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# Luma x20 Resources

**Pro Tip:** Force a refresh on this page periodically to ensure the latest version loads.

**Pro Tip:** **OvrC now provides extensive surveillance functionality**—take a look at what we've done to make your life easier!

Use the index to navigate to the user guides, or click a resource below:



[Install Guides](#)



[Quick Start Using OvrC](#)



[Luma in Tech  
Community](#)

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# Tech Support FAQs

These are the most common calls that Tech Support gets from technicians in the field.

**Pro Tip:** You must first claim your NVR and cameras in OvrC and update all firmware before setting up the system.

**Pro Tip:** Most configuration can be handled quickly and easily through OvrC. See the OvrC Quick Start for details.

[Setting up a Luma x10 with a Luma x20 \(Tech Community\)](#).

[Luma x20 Firmware Update Doesn't Show on OvrC \(Tech Community\)](#).

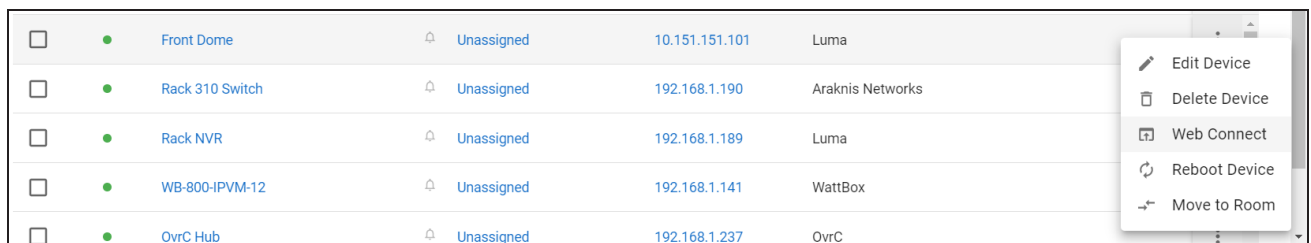


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# Luma x20 NVR Web Interface

**Most common functions can be handled via OvrC.** However, if you need to access the x20 NVR's web interface, go to its Devices page in OvrC, open the extended menu at right, and select the **Web Connect** option. If you are local to the NVR, you can just click the NVR's IP address.

When the new page opens, click the **Connect** icon. Log in as SupportAdm in using the password provided under NVR Credentials in OvrC's Configure Tab.



<input type="checkbox"/>	●	Front Dome	🔔	Unassigned	10.151.151.101	Luma
<input type="checkbox"/>	●	Rack 310 Switch	🔔	Unassigned	192.168.1.190	Araknis Networks
<input type="checkbox"/>	●	Rack NVR	🔔	Unassigned	192.168.1.189	Luma
<input type="checkbox"/>	●	WB-800-IPVM-12	🔔	Unassigned	192.168.1.141	WattBox
<input type="checkbox"/>	●	OvrC Hub	🔔	Unassigned	192.168.1.237	OvrC

- Edit Device
- Delete Device
- Web Connect
- Reboot Device
- Move to Room

## Main Controls

The interface opens to the Live Page.

At left, beneath the logo, are the various tabs of the NVR interface. At the top right are several controls that appear on all pages.

If the system detects you need it, there is a hotlink to download a plugin for your browser.

After that, the NVR shows name of the account you are using, a hotlink to log out, and a hotlink to change the account's password.

Below that, the NVR displays the latest OvrC status.

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# Luma x20 NVR UI - Live Display

This shows the camera's current video feed and presents various controls and alerts.

## Left Panel

This area holds camera information. Click the chevron at top to collapse or expand this panel.

## Camera Tab

View a list of your cameras. At the top, the title shows which camera you are viewing, and the total of all cameras available. Enter a camera name in the search box to find a specific camera, or click refresh to update the list.

## Group Tab

The top displays all the groups you have set up. Select a group by clicking in it. Below the divider, it displays all the cameras in the selected group.

**Pro Tip:** It's easier to edit a camera group under the Function Panel > Camera > Manage Camera > Edit Camera Group, plus it provides more controls.

