Navijin

USER MANUAL

NAVIJIN IP CAMERAS

# IP Camera User Manual

Install, secure and configure a Navijin IP camera from its web interface: live view and PTZ, playback, image and encoding, smart detection with alarm linkage, network services, users, storage and maintenance.

First sign-in · Live view & PTZ · Playback · Image & encoding · Smart detection · Alarms · Network · Maintenance


Applies to
**Navijin IP cameras with the built-in web interface (fixed, bullet, dome and PTZ models)**

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ABOUT THIS GUIDE

# About this manual

Every Navijin IP camera has a built-in web interface for live view, recording playback and full configuration. This manual walks through each page in the order you normally use it: first sign-in and security, live view, playback, then every configuration page. Features that depend on hardware (PTZ, audio, alarm I/O, fill light, microSD storage) appear only on models that have them. With a **microSD (TF) card** installed the camera shows the full interface, including playback and recording; without one it shows a simplified interface.

Conventions: menu paths are shown in **bold** (for example **Network** → **VLAN**); commands and values in `monospace`. Screenshots may differ slightly by firmware version.

### Who this guide is for

- Installers commissioning cameras on site
- Security and IT administrators maintaining a CCTV system
- Integrators connecting cameras to a Navijin NVR or a video platform

### What you need

- A Navijin IP camera, powered by PoE or its 12 V adapter
- A computer on the same network with Chrome or Firefox
- Optional: a microSD card for on-camera recording
- Your plan: camera IP address, name, recording mode and alarm contacts

## Factory defaults

| Setting | Default |
|---|---|
| IP address | `192.168.1.188` |
| Web interface | `http://192.168.1.188` |
| User name | `admin` |
| Password | `123456` (change it at first sign-in) |
| Interface languages | English, Simplified Chinese, Traditional Chinese |
| Multicast | Disabled |

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SECTION 01

# Before you start

Ten minutes of preparation makes every camera installation faster and safer.

### 1 Connect the camera

Connect the camera to a PoE switch port, or to a normal switch port plus its 12 V adapter. Wait about one minute for it to start.

### 2 Put your computer in the same subnet

The camera starts on `192.168.1.188`. Give your computer an address such as `192.168.1.10/24` so it can reach the camera.

### 3 Insert a microSD card (optional)

Insert the card before power-up if you want recording, playback and snapshot storage on the camera itself.

> **TIP**
> Commission one camera at a time and change its IP address before connecting the next one. All new cameras share `192.168.1.188`, so two new cameras on the same network conflict.

| Plan item | Example |
|---|---|
| Camera name | LOBBY-ENTRANCE-01 |
| IP address / mask / gateway | 10.30.0.21 / 255.255.255.0 / 10.30.0.1 |
| VLAN | CCTV VLAN 30 |
| Recording | On the NVR, plus on-camera microSD as backup |
| Alarms | Motion and human detection, email to the security desk |

SECTION 02

# Sign in and secure the camera

Sign in, then change the default password before anything else.

### 1 Open the web interface

In Chrome or Firefox, open `http://192.168.1.188`.

## 2 Sign in

Enter user name `admin` and password `123456`, choose the language and click **Login**. The sun and moon icons switch between the light and dark interface.

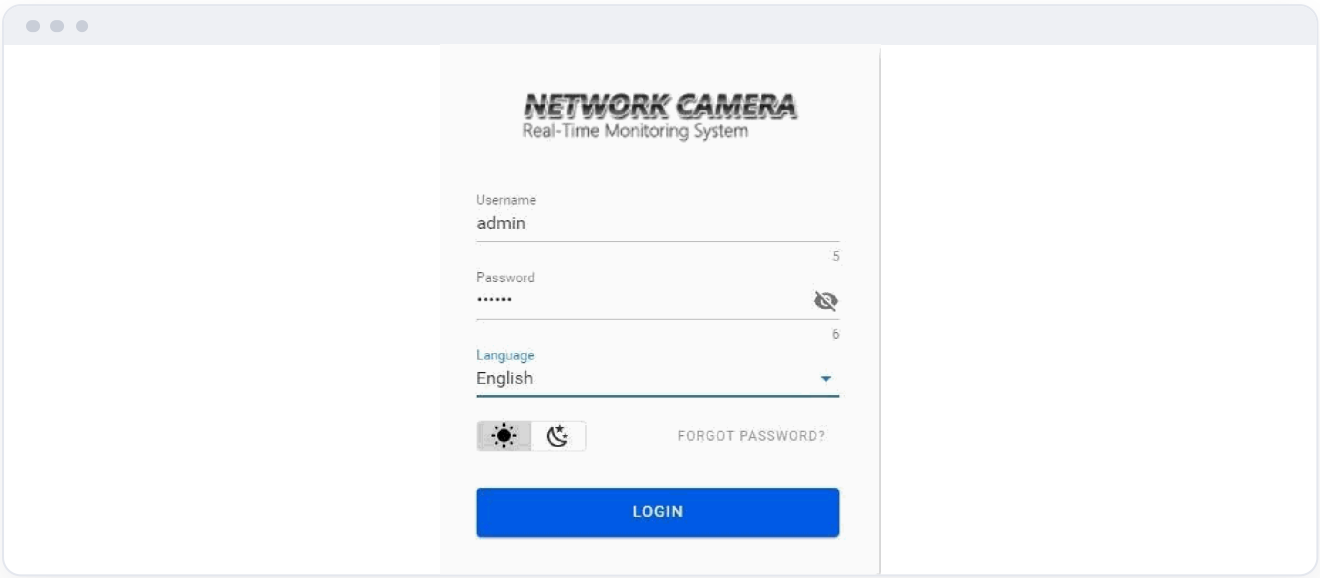



**Figure 1.** Sign-in page with language selection, light/dark theme and Forgot password.

## 3 Change the administrator password

Go to **Parameter configuration › User Settings**, select `admin`, click **Modify** and set a strong password of at least 12 characters.

> **IMPORTANT**
> Never leave a camera on the default password, even on an isolated network. Default credentials are the most common way cameras are taken over.

> **NOTE**
> **Forgot password** on the sign-in page starts a reset wizard. Keep the new password in your site documentation so the reset is rarely needed.

SECTION 03

# Live view

The live view opens after sign-in. It shows the image, the PTZ panel (PTZ models) and quick controls.

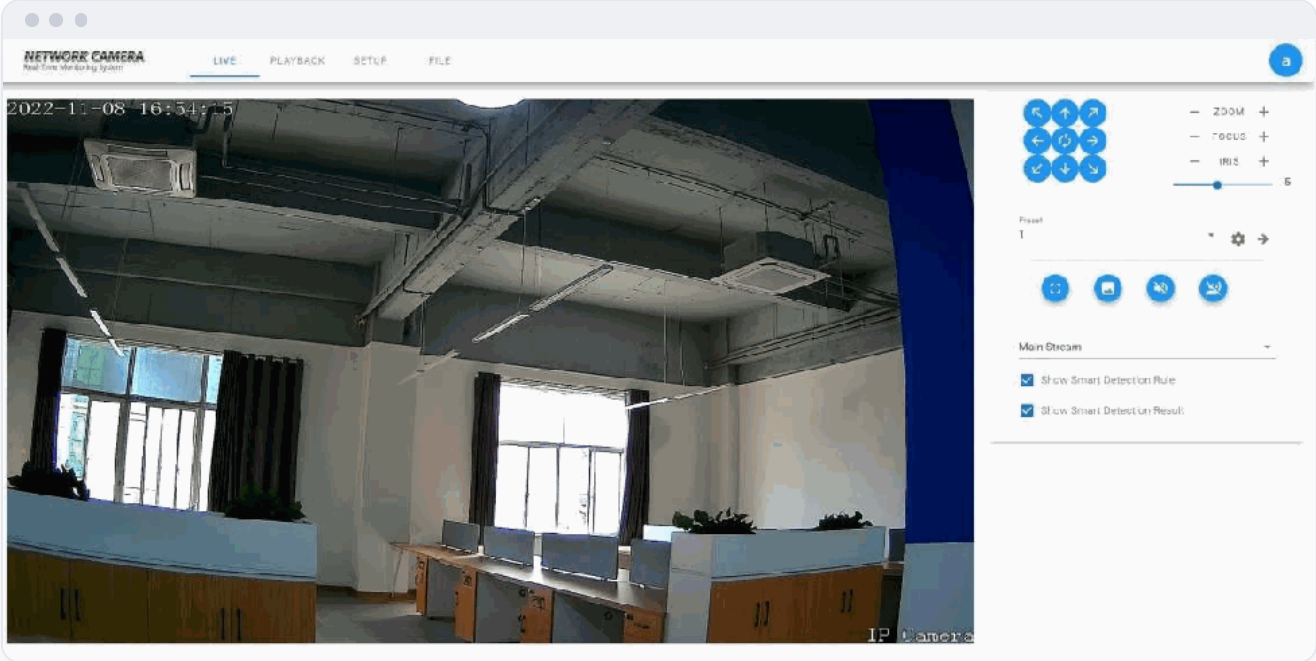



**Figure 2.** Live view with the PTZ panel and quick controls on the right.

| Control | What it does |
|---|---|
| Full screen | Shows the image full screen. Press **Esc** to exit |
| Capture | Takes a snapshot and asks where to save it |
| Sound | Turns live audio on or off (models with audio) |
| Talk | Turns two-way voice intercom on or off (models with speaker) |
| Stream | Switches between **Main Stream** (full quality) and **Sub Stream** (lower bandwidth) |

**TIP**

Use **Sub Stream** when you watch over a slow link or on several screens at once. Recording quality is not affected.

SECTION 04

# PTZ control and presets

On PTZ models, the panel moves the camera, adjusts the lens and stores positions as presets.

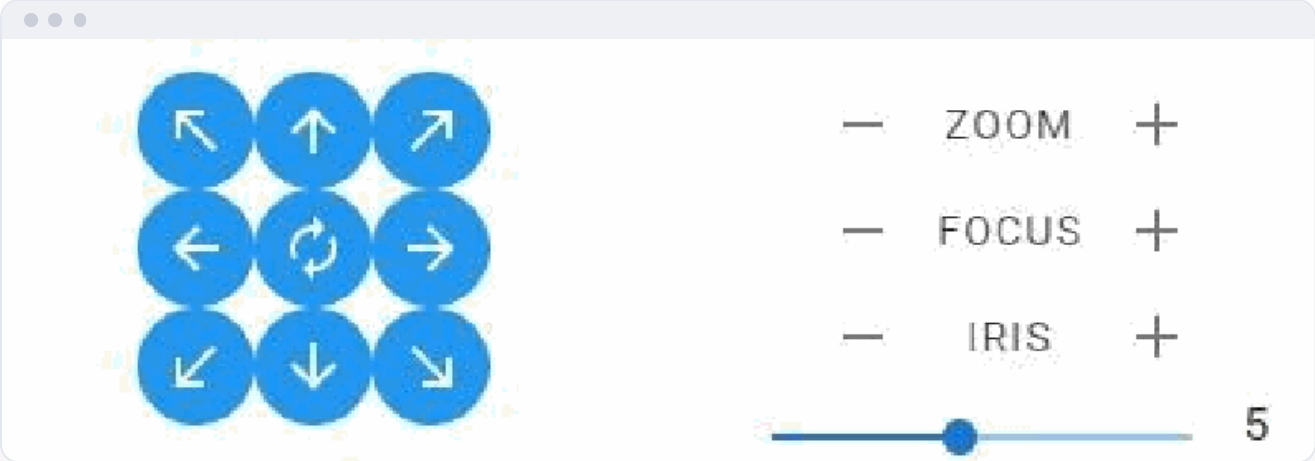



**Figure 3.** PTZ panel: eight direction keys with auto-rotation in the centre, zoom, focus, iris and speed.

| Control | Use |
|---|---|
| Direction keys | Pan and tilt in eight directions. The centre key starts automatic rotation |
| Zoom – / + | Zoom out or in |
| Focus – / + | Adjust focus manually |
| Iris – / + | Open or close the iris |
| Speed slider | Set how fast the camera moves |

### 1 Save a preset

Move the camera to the position you want, select a number in the **Preset** list and click the settings (gear) button.

### 2 Call a preset

Select the preset number and click the call (arrow) button. The camera returns to the stored position.

> **TIP**
> Give preset 1 the most important view (for example the main entrance). Many video platforms return PTZ cameras to preset 1 after an operator finishes.

SECTION 05

## Smart detection overlay

Show the detection rules and results on the live image to check that smart detection is set up correctly.

- **Show Smart Detection Rule** draws the configured detection areas on the image.
- **Show Smart Detection Result** shows what the camera detects, with the statistics it collects.

> **NOTE**
>
> The overlay only changes what you see in the browser. It does not change detection or recording.

SECTION 06

# Playback

Search and play recordings stored on the camera's microSD card.

### 1 Open playback

Click **Video Playback** in the top menu.

