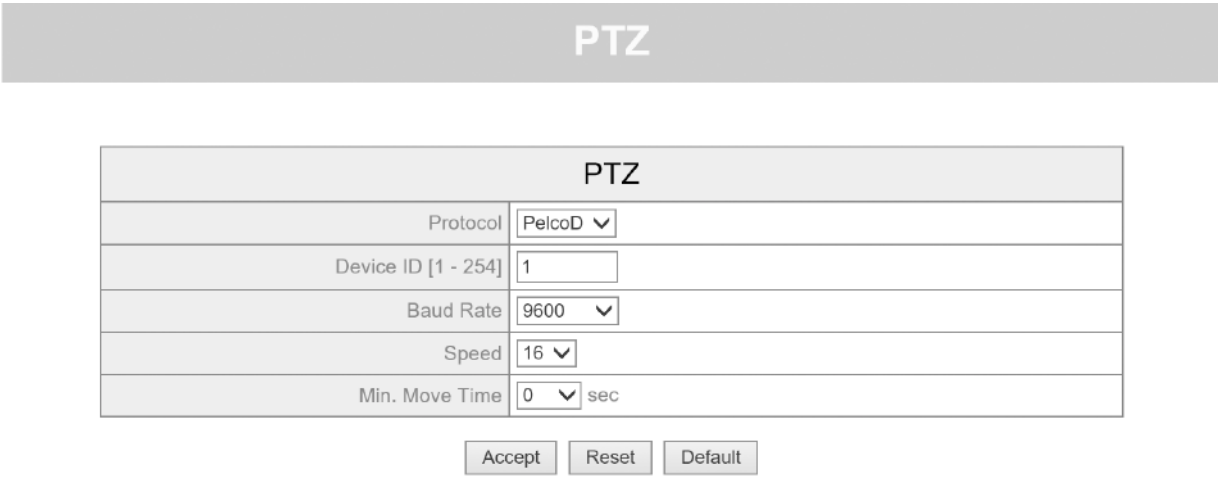
8. Send Email: Requires valid Mail server parameters configured under Network Settings.

Rcord Settings



1. Recording Schedule: Schedule loop recording to the built-in micro SD card by day and time.
   Once the start and end times are configured, the camera performs continuous loop recording to the internal memory card.
   To prevent data corruption during unexpected power outages and protect video integrity, recorded files are saved to a hidden storage partition.
   Cards removed from the camera must be accessed and backed up using our proprietary media player, ensuring privacy and preventing unauthorized leakage of surveillance footage.

PTZ Settings



1. Protocol: Select the PTZ communication protocol: Pelco-P or Pelco-D.

2. Device ID: Set the PTZ address ID for the device (supports values from 1 to 254).

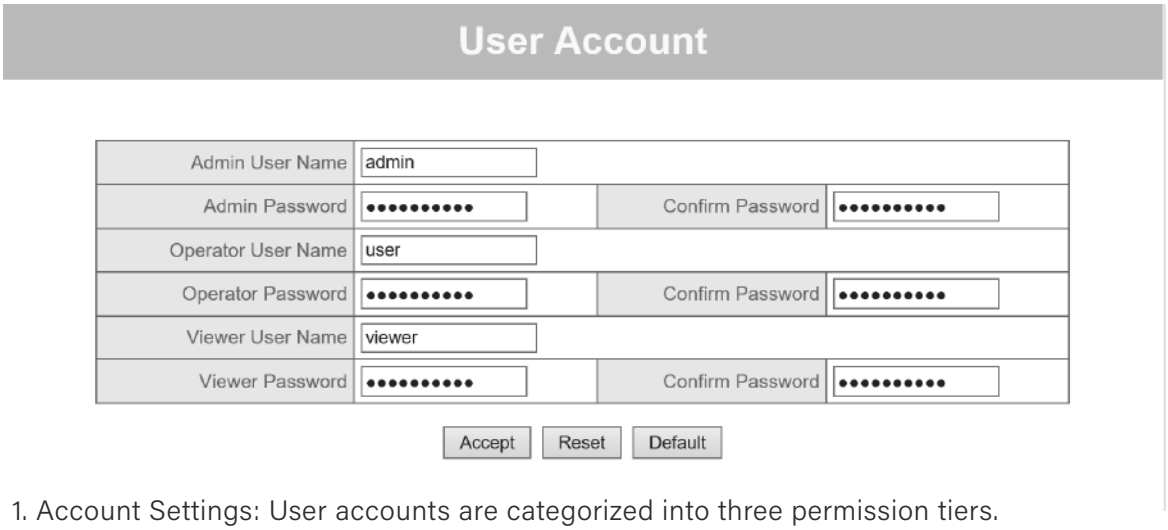
3. Select the serial communication speed for PTZ control.
   Available options are 2400, 4800, 9600, 19200, and 115200 bps.