The **Add** button creates a new group. You must name the group, set a dwell time, and use the checkboxes to select which camera(s) belong to that group. Each group must have at least one camera, and a camera can belong to more than one group.

If you click on a group to select it, you can click **Edit** to adjust the name or dwell, or **Delete** to remove it.

## Layout Tab

All customized schemes display in the left panel. Double-click a scheme to launch it immediately.

## Video Area

Here you view your feeds.

Select a window in the preview area and then click a camera in the left panel to launch that camera in the window.

With a multi-camera display, drag one camera view to another window to swap those two views.

## The Video Toolbar

At the left, you have buttons for single-camera and multi-camera views.

The OSD button displays (or hides) the recording status symbols: green stands for manual recording, red stands for sensor-based recording, yellow stands for motion-based recording, blue stands for scheduled recording, and cyan stands for AI recording.

The fullscreen button works with any view. Hit the Esc key to end fullscreen mode.

To the right are system control buttons.

Click the bell to trigger a manual alarm.

Click the multi-screen button to toggle the visibility of all cameras.

The large recording button toggles recording all feeds to your computer.

The small recording button toggles recording all feeds to the NVR.

# Right Panel

This area holds system controls. Click the chevron at top to collapse or expand this panel.

## Target Detection Tab

This gives you a list of items that have been detected by AI analysis.

## Operation Tab

At the top are several command buttons.

- **Snapshot:** Take a photo of the active camera feed.
- **Close Image:** Suspend the video feed.
- **Client Record On/Off:** Record to your computer.
- **Remote Manual Record On/Off:** Record to the NVR.
- **Zoom In / Zoom Out:** Click this, then click and drag in the camera's screen to zoom in on that area.
- **3D Zoom (PTZ only):** Click this, then click and drag in the camera's screen to zoom in on that area. You can then click in the image to center on that area.
- **Enable/Disable Two-way Talk** (associated microphone only): Allows you to talk with whomever is at the camera.
- **Restore Original Proportions:** Returns the display to its original size.
- **Enable/Disable Audio:** When enabled, use the slider to adjust the volume of the camera's microphone.

At the bottom, you select which of the active camera's streams to view. If you select sub stream, you can set the parameters as well.

## **Lens Control Tab**

This panel only functions for motorized or PTZ cameras. Here you can adjust the focus and zoom manually, Click One-key Focus to have the camera adjust itself, and decide whether the camera should automatically refocus itself when switching from day mode to night mode.

## **PTZ Tab**

Here you can control your PTZ and call presets. See the Function Panel > Camera > PTZ for details.

---

# Luma x20 NVR UI - Playback

This lets you review recorded video.

## Left Panel

This area holds camera and incident filters that assist in finding specific recordings.

Click the chevron at top to collapse or expand this panel.

## Camera Tab

At the top, select or deselect the type of recording you wish to search for: green stands for manual records, red stands for sensor-based records, yellow stands for motion-based records, blue stands for scheduled records, and cyan stands for AI event records.

Below is a list of your cameras. When searching for a recording, use the checkboxes to select any or all of your cameras.

Enter a camera name in the search box to find a specific camera, or click refresh to update the list. (Set the date using the calendar below the video window.)

At the bottom, click the search button to display all records that match the filters. Click the play button or click on the timeline to begin playback.

## Sequences Tab

You can also select sequenced streams to view.

At the top, select or deselect the type(s) of recordings you wish to search for: green stands for manual records, red stands for sensor-based records, yellow stands for motion-based records, blue stands for scheduled records, and cyan stands for AI event records.

The top displays all the groups you have set up. Below the divider, it displays all the cameras in the selected group.

## Group Tab

The top displays all the groups you have set up. Select a group by clicking in it. Below the divider, it displays all the cameras in the selected group.

**Pro Tip:** It's easier to edit a camera group under the Function Panel > Camera > Manage Camera > Edit Camera Group, plus it provides more controls.

The **Add** button creates a new group. You must name the group, set a dwell time, and use the checkboxes to select which camera(s) belong to that group. Each group must have at least one camera, and a camera can belong to more than one group.

If you click on a group to select it, you can click **Edit** to adjust the name or dwell, or **Delete** to remove it.