### 2 Search

Select the date in the calendar and click **Search**. Recordings appear on the timeline, coloured by type.

### 3 Play

Double-click a point on the timeline, or click **Play**.

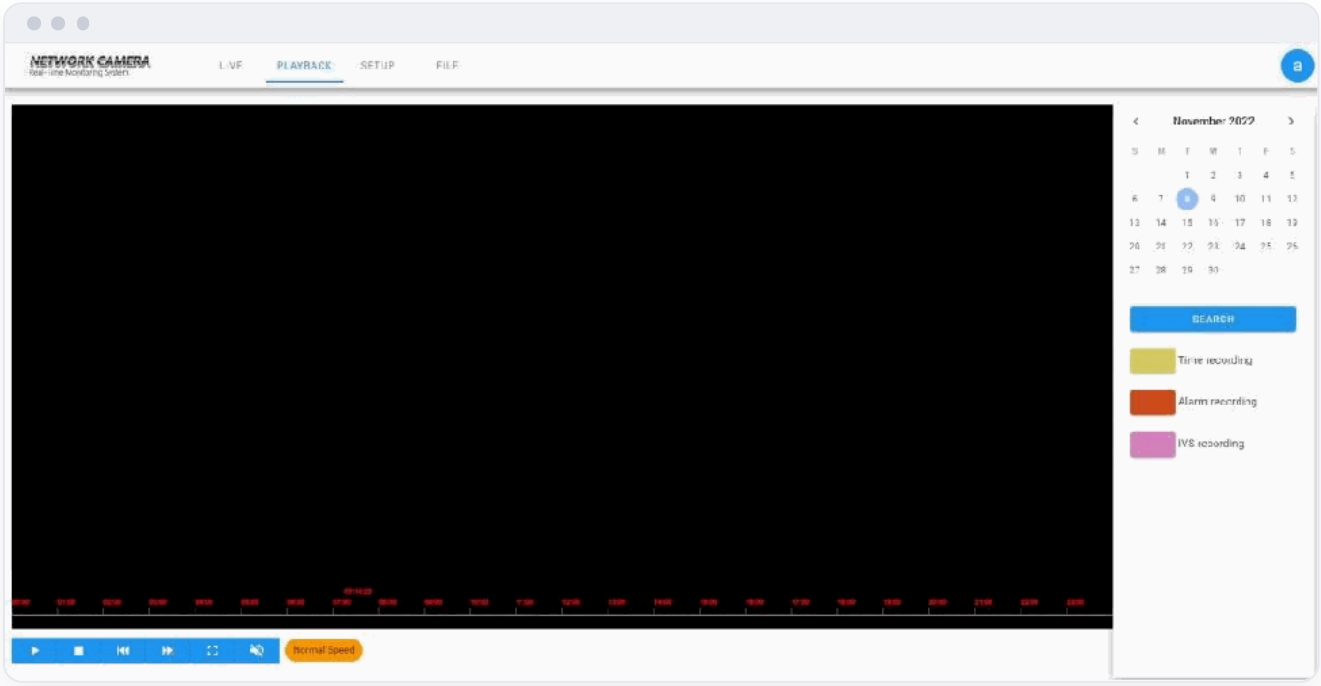



Figure 4. Playback page with calendar, recording types and timeline.

| Control | Effect |
|---|---|
| Play / Stop | Start or stop playback |
| Slow | 1/2, 1/4, 1/8 or 1/16 speed |
| Fast | 2×, 4×, 8× or 16× speed |
| Full screen | Play full screen |

| | |
|---|---|
| Sound | Turn recorded audio on or off |

> **NOTE**
> Playback requires a microSD card. When the camera records to a Navijin NVR, use the NVR for long-term playback and export.

SECTION 07

# System settings

Open **Parameter configuration** to reach all settings. Start with the identity, time and audio of the camera.

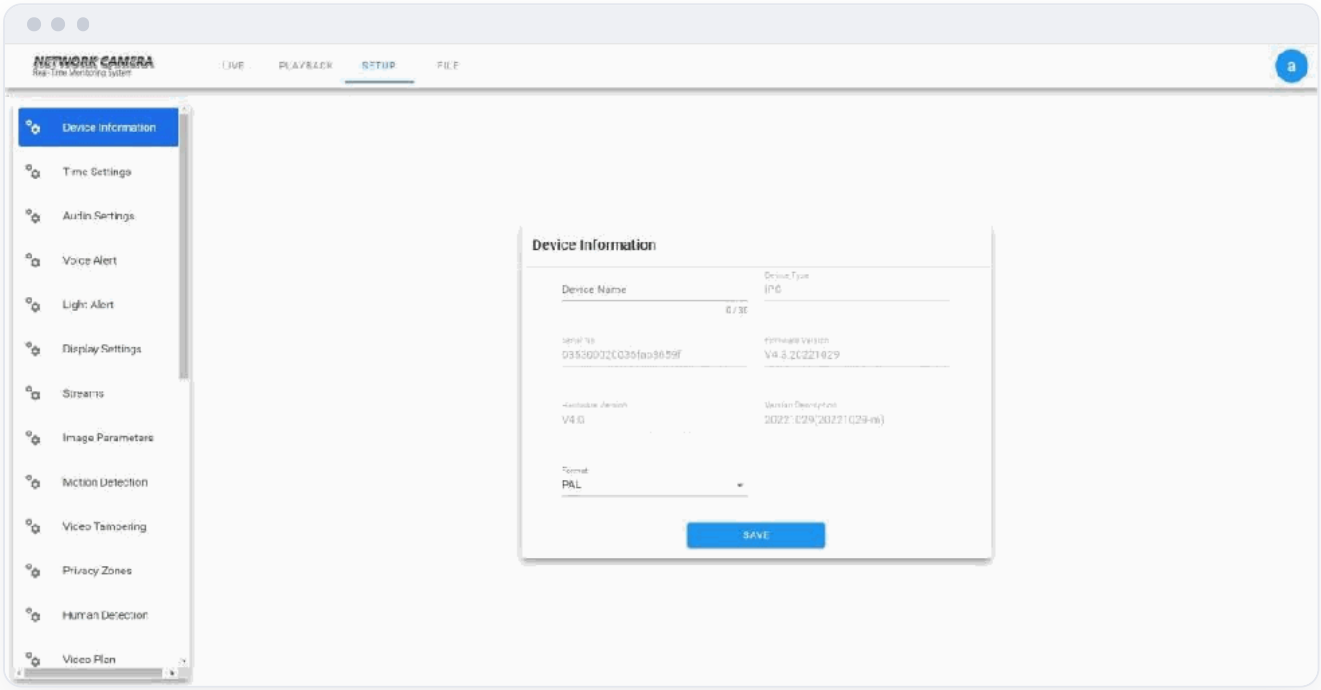



**Figure 5.** Parameter configuration with the settings menu on the left.

| Device Information | Description |
|---|---|
| Equipment Name | Editable name. Use your naming plan, e.g. LOBBY-ENTRANCE-01 |
| Equipment Type | Model type (read only) |
| Serial Number | Product serial number (read only) |
| Master Version | Firmware version and date (read only) |
| Hardware Version | Main board version (read only) |
| System | Video standard: **PAL** (50 Hz regions) or **NTSC** (60 Hz regions) |

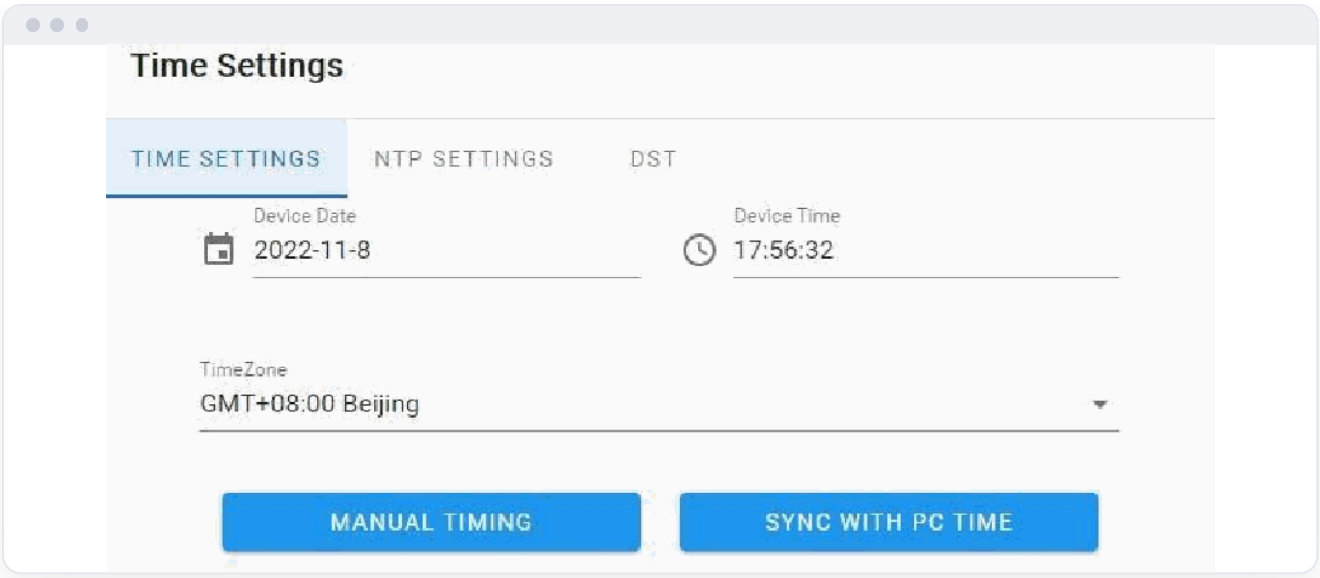



**Figure 6.** Time Settings with manual time, NTP and daylight saving tabs.

- **Manual Timing** sets the date and time by hand.
- **Sync with PC Time** copies the time of your computer.
- The **NTP Settings** and **DST** tabs keep the clock correct automatically and handle daylight saving.

> **TIP**
> Use NTP on every camera. Correct time stamps are essential when footage is used as evidence or compared between cameras.

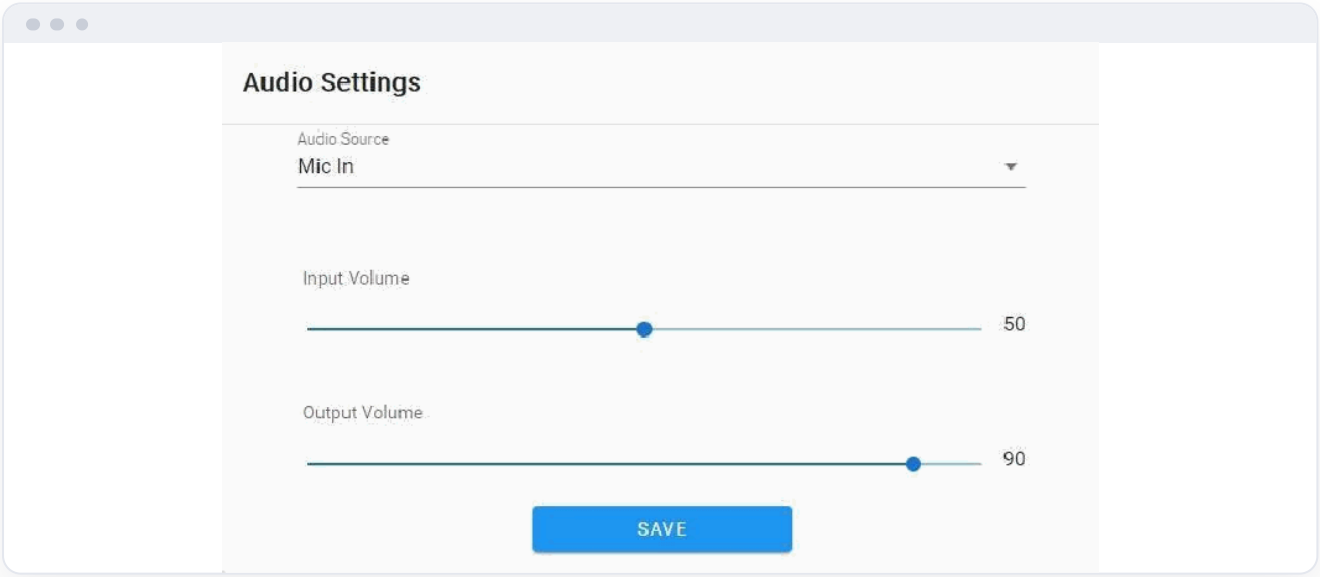



**Figure 7.** Audio Settings.

- **Audio Source**: microphone (**Mic In**) or **Line In**.
- **Input Volume** and **Output Volume**: adjust the sliders and click **Save**.

> **IMPORTANT**
> Recording sound may be regulated where you install the camera. Check local privacy law before you enable audio.

SECTION 08

# Voice and light alerts

Cameras with a speaker and alarm light can warn intruders automatically when detection triggers.