4. Speed: Movement speed level from 0 to 23.

5. Min Move Duration: Set the minimum movement duration from 0 to 1 second

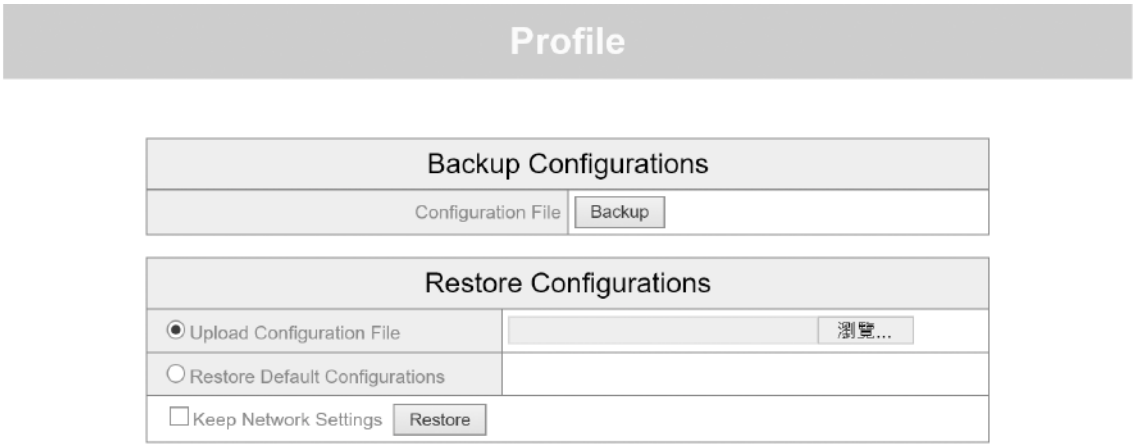
D. Maintenance Information

User Account Information



1. Account Settings: User accounts are categorized into three permission tiers.
   The highest rank allows full access to all features and system operations in the Web/IE interface；The second allows Access to most operational features, except account management settings；The last only allows viewing only.

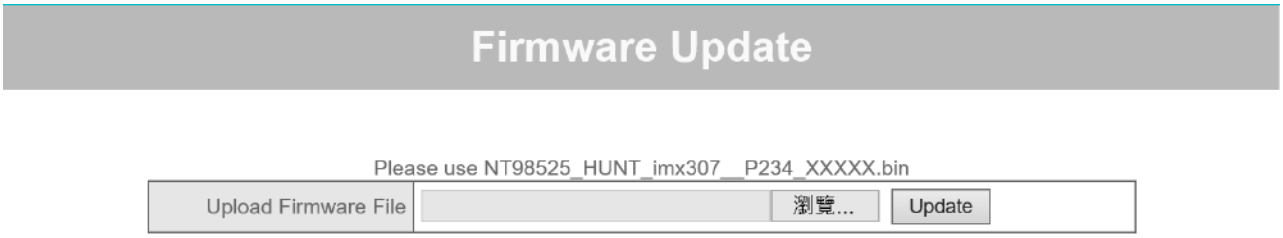
Configuration Files



1. Backup Settings: Allows users to export the camera's current configuration parameters as a Profil.bin file.
   This configuration file can be used to quickly clone settings across multiple cameras for large-scale deployments.
   It can also be sent to R&D for issue simulation and troubleshooting.