## Video Area

Here you view the recordings.

Click the play button (in the left panel), or click in the timeline (at bottom center), to begin playback at that point. Your NVR can handle simultaneous playback of up to four cameras.

Below the video to the left are the layout buttons: single-camera view, four-camera view, OSD on/off, and fullscreen mode. The fullscreen button works with any view; hit the Esc key to end fullscreen mode.

Below and center are the playback controls.

Below to the right are the download controls. Enable a POS insert, add a watermark, adjust start and end times for the clips, and download files to network drives or USB drives.

## The Calendar and Timeline

All recordings for the selected camera(s) on the date selected in the calendar are displayed in the timeline at right. Click anywhere in the timeline to begin playback at that time.

## Right Panel

This area provides extra controls. Click the chevron at top to collapse or expand this panel.

## Operation Tab

At the top are several command buttons.

- **Snapshot:** Take a photo of the active camera feed.
- **Close Image:** Suspend the video feed.
- **Zoom In / Zoom Out:** Click this, then click and drag in the camera's screen to zoom in on that area.
- **Restore Original Proportions:** Returns the display to its original size.
- **Enable/Disable Audio:** When enabled, use the slider to adjust the volume of the camera's microphone.

At the bottom, you select which of the active camera's streams to view. If you select sub stream, you can set the parameters as well.



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# Search and Backup

Here you can perform extensive searches and create backups of important recordings.

The left column contains all your search criteria; the right side displays all recordings that fulfill the criteria.

## By Event Tab

At the top left, select or deselect the type(s) of recordings you wish to search for: green stands for manual records, red stands for sensor-based records, yellow stands for motion-based records, blue stands for scheduled records, and cyan stands for AI event records.

Use the calendar tools to select the dates for the start and stop times. In the clock at the bottom of each calendar, set the times desired for start and stop (click in each of the hour, minute, and second, and use the up and down arrows to adjust).

Select the cameras to use in the search, then click the **Search** button.

Once the list populates, select the files you want and click **Backup**.

## By Time Tab

Use the calendar tools to select the dates for the start and stop times. In the clock at the bottom of each calendar, set the times desired for start and stop (click in each of the hour, minute, and second, and use the up and down arrows to adjust).

Select the cameras to use in the search, then click the **Search** button.

Once the list populates, select the files you want and click **Backup**.

# Image Management Tab

This displays all images in list form .

Click the image icon to launch a preview window. This window lets you browse all images. You can export the image (left), delete it (right), play or pause the affiliated recording, or step forward or backward through the list.

Click the save icon to load a pop-up where you can save it.

Click the trash icon to delete the image.

# Backup Status Tab

Here you can view the status of your download tasks, pause and resume tasks as need, or delete to cancel those tasks.

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# Luma x20 NVR UI - Intelligent Analysis

Here you can review the results of AI alerts for specific events.

## Search

This page lets you search for video of specific incidents.

Customize your search using the dropdowns. First select the target type in the left column. Next, select the day and times you're interested in, which camera(s) to check, and which type(s) of event you're looking for. If you choose "Vehicle", an additional dropdown appears that allows you to select cars and/or non-motor vehicles. You can also choose "Combine", which searches for people and/or designated vehicles.

Search results display in the window at right.

Click the star button and select "Add to favorite" to create and name a favorite group comprising the current searched pictures. Later, you can quickly view these pictures by clicking the star and choosing the group name.

Click a search result to play the associated video in the window at lower left. Select **Picture** or **List** to change how the results appear, and **Snap** or **Original Image** to view the object or the entire video frame. To the right, select whether to sort by **Time** or **Camera**.

## Statistics

This page lets you view graphs of AI-reported incidents.

Customize your search using the dropdowns. First select the target type in the left column. Next, which type of event you're looking for, and which camera(s) to check. If you choose "Vehicle", an additional dropdown appears that allows you to select cars and/or non-motor vehicles. You can also choose "Combine", which searches for people and/or designated vehicles.


The graph displays in the window at right. Across the top, you can select the time period for the data.

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# Luma x20 NVR Interface - Function Panel

The function panel has seven tiles. Click on any tile title to go to that section.