- **Voice Alert**: eight built-in voice messages. Set how many times each plays and click the play button to listen.
- **Arming Schedule**: the days and hours when voice alerts are active.

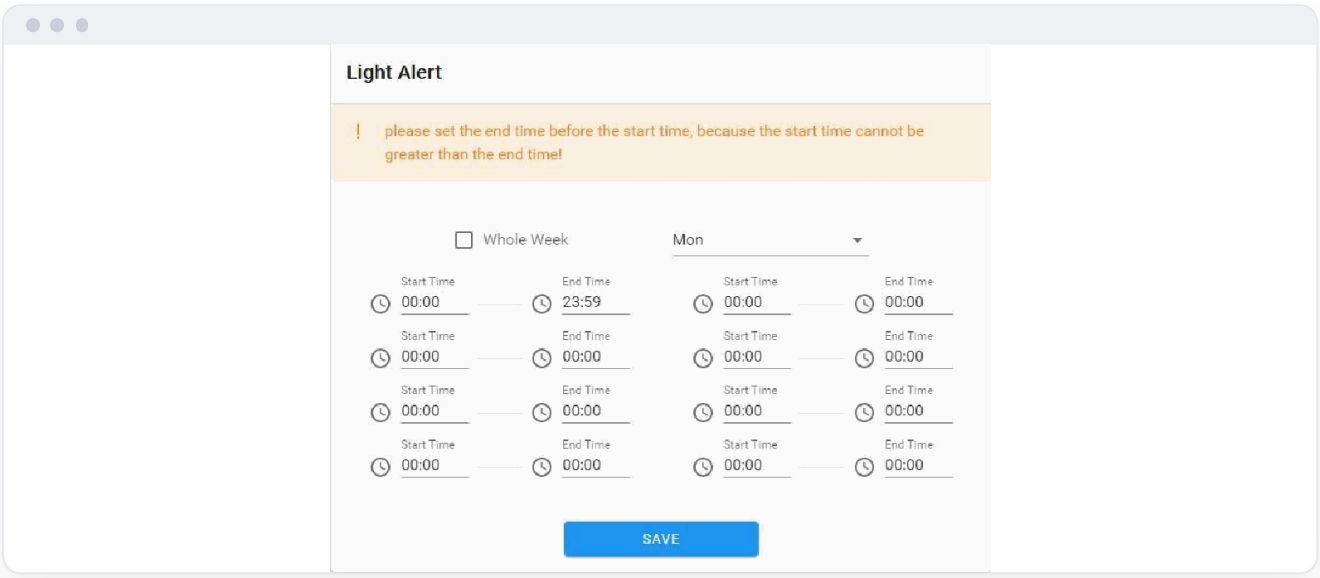



**Figure 8.** Light Alert schedule: set start and end times for each day.

### 1 Schedule the alarm light

Open **Light Alert**, choose the day or **Whole Week**, set the start and end times and click **Save**.

> **NOTE**
> The end time must be later than the start time. To cover the night, use two periods: 18:00–23:59 and 00:00–06:00.

SECTION 09

# Display (OSD)

Control the text shown on the image and in recordings.

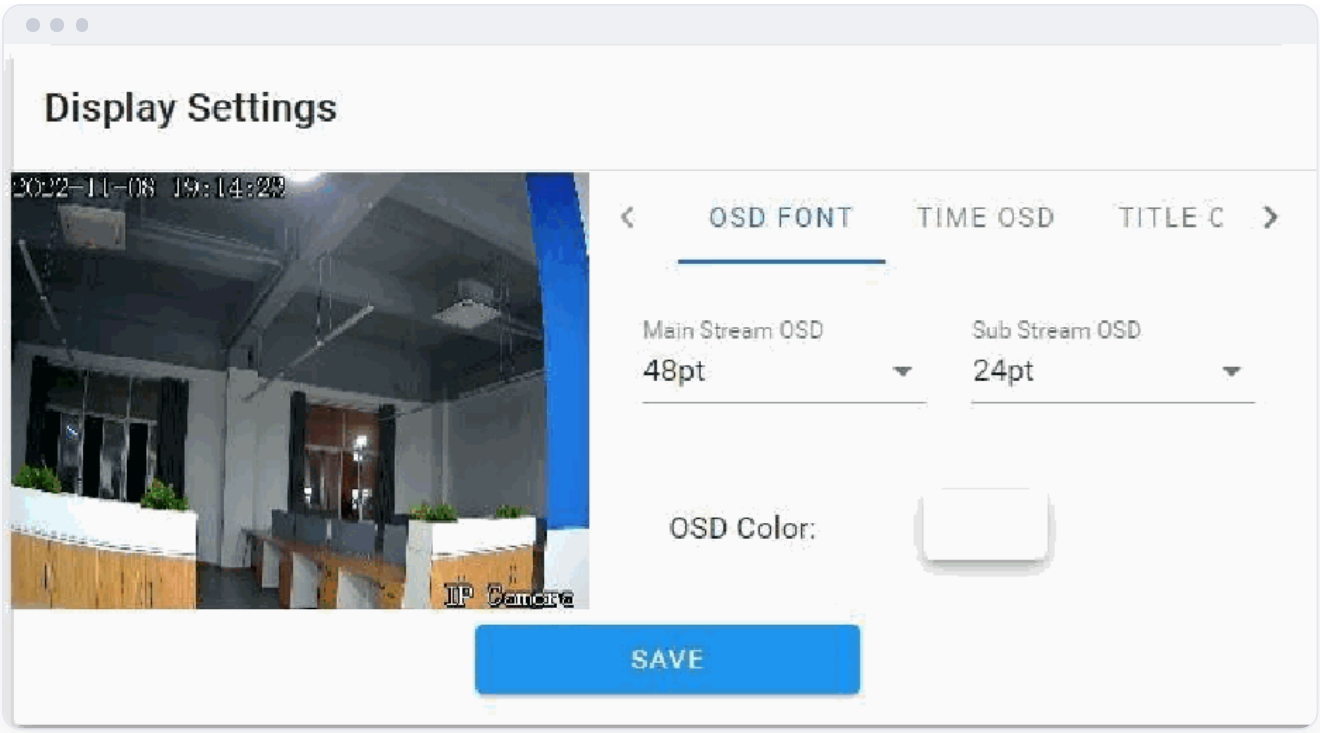



**Figure 9.** Display Settings with OSD font, time OSD and title OSD tabs.

| Setting | Use |
|---|---|
| OSD Font | Text size for main and sub stream, and text colour |
| Time OSD | Date/time format and position |
| Title OSD | Camera name text, format and position |
| Multiline OSD | Extra custom text lines and their position, shown or hidden |
| Hue | Brightness, contrast, saturation and hue of the image |

**TIP**

Show the camera name and time on every camera. Exported clips then identify themselves without extra notes.

SECTION 10

# Encoding

Encoding decides image quality, bandwidth and storage. Balance them for each camera.

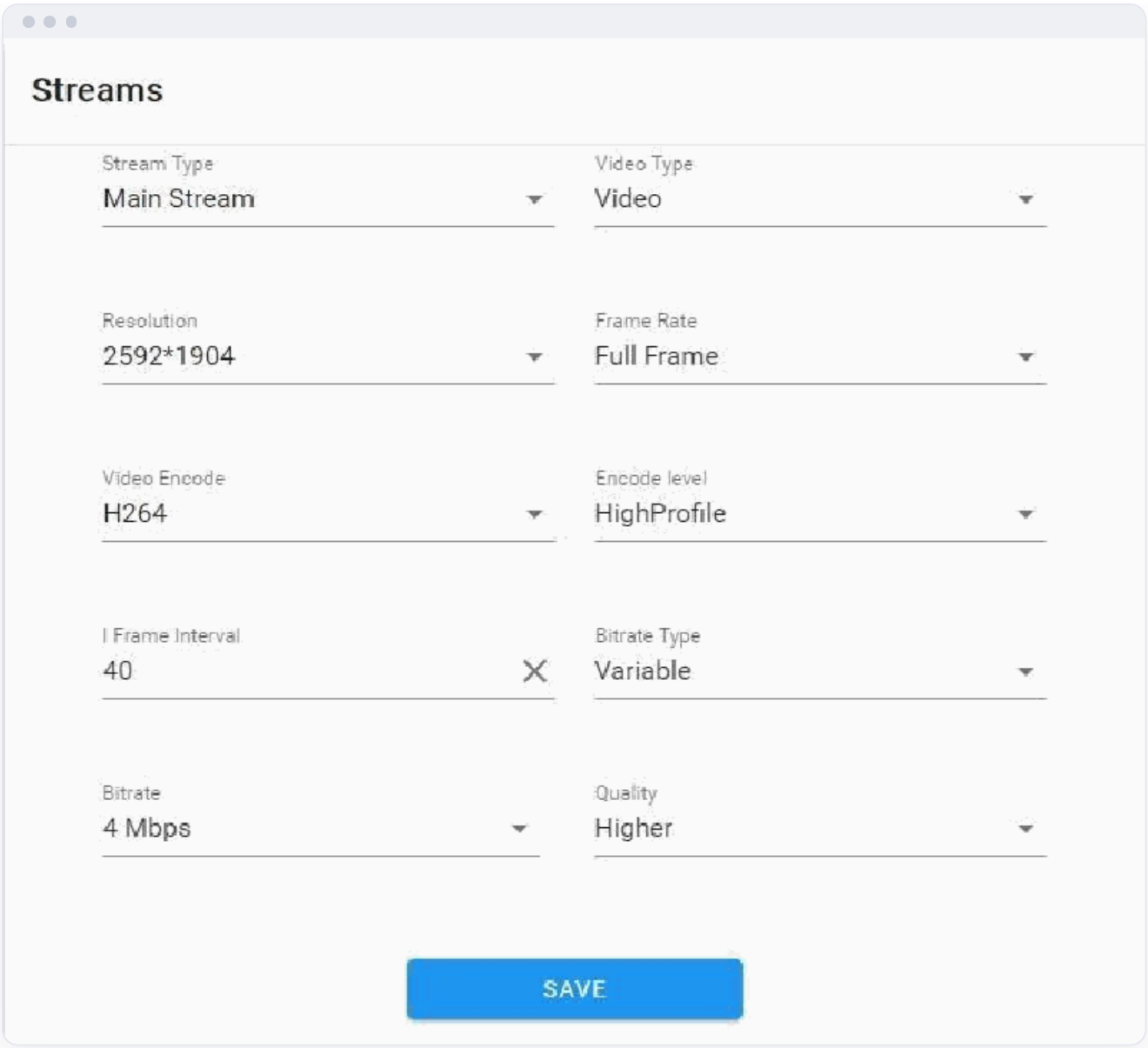



**Figure 10.** Stream encoding settings.

| Setting | Options and meaning |
|---|---|
| Stream Type | Main stream or sub stream |
| Video Type | Video only, or composite (video + audio) |
| Resolution | The resolutions the camera supports |
| Frame Rate | Full frame rate by default; lower it to save bandwidth |
| Encoding | **H.265** (about half the bandwidth of H.264) or **H.264** (widest compatibility) |
| Profile | Baseline, Main or High |
| I Frame Interval | Distance between key frames |
| Bitrate Type | Constant (predictable bandwidth) or Variable (better quality per bit) |
| Bitrate | Target bitrate for the stream |

| | |
|---|---|
| Quality | Six levels from best to worst |

| Typical use | Suggested main stream |
|---|---|
| Entrance, cash desk (detail matters) | Full resolution, 20–25 fps, H.265, variable bitrate |
| Corridor, car park | Full resolution, 12–15 fps, H.265 |
| Overview, low-traffic area | Reduced frame rate, H.265, variable bitrate |

**TIP**

Set the I frame interval to about twice the frame rate (for example 50 at 25 fps). Shorter intervals improve seeking in recordings but use more bandwidth.

**NOTE**

If your NVR or platform does not decode H.265, use H.264 on the main stream.

SECTION 11

# Image parameters

Tune day/night behaviour, fill light and exposure for the scene.