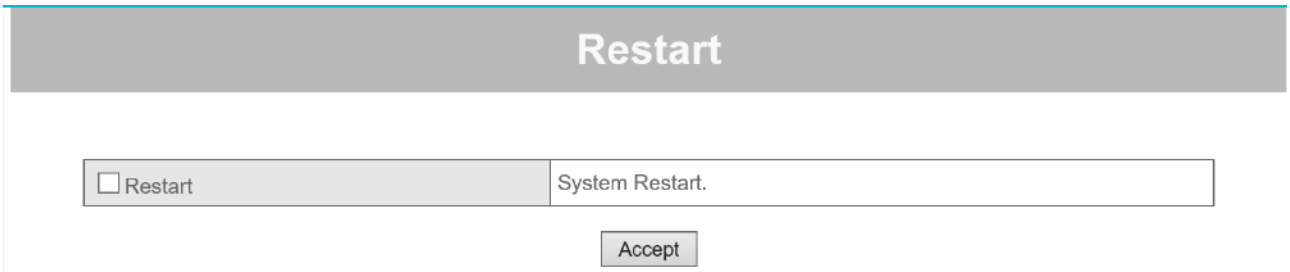
2. Restore Factory Defaults: Restores system parameters to their optimal default settings.
   Recommended after upgrading to a new Firmware Version to ensure proper integration of updated features.
   Users can check Keep Network Settings to preserve the current IP address and network configuration during the reset process.

Firmware Update



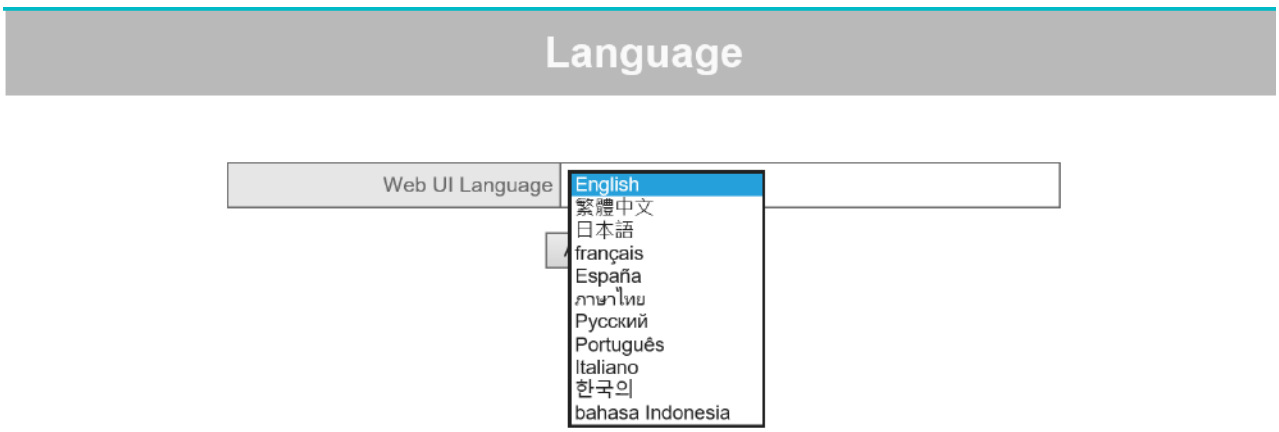
Firmware Upgrade: Firmware updates for supported models are regularly released on the official website. Users can upload the latest Firmware Version file on this page to update the device.

Reboot



Reboot: Restarts the camera system. After clicking Reboot, please wait approximately 50 seconds for the system to restart completely.

Language Settings



Language Settings: Allows users to select their preferred language for an intuitive user interface. The system natively supports 12 default languages (English, Traditional Chinese, Simplified Chinese, French, Japanese, Spanish, Hindi, Russian, Portuguese, Italian, Korean, and Indonesian). Additional custom languages can be integrated upon request to meet overseas export and localization requirements.

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