Below the title, each tile features links to several of the most-used subpages as well, so you can hop directly to those screens as desired.

Live Display   Playback   Search and Backup   Intelligent Analysis   **Function Panel**    OvrC: Connected

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<b>Camera</b>  Edit Camera Image Settings Motion PTZ	<b>Record</b>  Mode Settings Encode Parameters Record Status	<b>AI / Event</b>  People/Vehicle Detection Sensor Alarm-out Motion	
<b>Disk</b>  Disk Management Storage Mode	<b>Network</b>  TCP/IP Port E-mail Network Status	<b>Account and Authority</b>  Add User Edit User Edit Permission Group Block and Allow List	<b>System</b>  Basic Settings View Log Config Backup an...

---

# NVR Function Panel - Account and Authority Tile

## Contents

- Account
- Security
- User Status

## Account

### Users

At right, this displays the user list. You can search this table with the tool at the top right.

Click a user in the list to display its user permissions in the table at left.

There are three default permission groups (Administrator, Advanced, and Common) available for accounts. You can manually add a new permission group under Permission Management.

Only the Administrator account and users that have the “Account and Authority” permission can manage the system’s accounts. The Administrator group owns all the permissions, and its permissions cannot be changed. Permissions for Advanced and Common can be changed.

To add a user, click the + icon next to the search box. Set the username, password, group, and (if desired) the e-mail address. Enable Web Login if you want the user to be able to log in remotely.

To edit a user's permissions, select the user in the roster. In the table at left, enable or disable permissions as desired.

To edit a user's account, select the user in the roster and click the edit icon. Note: If you close permission control, the user gets all the permissions that the Administrator has. Click **OK** to save the settings.

**Pro Tip:** You cannot delete the Administrator account. You can still change the Administrator password by clicking **Modify Password** in the top right corner.

## Permission Management

Click on any permission group to edit its default permissions (you can still edit individual permissions later).

To add a new group, click the + icon. Type the group's name, check the default permissions, and set whether the user is local only, or has remote access.

In the permission group roster, you can click on an entry and edit their permissions. Click the edit icon to change the group name, or, within that dialog, click the disk icon to create a new group with those settings.

Click the trashcan to delete a group (other than the three default groups).

## Security

### Block and Allow List

Here you can block all internet connections except those you specify (white list) or allow all internet connections except those you specify (black list).

Check **Enable**, then choose which list you want to use.

Click **Add IP** or **Add MAC**. In the pop-up, check **Enable**. Enter the IP (or IP segment) or MAC address and click **OK**. In the list itself, you can click the edit or delete icons to adjust your entries.

## **Preview on Logout**

Select a camera in the dropdown, then enable or disable the preview permission. If a camera's preview permission on logout is on, you can view the live image of the camera while logged out of the system; if disabled, the camera cannot be viewed unless you log in first.

## **Network Security**

ARP Guard: Address Resolution Protocol Guard protects the LAN from ARP attacks and keeps the network stable. If enabled, you can enable auto gateway MAC or manually set gateway MAC. Enable detection defense as needed.

## **Password Security**

Here you set the minimum password strength and expiration time for users' passwords.

## **User Status**

Here you view the information about users currently online user. Click the expanded view icon to pop up a window that shows the preview occupied channel number and playback occupied channel number.



---

# NVR Function Panel - AI/Event Tile

## Contents:

- Event Notification
- AI Event
- General Event
- Alarm Status

## Event Notification

### Alarm - out

This table lists all the alarms coming from your NVR and cameras. From here you can set delays to the alarm (allowing, for example, an employee time to enter a passcode), select or set a schedule, and (using the triangle at top right) set whether the alarm is normally open or closed.

### E-mail

Here you create the list of people who receive email alerts from alarms. To add a person, enter their email, select the schedule during which they'll receive notifications, and click **Add**.

You can edit the schedule for a recipient in the table, or delete them outright.

At the bottom, you can click the eye toggle to hide or reveal the sender's email address.

**Edit Sender** takes you to the Network > Email page.

**Schedule Management:** This opens the Schedule dialog. You can have up to three schedules for your system. The first is the default 24x7 schedule. This cannot be edited or deleted.