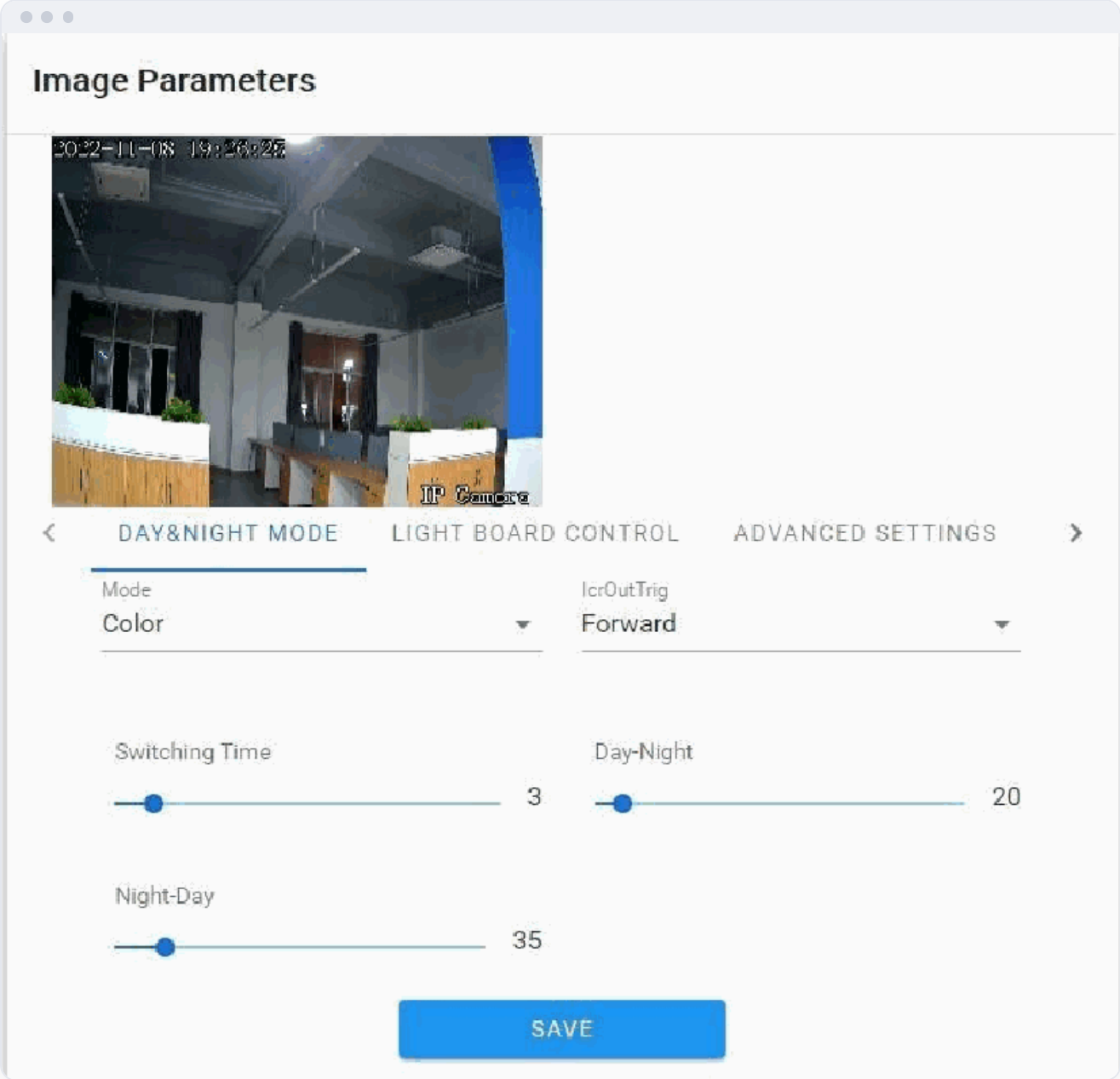



**Figure 11.** Image Parameters with day/night, fill light and advanced tabs.

| Day/night setting | Default and range |
|---|---|
| Day/night mode | External trigger, automatic, colour or black and white. Infrared models default to external trigger; non-infrared models to automatic |
| Colour mode | Standard (default), vivid or natural |
| IR-cut trigger | Forward or reverse, matching the IR-cut hardware |
| Switching time | 0–30 s, default 3 s |
| Day → night threshold | 0–255, default 20 |
| Night → day threshold | 0–255, default 35 |

- **Fill light**: light mode, switching mode and brightness.
- **Advanced settings**: image mode, wide dynamic range (WDR), 3D noise reduction, sharpness, defog, night frame-rate reduction and white balance.
- **Exposure**: backlight mode, exposure strategy, gain, shutter and infrared reception.
- **Gamma**: gamma value and mains frequency (50/60 Hz) to avoid flicker under artificial light.

> **TIP**
> If the camera switches between day and night repeatedly at dusk, increase the gap between the two thresholds or the switching time.

> **TIP**
> Enable WDR for cameras facing doors and windows, where bright and dark areas appear in the same image.

SECTION 12

# Smart detection

Motion, tampering and human detection all use the same three tabs: setup, arming schedule and linkage.

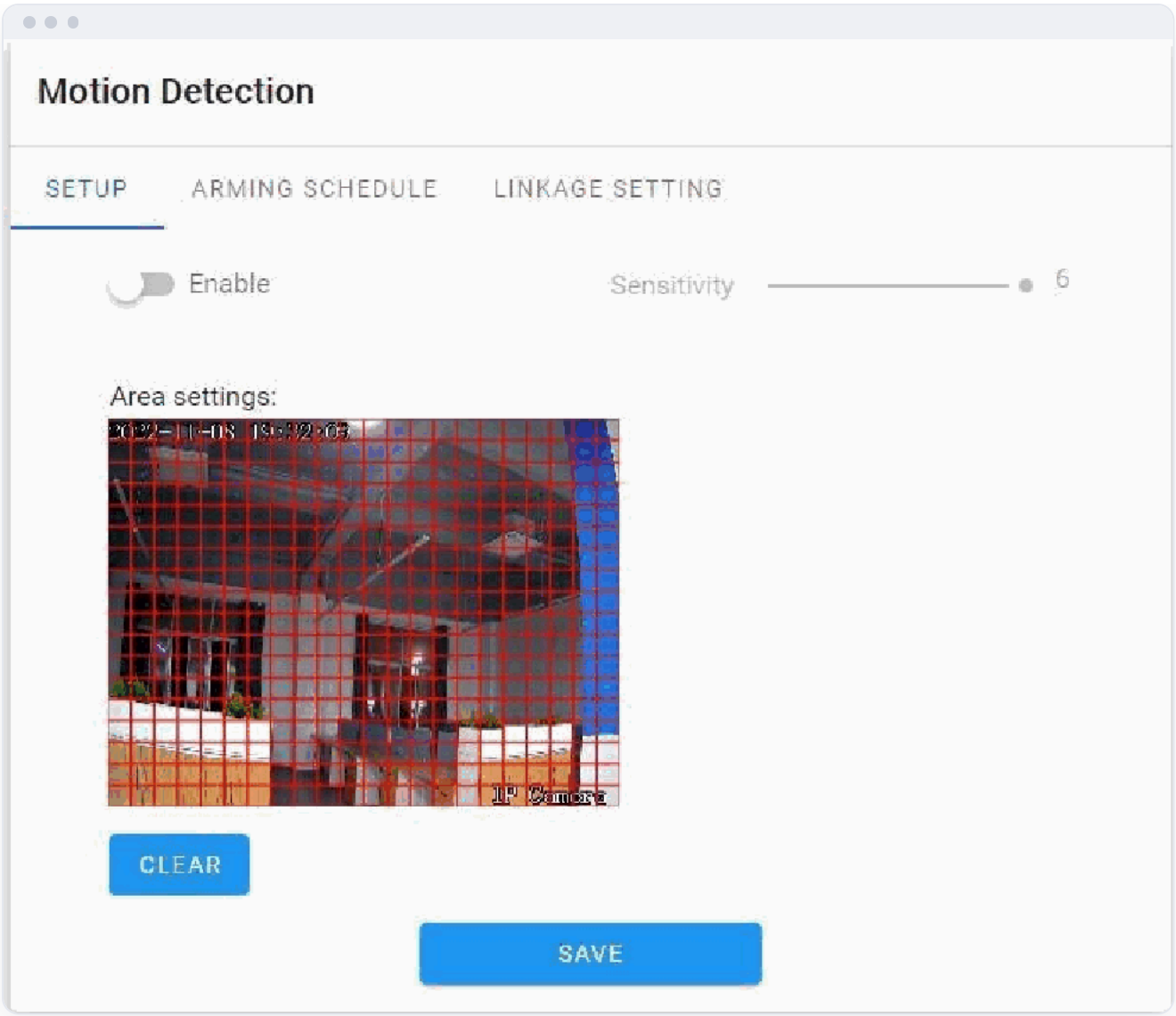



**Figure 12.** Motion Detection: enable, sensitivity and detection area.

### 1 Set up

Enable detection, set the sensitivity and draw the detection area on the image.

### 2 Set the arming schedule

Choose the days (Monday to Sunday) and hours when detection triggers alarms.

### 3 Choose the linkage

Select what happens on an alarm: email, recording, FTP upload, alarm light, alarm output, snapshot or voice broadcast.

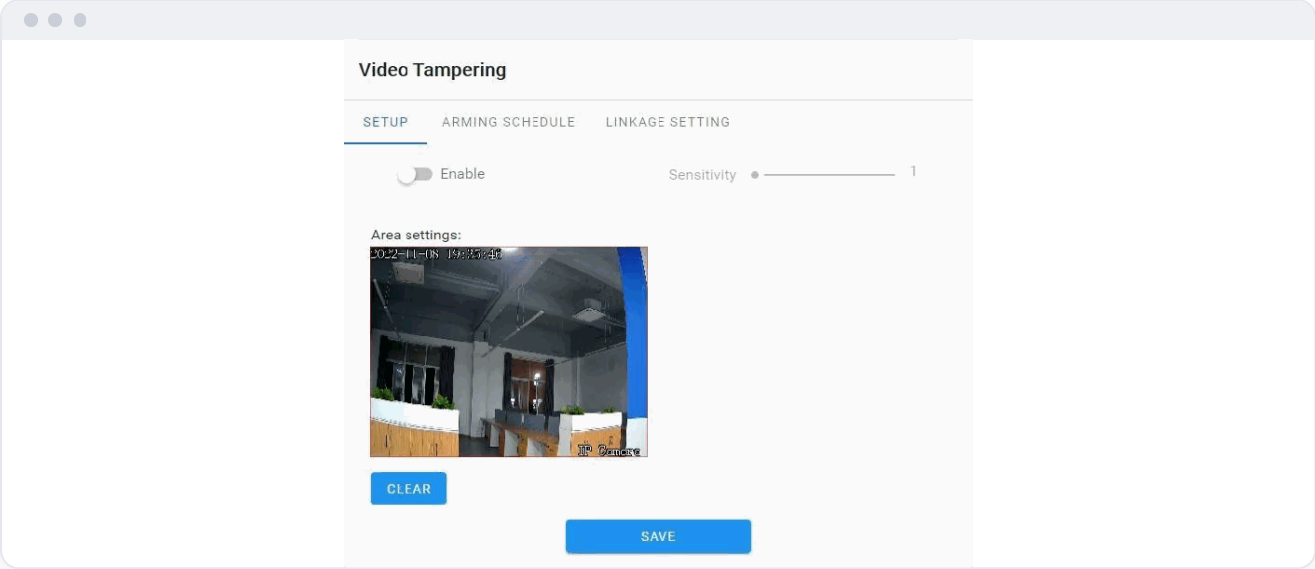



**Figure 13.** Video Tampering detects covering or blocking of the lens.

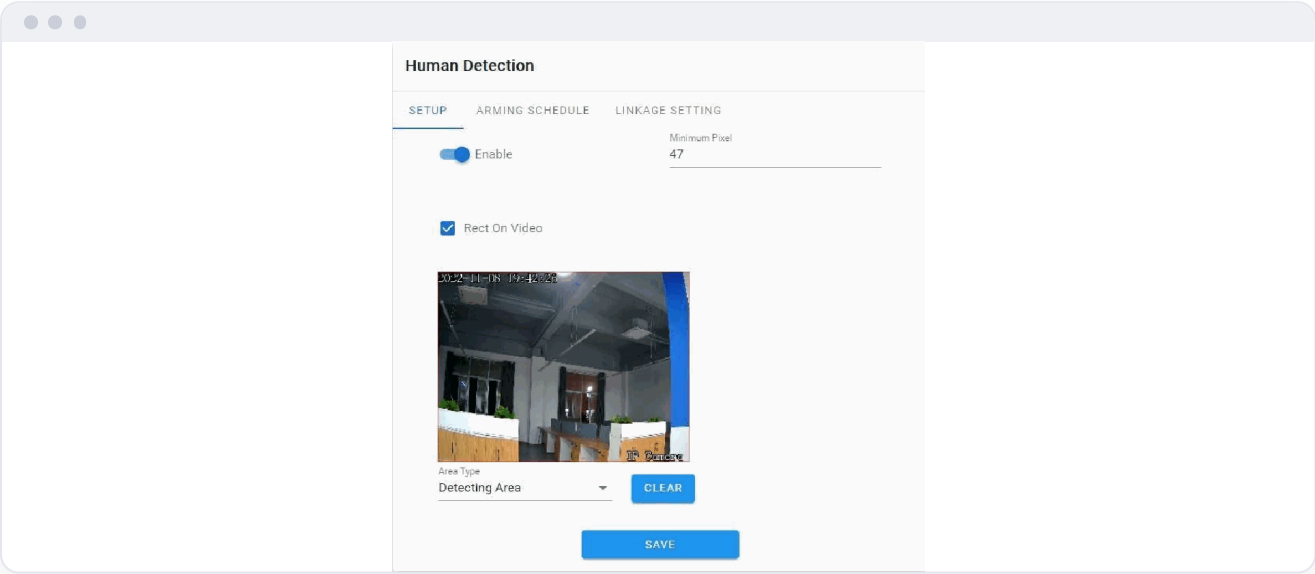



**Figure 14.** Human Detection with minimum target size, frame overlay and detection area.

| Detection | Best for | Notes |
|---|---|---|
| Motion | Indoor areas with little movement | Triggers on any change, including light and shadows |
| Human | Outdoor perimeters, car parks, entrances | Reacts to human shapes only, so far fewer false alarms from trees, shadows and headlights |
| Video tampering | Every camera | Alerts when the lens is covered or sprayed |

**TIP**

Outdoors, prefer **human detection** to motion detection. Set the minimum target size so that people at the far edge of the area are still detected.

SECTION 13

# Privacy zones

Mask areas that must never be recorded, such as neighbouring windows or keypads.

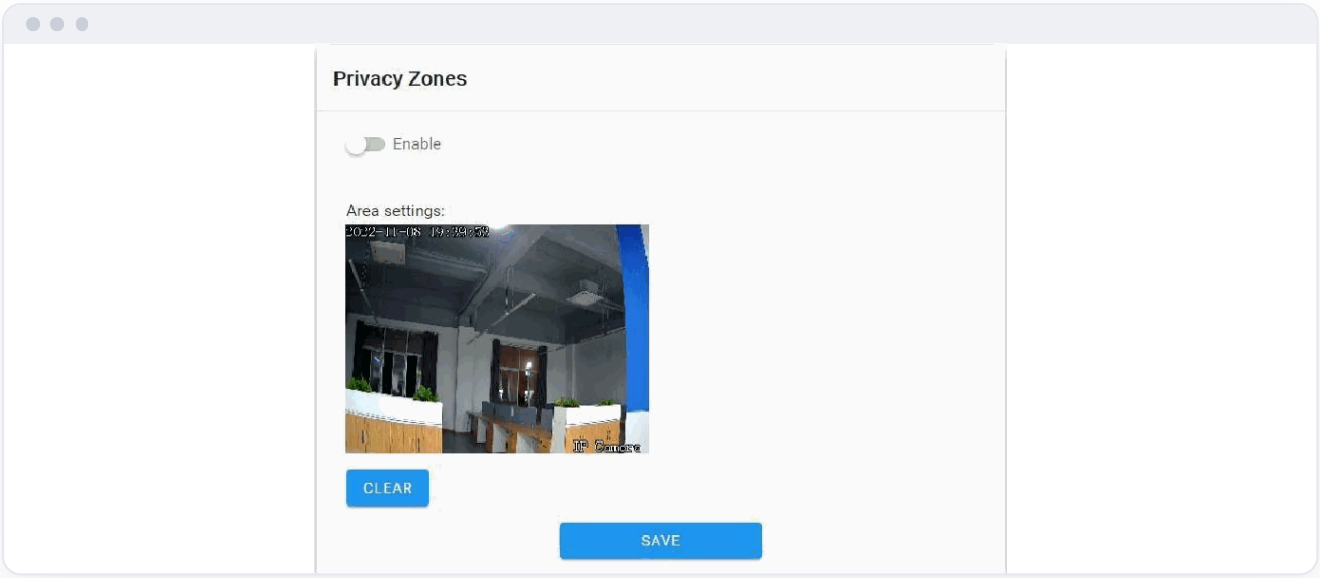



**Figure 15.** Privacy Zones: draw masked areas on the image.

### 1 Enable masking

Turn on **Enable**.

### 2 Draw the area

Hold the left mouse button and drag over the area to mask. Click **Save**.

### 3 Remove a mask

Click **Clear** to remove all masked areas.

> **NOTE**
> Masked areas are black in live view and in recordings. They cannot be recovered later.

SECTION 14

# Recording schedule

Set when the camera records to its microSD card.

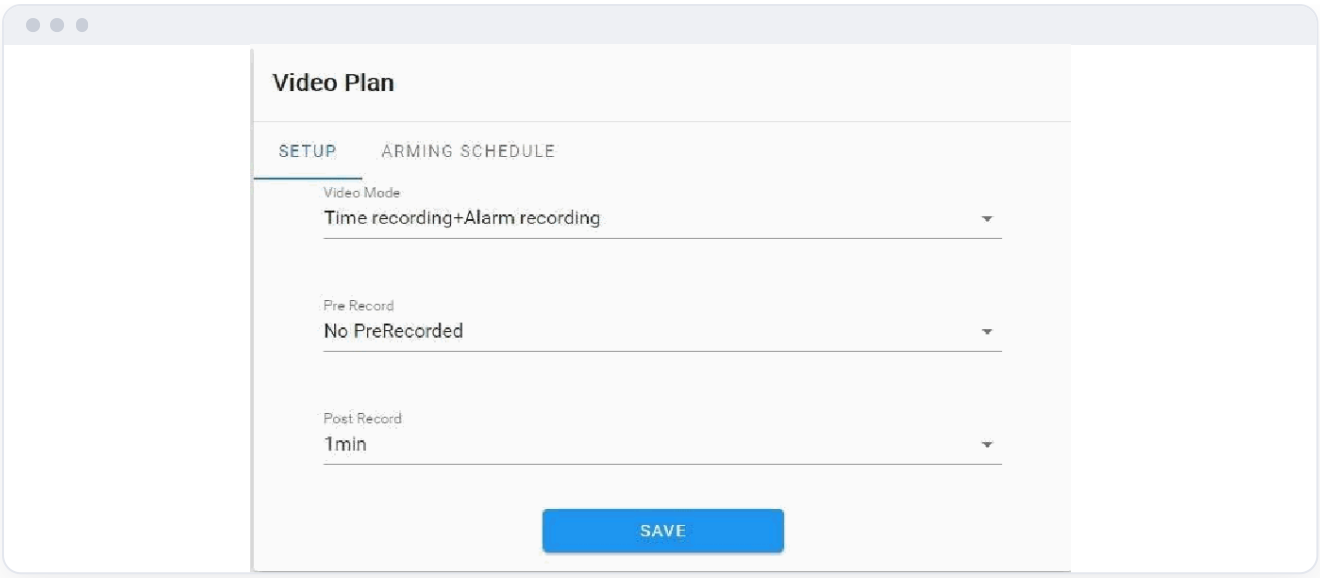



**Figure 16.** Video Plan: recording mode, pre-record and post-record.

- **Video Mode**: for example time recording plus alarm recording.
- **Pre Record**: seconds kept before an alarm.
- **Post Record**: how long recording continues after the alarm ends.
- **Arming Schedule**: the days and hours of the plan.

> **TIP**
> A few seconds of pre-record shows what happened just before the alarm, which is usually the most important part.

SECTION 15

# Network

Give the camera its final address and choose the services it offers.

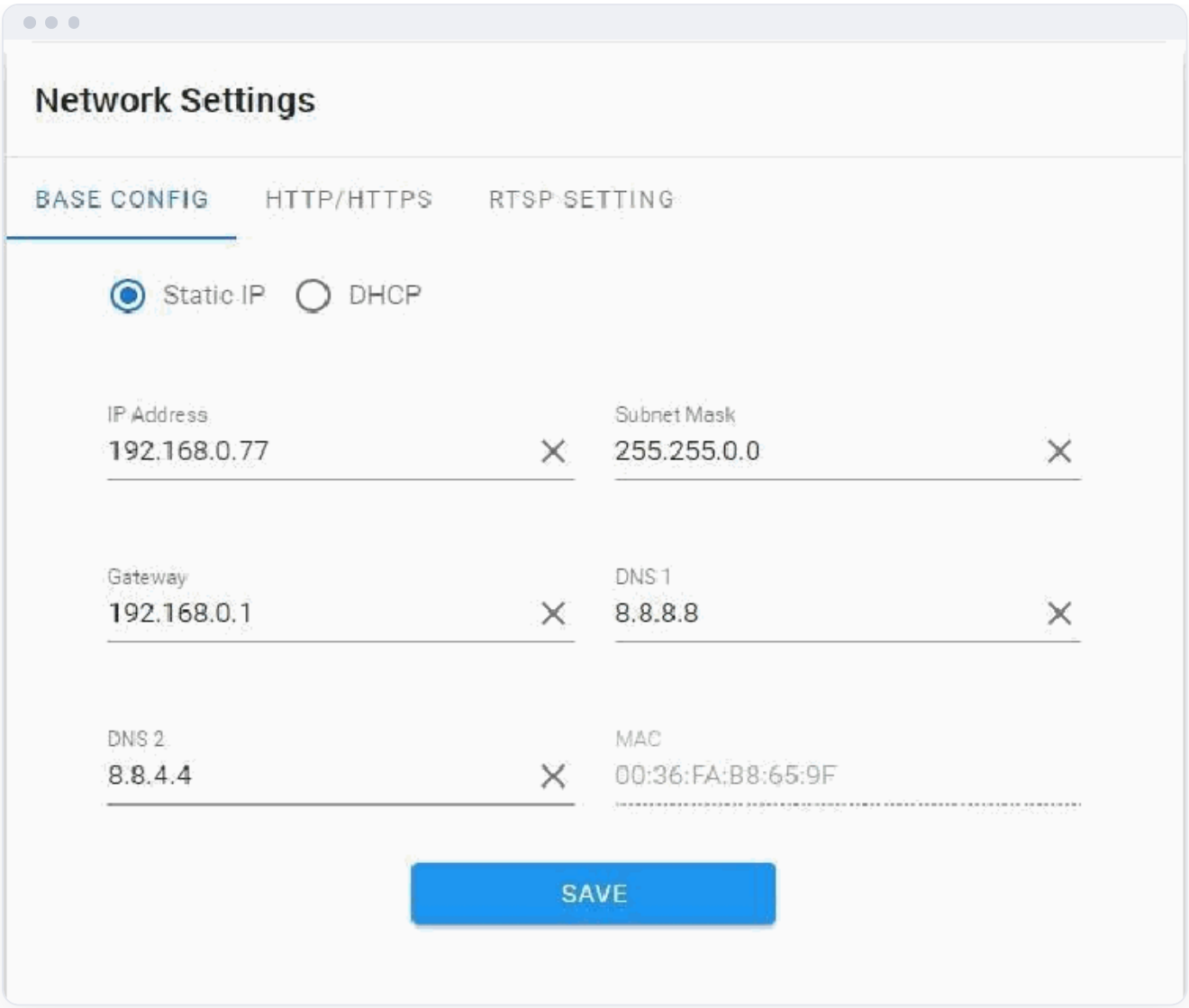



**Figure 17.** Network Settings: static IP or DHCP, gateway and DNS.

## 1 Set the address

Choose **Static IP** and enter the IP address, subnet mask, gateway and DNS from your plan, or choose **DHCP** with a reservation on your DHCP server. Click **Save** and reconnect at the new address.

| Service | Settings | Recommendation |
|---|---|---|
| HTTP / HTTPS | On/off and port | Prefer HTTPS; turn HTTP off when the site allows it |
| RTSP | On/off, port, Basic or Digest authentication | Use **Digest** authentication |
| RTMP | On/off, port, push rules, quiet times and clients | Enable only when streaming to an RTMP server |
| Multicast | Address, port and TTL for main stream, sub stream and audio | Disabled by default; enable only for multicast video walls |