The other two default to weekdays (24x5) and weekends (24x2), but can be edited and renamed to fit your needs.

When you click **Edit**, it opens to the **Edit Schedule** dialog. At the top you can rename the schedule. Click **Erase** or **Add** to modify the schedule bars. Click and drag in a schedule bar to add or erase times.

**Apply** saves all your changes.

## Display

Here you set how alert messages behave on the Live View page.

You can set the duration of a pop-up alert video, as well as message alerts.

Enable **Don't Show Later** if you don't want the popup to linger.

## Buzzer

Here you set the duration time of the audio alarm for your camera. Click **Apply** to save, and **Test** to hear it.

## Push Message

Check **Enable** to send push messages to the mobile clients. Select the push schedule and then click **Apply** to save the settings. If the push server is online, it sends notifications of alerts to the Luma View app.

**Schedule Management:** This opens the Schedule dialog. You can have up to three schedules for your system. The first is the default 24x7 schedule. This cannot be edited or deleted.

The other two default to weekdays (24x5) and weekends (24x2), but can be edited and renamed to fit your needs.

When you click **Edit**, it opens to the **Edit Schedule** dialog. At the top you can rename the schedule. Click **Erase** or **Add** to modify the schedule bars. Click and drag in a schedule bar to add or erase times.

## Audio

In the Voice Broadcast tab, you set parameters for any speaker you have attached to your system.

**Note:** The Voice Broadcast tab is for active deterrence cameras and is not currently supported.

Select the camera, the voice (audio .WAV file) to use, how many times to repeat it, volume, and language (currently English only). When an alarm is triggered, the camera's speaker broadcasts the file as specified.

Click **Listen** to test the uploaded audio, and **Apply** to save the settings.

In the Audio Device tab, you set parameters for any microphones and speakers you have attached to your system. Most x20 cameras have built-in microphones.

**Note:** The Audio Device tab is for active deterrence cameras and is not currently supported.

- **Camera:** Select the camera you are editing.
- **Audio Device:** Click Enable to activate both speaker and microphone.
- **Audio IN Device:** Select the built-in microphone or an external line microphone.
- **Input Volume:** How sensitive the microphone is to noise.
- **Speaker (built-in):** Luma x20 cameras do not currently have built-in speakers. This is included for future compatibility or third-party integration.

- **LOUT (external):** For an attached speaker, choose whether it is to be used for playing alarms or for two-way communication.
- **Audio Out Volume:** How loudly your speaker plays.
- **Audio In Encode:** Set to either G711A or G711U as your project requires.
- **Apply:** Saves all your changes.

## Light

If you have an alarm light attached to the camera, you can set the strobe duration and frequency when an alarm is triggered. No X20 cameras currently support this; it is supplied for future use.

## AI Event

Here you set the parameters for AI analysis. There are four tabs to this page, two under People/Vehicle Detection, and two under More.

## People Vehicle Detection / Line Crossing

**Pro Tip:** This is also easily configured in OvrC

The camera can use AI to determine whether something crosses a line. Line crossing cannot be used if area intrusion (below) is being used.

Click Enable Detection by IPC to activate or deactivate the use of lines.

### **Parameter Settings Tab**

Under **Rule** (center screen), select which of the 4 lines you want to modify. Enable **Draw Line**, then click and drag in the camera view image to create the line. You cannot edit a line; as soon as you click in the camera view, it erases any old line and starts a new one.

When you are satisfied with your line, under Rule, set the duration of the alarm trigger (additional motion during this time do not trigger an additional alarm) and crossing direction from the dropdown.

To the right, under Advanced, choose whether the NVR should save a representative photo. These are also sent with any push notifications.

- **Save Original Picture:** This saves the complete image of the moment that the event was triggered.
- **Save Target Picture:** This saves just a cutout of the target object that triggered the event.

Click **Apply** before exiting.

### ***Detection Target Tab***

Under **Detection Controls**, choose whether to analyze for people, vehicles, and/or non-motor vehicles like bikes. Set the sensitivity levels, then test your settings for efficacy.

To the right, under Advanced, choose whether the NVR should save a representative photo. These are also sent with any push notifications.