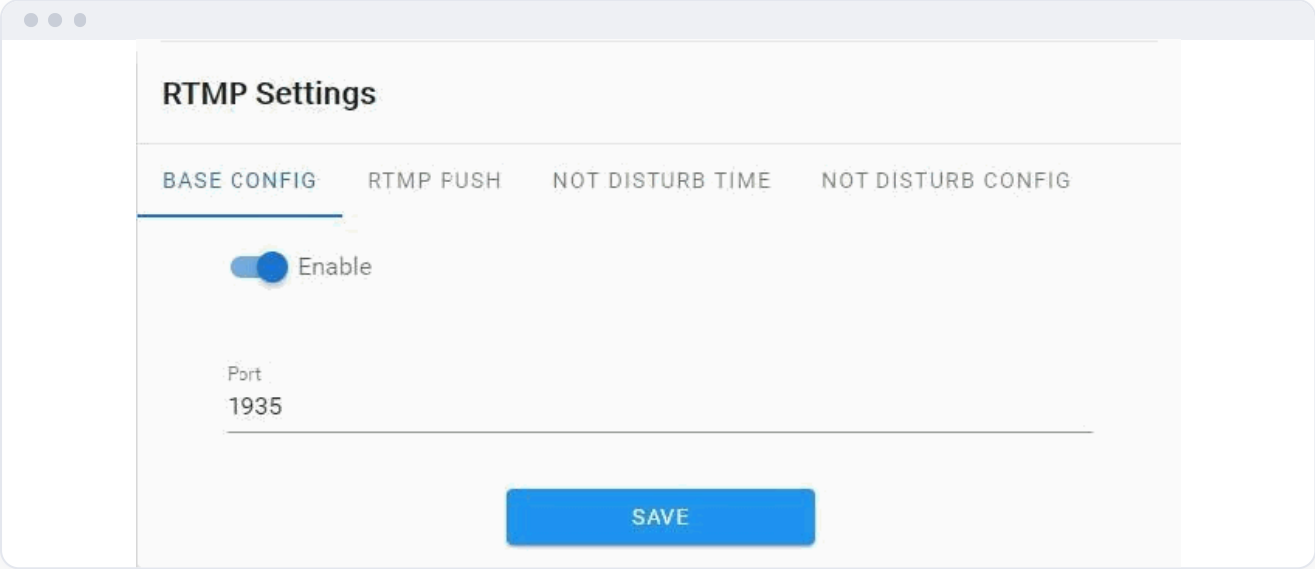



**Figure 18.** RTMP Settings.

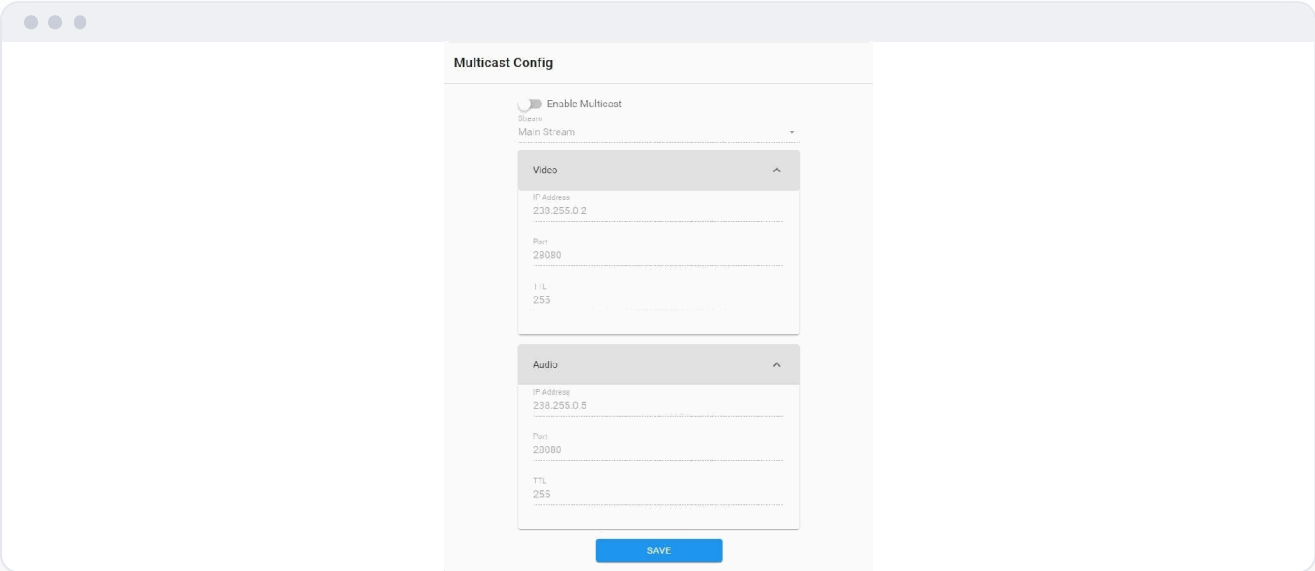



**Figure 19.** Multicast Config for main stream, sub stream and audio.

**IMPORTANT**

Do not expose cameras to the internet with port forwarding. Use a VPN, such as WireGuard on a Navijin gateway, for remote viewing.

**TIP**

Put cameras in their own CCTV VLAN and allow only the NVR and operators to reach them.

SECTION 16

# Video platform (GB28181)

Connect the camera to a video management platform that uses the GB/T 28181 protocol.

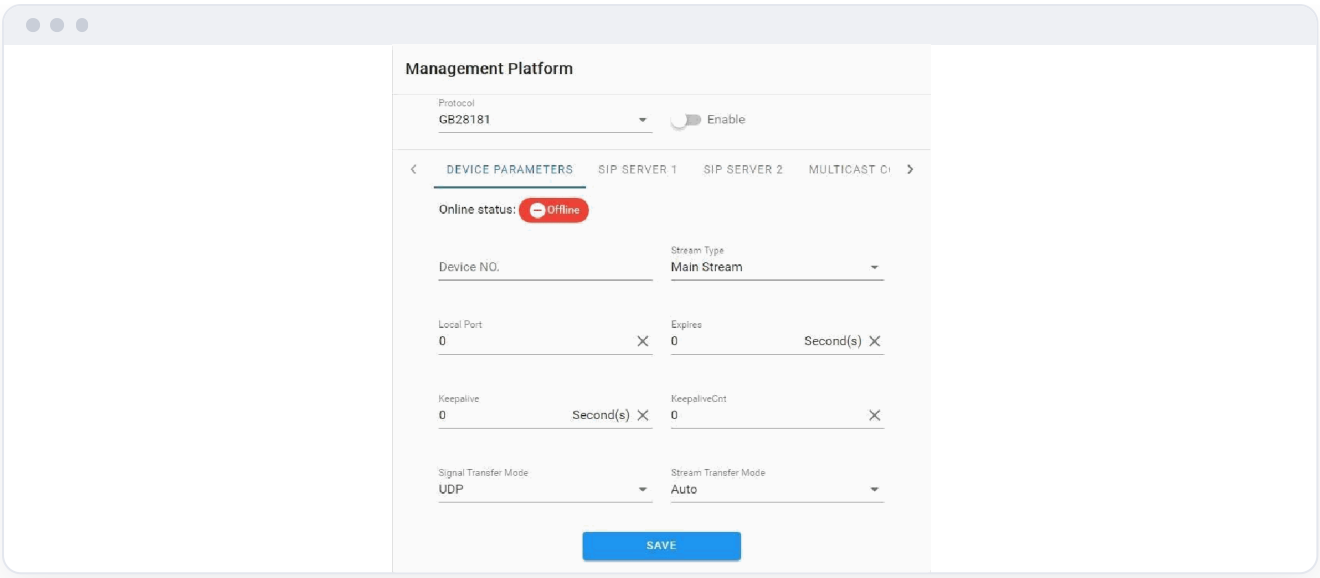



**Figure 20.** Management Platform with device parameters and SIP servers.

| Tab | Settings |
|---|---|
| Device Parameters | Device number, stream type, local port, registration validity, heartbeat interval, maximum heartbeat timeouts, signalling and stream transport (UDP/TCP) |
| SIP Server 1 / 2 | Server ID, IP address, domain, port and registration password |
| Multicast | Multicast port and address |
| Channel / alarm | Channel number, alarm number and alarm level |

**NOTE**

Get these values from the platform operator. The **Online status** indicator shows whether the camera is registered with the platform.

SECTION 17

# Email and FTP notifications

Send alarm emails and upload snapshots to a server.

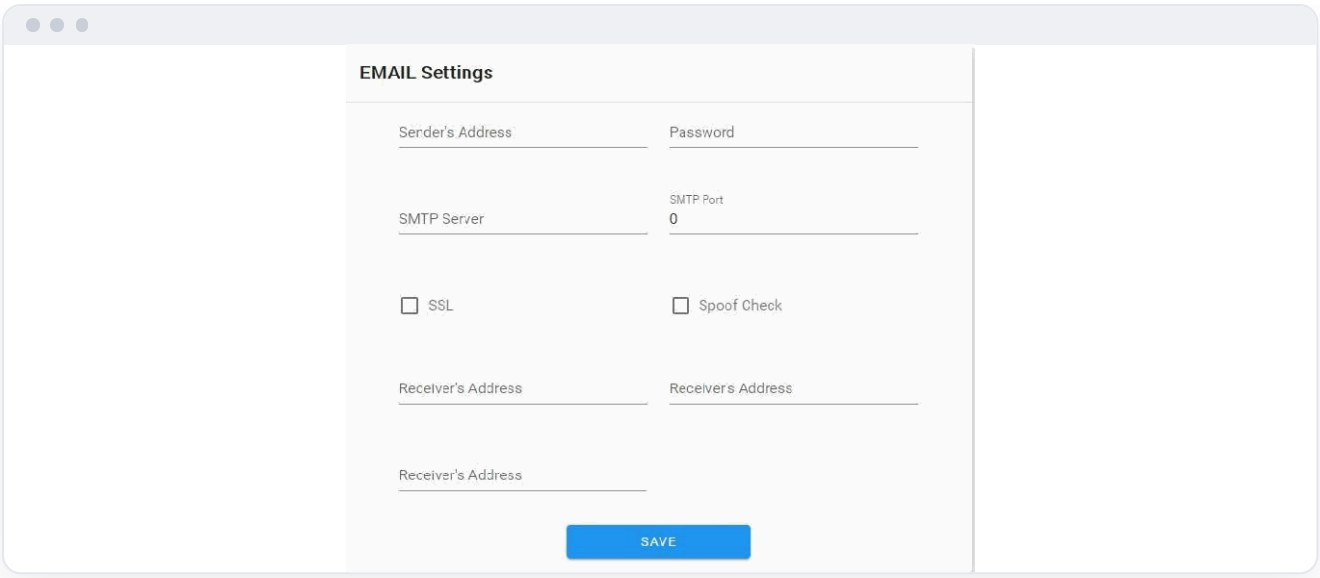



**Figure 21.** EMAIL Settings.

| Email setting | Value |
|---|---|
| Sender's address and password | The mailbox the camera sends from |
| SMTP server and port | For example port 465 with SSL, or 587 with STARTTLS |
| SSL | Enable for encrypted delivery |
| Receiver's addresses | Up to three recipients |

> **TIP**
> Create a dedicated mailbox for cameras, with an app password, instead of using a personal account.

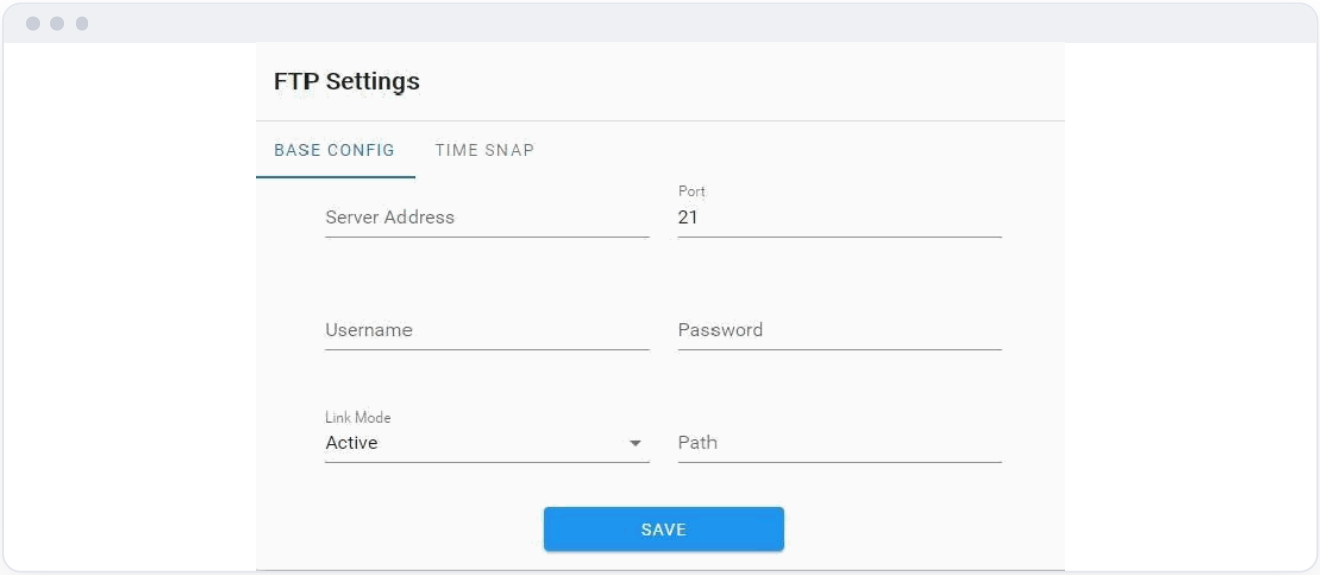



**Figure 22.** FTP Settings with basic configuration and timed snapshots.

- **Base Config**: server address, port, user name, password, link mode and upload path.
- **Time Snap**: snapshot interval, stream and schedule for timed uploads.

SECTION 18

# Alarm input and output

Models with alarm terminals connect to door contacts, PIR sensors, sirens and access control.

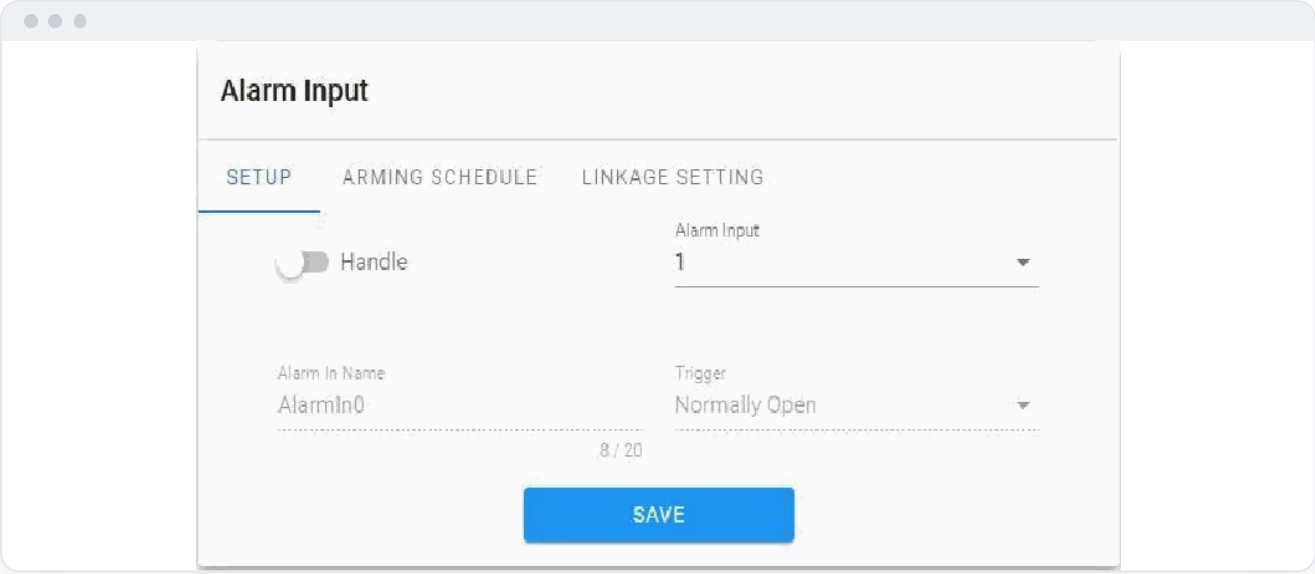



**Figure 23.** Alarm Input with handling, input number and contact type.

- **Alarm input**: enable handling, choose the input, give it a name and set the contact type (normally open or normally closed). Then set the arming schedule and linkage, as for smart detection.
- **Alarm output**: choose the output, the relay state (normally open or closed) and the delay that keeps the output active after the alarm ends.

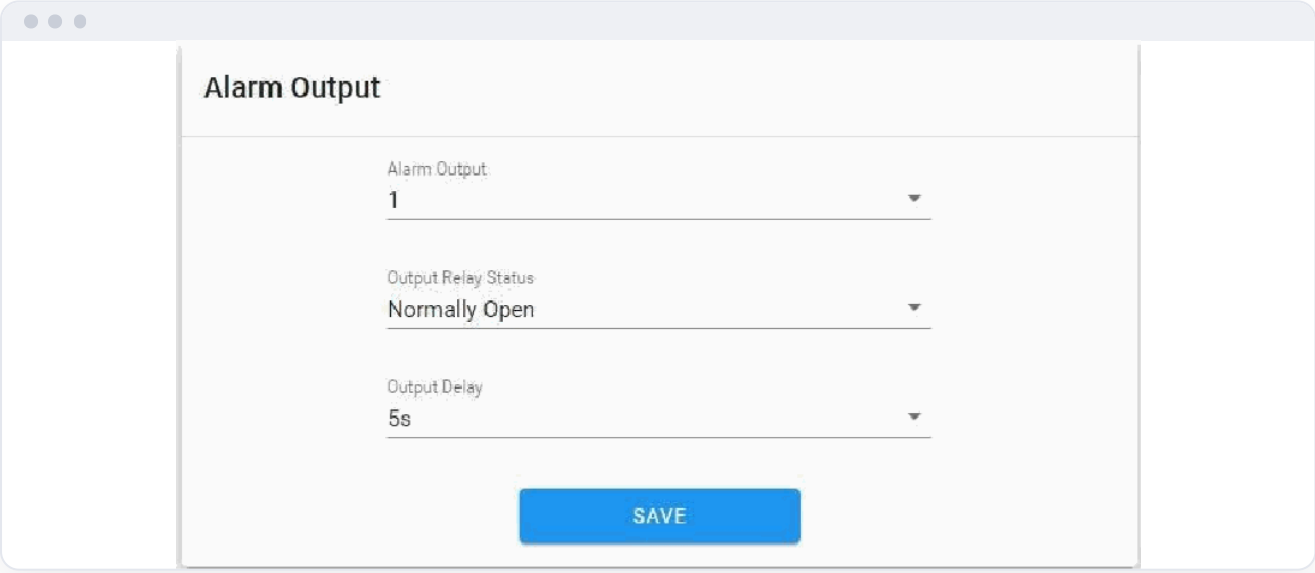



**Figure 24.** Alarm Output with relay state and output delay.

SECTION 19

# Users and permissions

Give each person their own account with only the rights they need.

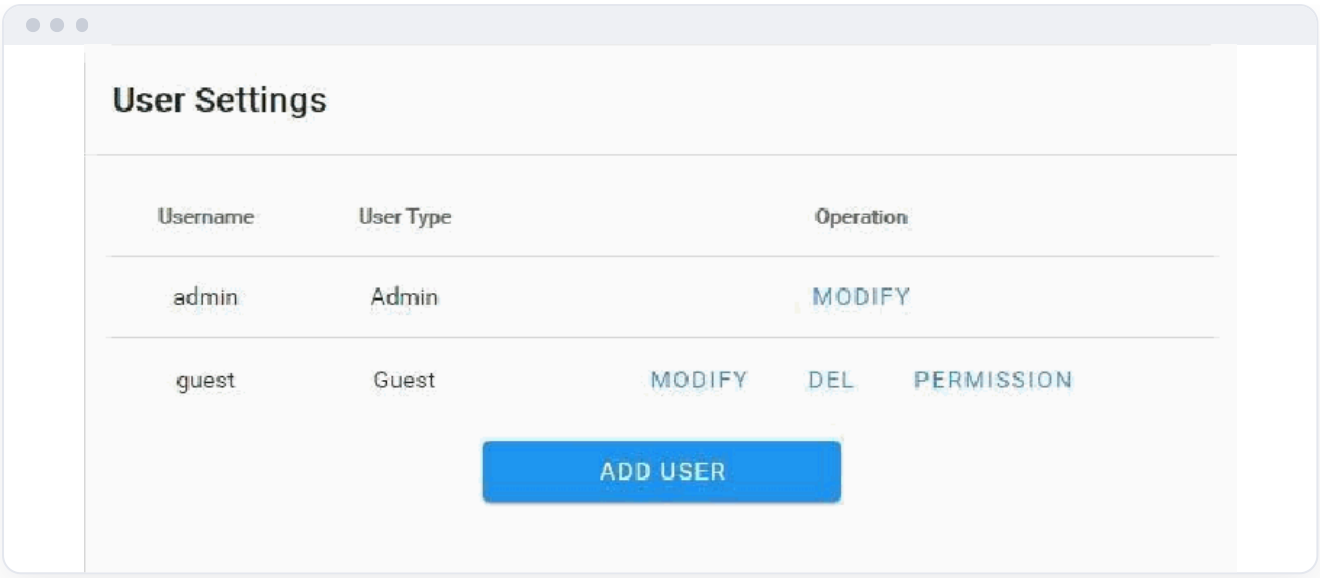



**Figure 25.** User Settings with Modify, Delete and Permission.

| Action | What it does |
|---|---|
| Add User | Creates an account of type Ordinary user or Operator |
| Modify | Changes the password (administrator) or the user type |
| Permission | Assigns rights to an ordinary user |
| Delete | Removes an added user |

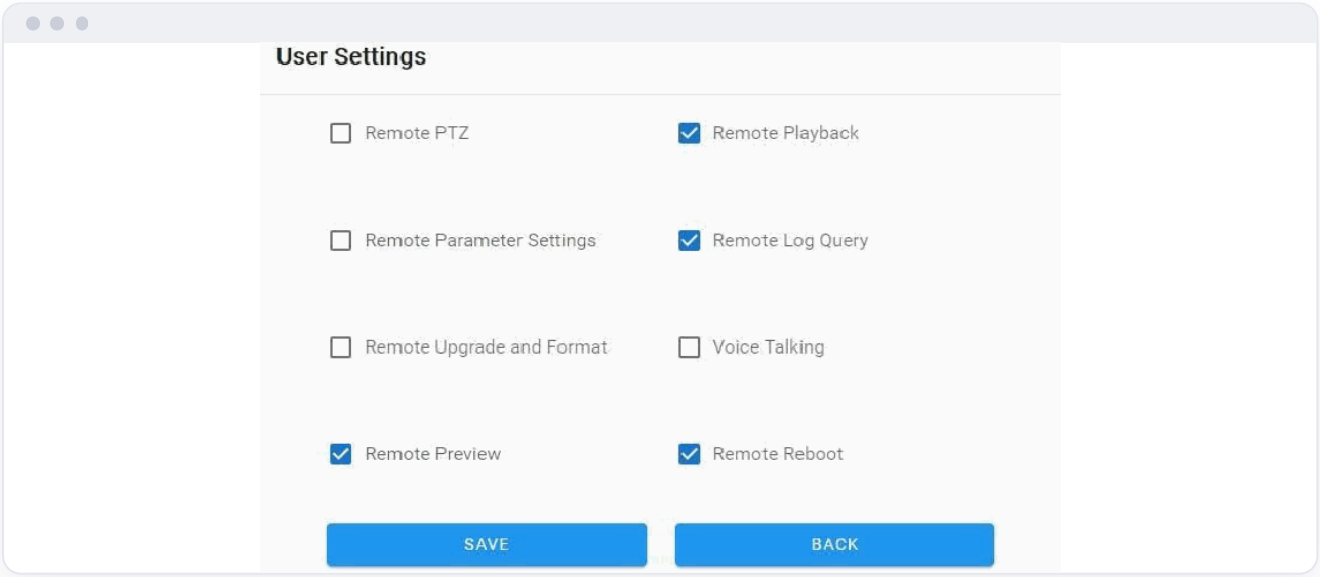



**Figure 26.** Permissions: remote PTZ, playback, parameter settings, log query, upgrade and format, voice talk, preview and reboot.

**TIP**

Give operators preview and playback only. Keep parameter settings, upgrade/format and reboot for administrators.

SECTION 20

# Storage

Check and prepare the microSD card.

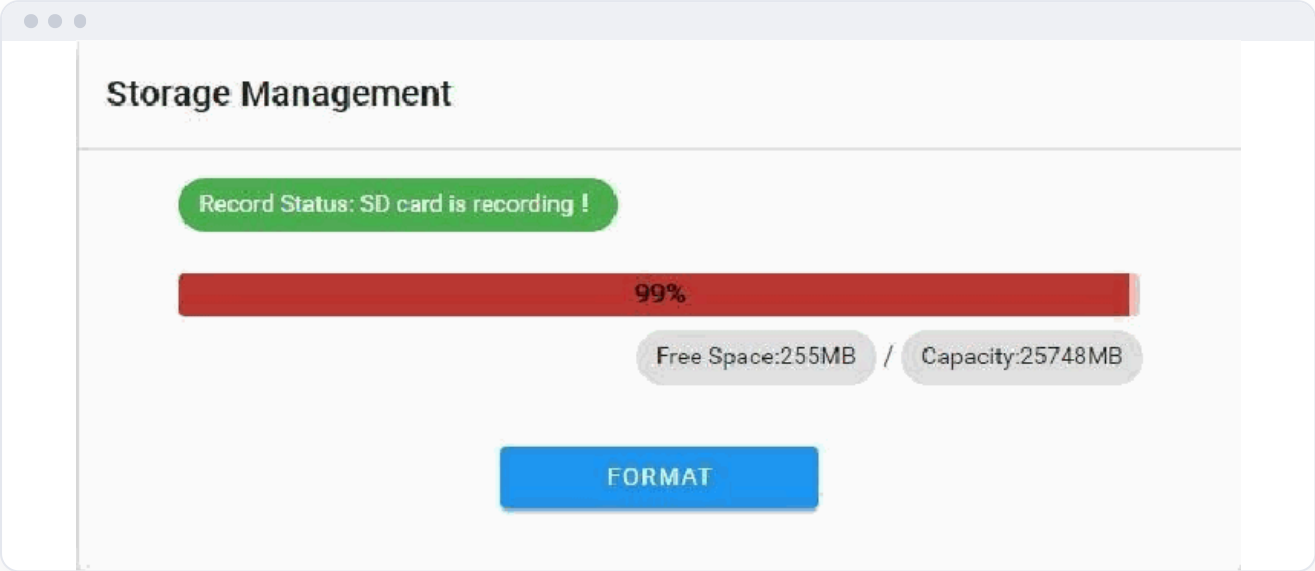



**Figure 27.** Storage Management with recording status, free space and capacity.

- The page shows the recording status and the used, free and total capacity of the card.
- **Format** prepares a new card. Format every new card in the camera before use.