- **Save Original Picture:** This saves the complete image of the moment that the event was triggered.
- **Save Target Picture:** This saves just a cutout of the target object that triggered the event.

Click **Apply** before exiting.

### ***Trigger Mode Tab***

Here you set up how the NVR reacts to these events.

- In the Trigger General Click activities you want Line Crossing to effect (click Trigger General itself to enable all actions).
  - Snapshot: The camera captures images when targets are detected.
  - Push: The system sends messages when targets are detected.

- **Buzzer:** The system buzzes when targets are detected. To set the delay time of the buzzer, please see Buzzer for details.
- **Pop-up Video:** The system pops up a window of the corresponding video. To set the duration of the video, please see Display.
- **E-mail:** The system send e-mail alerts when targets are detected, attaching the captured target picture and the original picture so that you can view the whole scene when the alarm occurs. See E-mail Configuration for details on setting up recipients.
- **IPC\_Audio** is not yet available on any X20 cameras; this is included for future products. To set the camera audio track, repetition, and volume, refer to Audio for details.
- **IPC\_Light** is not yet available on any X20 cameras; this is included for future products. To set the light duration and frequency of the alarm strobe, please refer to Light for details.
- **Record:** Click the Configure button. This pops up a window select the cameras to be triggered. Click **OK** to save. The trigger cameras record automatically when targets are detected.
- **Alarm - out:** Click the Configure button. This pops up a window select the alarms to be triggered. When targets are detected The system will trigger the alarm - out automatically when targets are detected. To set the delay and schedule of the alarm outputs, see Alarm - out.
- **Preset:** Click and then select the preset for each camera. To add presets, please see Preset Setting for details.

## People Vehicle Detection / Intrusion

**Pro Tip:** This is also easily configured in OvrC

The camera can use AI to determine whether someone enters the marked area.

Intrusion cannot be used if line crossing (above) is being used.

## ***Parameter Settings Tab***

Each camera has four intrusion zones that can be defined.

Under **Rule**, use the bottom dropdown to select which of the 4 zones you want to modify. Each zone has six corners; enable **Draw Line** and click in the camera view image to add each corner one at a time. If you want fewer than six corners, make the corners you want, then disable **Draw Line**. The camera will complete your shape when you click **Apply**. Click **Clear** to delete the drawing so you can draw a new shape.

Duration is the length of the alarm trigger. Additional motion during this time do not trigger an additional alarm.

Regional Activities and Direction are disabled at this time, but have been left for future compatibility.

## ***Detection Target Tab***

Under **Detection Controls**, choose whether to analyze for people, vehicles, and/or non-motor vehicles like bikes. Set the sensitivity levels, then test your settings for efficacy.

To the right, under Advanced, choose whether the NVR should save a representative photo. These are also sent with any push notifications.

- **Save Original Picture:** This saves the complete image of the moment that the event was triggered.
- **Save Target Picture:** This saves just a cutout of the target object that triggered the event.

Click **Apply** before exiting.

## ***Trigger Mode Tab***

Here you set up how the NVR reacts to these events.

- In the Trigger General Click activities you want Line Crossing to effect (click Trigger General itself to enable all actions).

- Snapshot: The camera captures images when targets are detected.
  - Push: The system sends messages when targets are detected.
  - Buzzer: The system buzzes when targets are detected. To set the delay time of the buzzer, please see Buzzer for details.
  - Pop-up Video: The system pops up a window of the corresponding video. To set the duration of the video, please see Display.
  - E-mail: The system send e-mail alerts when targets are detected, attaching the captured target picture and the original picture so that you can view the whole scene when the alarm occurs. See E-mail Configuration for details on setting up recipients.
  - IPC\_Audio is not yet available on any X20 cameras; this is included for future products. To set the camera audio track, repetition, and volume, refer to Audio for details.
  - IPC\_Light is not yet available on any X20 cameras; this is included for future products. To set the light duration and frequency of the alarm strobe, please refer to Light for details.
- Record: Click the Configure button. This pops up a window select the cameras to be triggered. Click **OK** to save. The trigger cameras record automatically when targets are detected.
  - Alarm - out: Click the Configure button. This pops up a window select the alarms to be triggered. When targets are detected The system will trigger the alarm - out automatically when targets are detected. To set the delay and schedule of the alarm outputs, see Alarm - out.
  - Preset: Click and then select the preset for each camera. To add presets, please see Preset Setting for details.