> **IMPORTANT**
> Formatting erases all recordings and snapshots on the card.

> **TIP**
> Use high-endurance microSD cards made for continuous video recording.

SECTION 21

# Firmware and maintenance

Keep cameras up to date and keep a backup of their configuration.

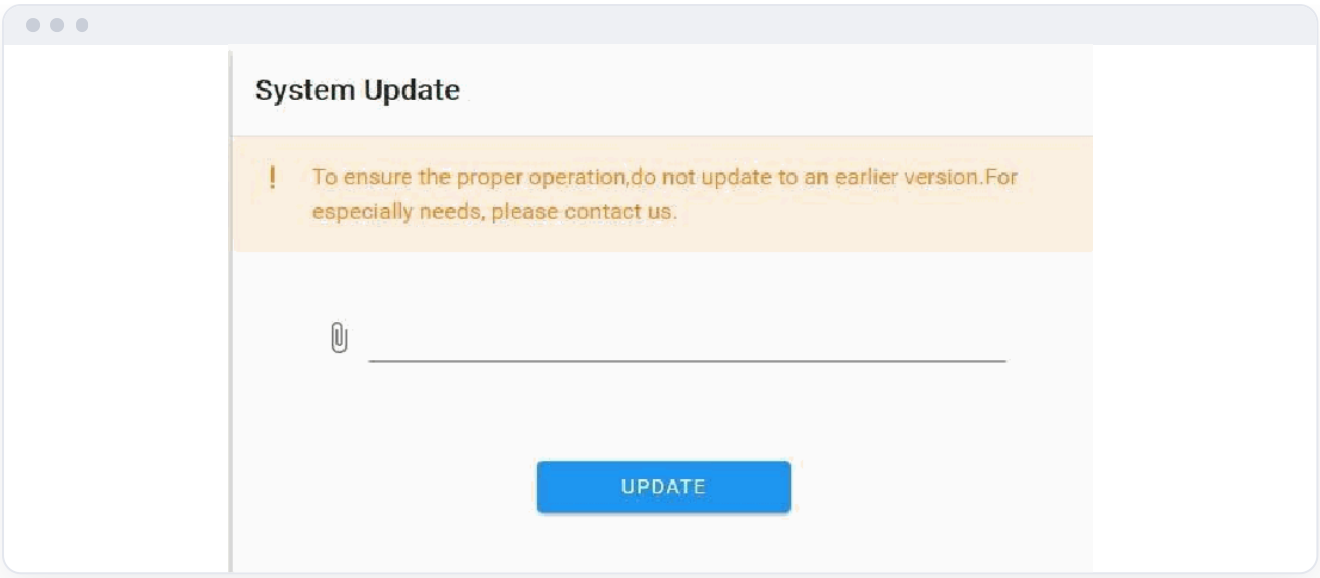



**Figure 28.** System Update.

### 1 Back up the configuration

Open **Device Maintenance › Config** and click **Export Config**.

### 2 Upgrade

Open **System Update**, select the upgrade file for your exact model and click **Update**. Do not power off the camera until it restarts.

> **IMPORTANT**
> Use only firmware supplied by Navijin for your model. Do not install an older version unless Navijin support asks you to.

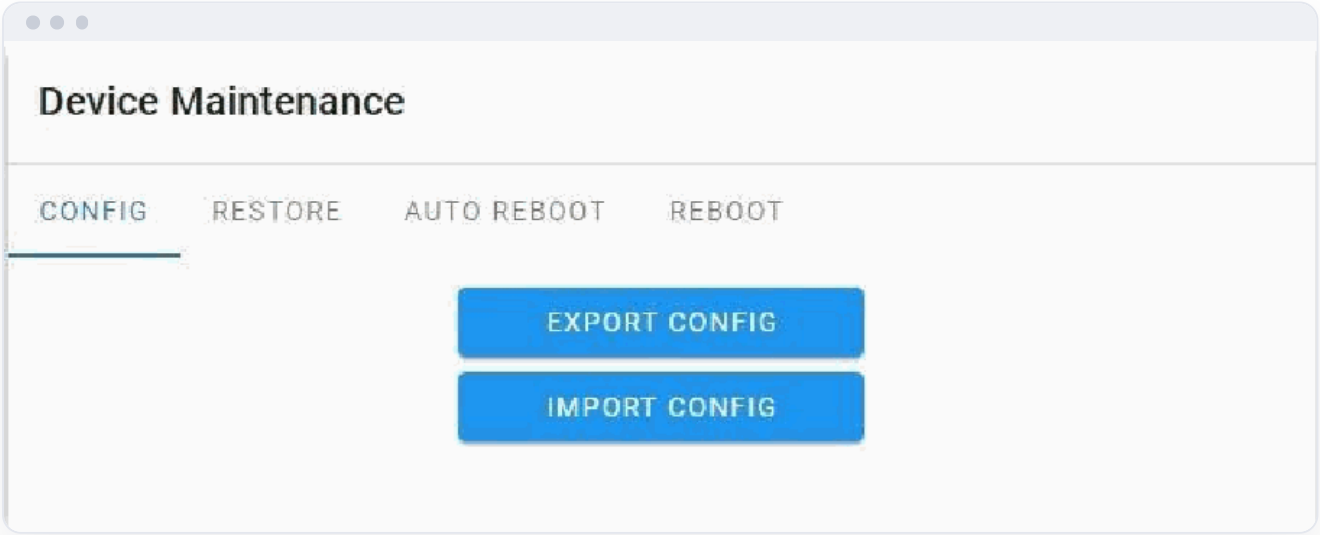



**Figure 29.** Device Maintenance: configuration, restore, automatic reboot and reboot.

| Tab | Use |
|---|---|
| Config | Export the current configuration or import a saved one |

| | |
|---|---|
| Restore | **Simple restore** or **full restore** to factory defaults. Export the configuration first |
| Auto Reboot | Schedule a periodic restart at a quiet time |
| Reboot | Restart the camera now |

SECTION 22

# Developer options

Developer settings are for Navijin support only.

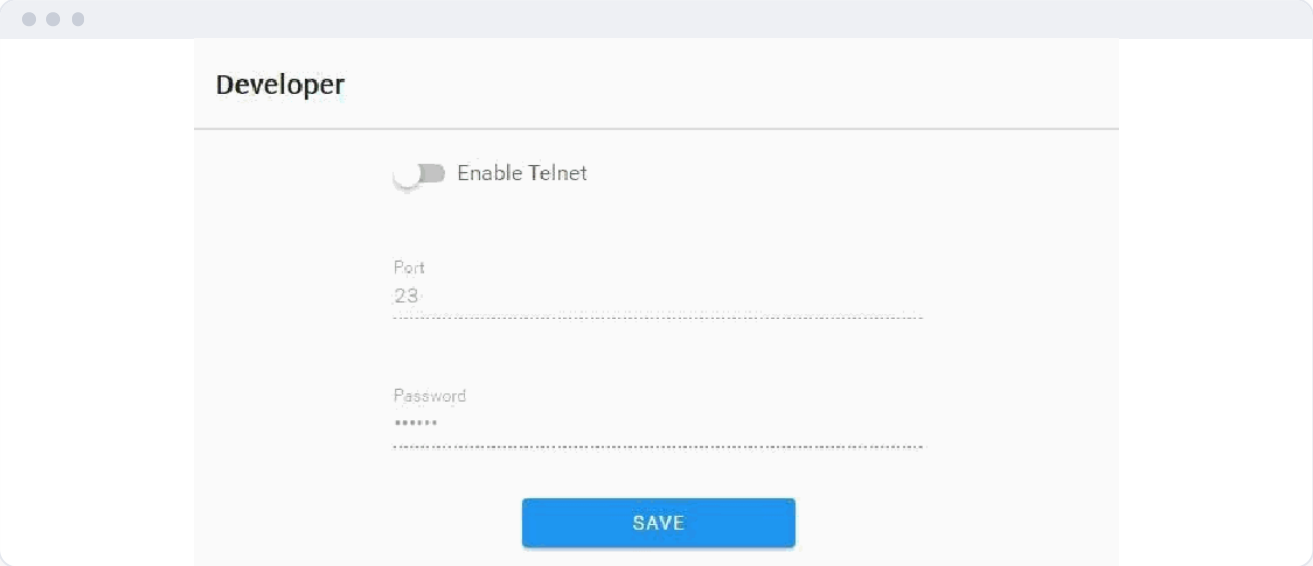



**Figure 30.** Developer page with the Telnet switch.

> **IMPORTANT**
>
> Keep **Telnet** disabled. Enable it only when Navijin support asks you to, and disable it again straight after the session.

SECTION 23

# Snapshots and sign-out

Find alarm snapshots and end your session safely.

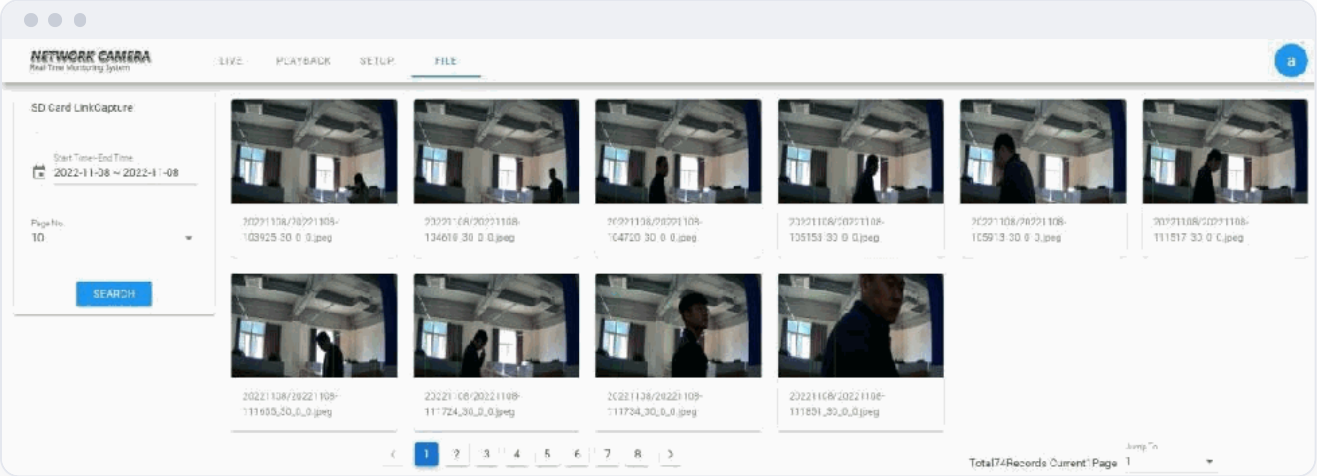



**Figure 31.** File Management: search alarm snapshots stored on the microSD card.

### 1 Find snapshots

Open **File Management**, select the time range and click **Search**.

### 2 Sign out

Click the account letter in the top-right corner and choose sign out. Always sign out on shared computers.

SECTION 24

# Commissioning checklist

Tick every item before you hand the camera over.

| Check | Done when |
|---|---|
| Password | Default password changed and documented |
| Name and OSD | Name follows the site plan and shows on the image |
| Time | NTP enabled, correct time zone and DST |
| Address | Final IP in the CCTV VLAN; the camera responds there |
| Image | Day and night image checked on site; WDR where needed |
| Encoding | Main and sub stream set; NVR receives both |
| Detection | Areas drawn, schedule set, test alarm received |
| Services | HTTPS on, RTSP Digest, unused services and Telnet off |
| Storage | microSD formatted and recording, if used |
| Backup | Configuration exported and stored with the site documents |

SECTION 25

# Troubleshooting

Answers to the most common questions.

### I cannot open 192.168.1.188.

Check that your computer has an address in 192.168.1.x and that no other new camera uses the same address. Try another browser, and check the PoE port or power adapter.

### Playback and recording pages are missing.

Insert a microSD card and format it in **Storage Management**. Without a card the camera shows the simplified interface.

### The image flickers under artificial light.

Set the mains frequency (50 or 60 Hz) under **Image Parameters › Gamma**, and check PAL/NTSC under **Device Information**.

### The camera switches between day and night all the time.

Increase the gap between the day and night thresholds, or the switching time.

### Too many motion alarms outdoors.

Use human detection instead of motion detection, reduce the sensitivity and leave trees, roads and sky out of the detection area.

### The NVR shows no video.

Check the address, user and password on the NVR, that RTSP is enabled, and that the NVR supports the encoding (switch to H.264 if needed).

### I forgot the password.

Use **Forgot password** on the sign-in page and follow the wizard, or contact Navijin support with the serial number.

Navijin

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