To the right, under Advanced, choose whether the NVR should save a representative photo. These are also sent with any push notifications.



- **Save Original Picture:** This saves the complete image of the moment that the event was triggered.
- **Save Target Picture:** This saves just a cutout of the target object that triggered the event.

Click **Apply** before exiting.

## More / Target Counting

Tallies of human, motor vehicle, and/or non-motor vehicle traffic can be displayed by day, week, and month.

Currently, target count is only available for line crossing, and there is one line to tally from.

### ***Rule Setting Tab***

Under the screen, enable **Draw Line**, then click and drag in the camera view image to create the line. You cannot edit a line; as soon as you click in the camera view, it erases any old line and starts a new one.

Enable **Statistical OSD** to display the live count on the screen.

Under **Pass Line Info** (upper center), select the direction of the traffic you want to count.

Under **Reset Information** (lower center), click **Enable** if you want the count to reset automatically, then select the frequency under **Mode**. Finally, click in the time display and use up and down arrows to select when you want the count reset. Alternatively, click **Manual Reset** in the lower right.

To the right, under **Advanced**, choose whether the NVR should save a representative photo. These are also sent with any push notifications.

- **Save Original Picture:** This saves the complete image of the moment that the event was triggered.

- **Save Target Picture:** This saves just a cutout of the target object that triggered the event.

If you want summary emails send, click **Enable**, choose the frequency, and set the day/month and time. You cannot enter text into the time box; use the up and down arrows to adjust the time.

Click **Add** to enter the emails of those who should receive the email.

Changes are saved automatically when you close the dialog.

### ***Detection Target Tab***

Under **Detection Controls**, choose whether to analyze for people, vehicles, and/or non-motor vehicles like bikes. Set the sensitivity levels, then test your settings for efficacy.

To the right, under **Advanced**, choose whether the NVR should save a representative photo. These are also sent with any push notifications.

- **Save Original Picture:** This saves the complete image of the moment that the event was triggered.
- **Save Target Picture:** This saves just a cutout of the target object that triggered the event.

Click **Apply** before exiting.

## **More / Exception Detection**

Here the NVR detects attempts to disrupt cameras' view. These parameters apply to all IPCs on the NVR.

Under **Rule**, **Duration** determines how long the disruption must remain before it is considered a problem.

Below that, select which exceptions the NVR looks for:

- **Scene Change:** If the video view changes abruptly.
- **Video Blurred:** If the video goes out of focus.

- **Video Color Cast:** If the video becomes obscured.

The **Sensitivity** slider adjust how readily a change is considered an exception.

### ***Trigger Mode Tab***

Here you set up how the NVR reacts to these events.

- In the Trigger General Click activities you want Line Crossing to effect (click Trigger General itself to enable all actions).
  - Snapshot: The camera captures images when targets are detected.
  - Push: The system sends messages when targets are detected.
  - Buzzer: The system buzzes when targets are detected. To set the delay time of the buzzer, please see Buzzer for details.
  - Pop-up Video: The system pops up a window of the corresponding video. To set the duration of the video, please see Display.
  - E-mail: The system send e-mail alerts when targets are detected, attaching the captured target picture and the original picture so that you can view the whole scene when the alarm occurs. See E-mail Configuration for details on setting up recipients.
  - IPC\_Audio is not yet available on any X20 cameras; this is included for future products. To set the camera audio track, repetition, and volume, refer to Audio for details.
  - IPC\_Light is not yet available on any X20 cameras; this is included for future products. To set the light duration and frequency of the alarm strobe, please refer to Light for details.
- Record: Click the Configure button. This pops up a window select the cameras to be triggered. Click **OK** to save. The trigger cameras record automatically when targets are detected.

- Alarm - out: Click the Configure button. This pops up a window select the alarms to be triggered. When targets are detected The system will trigger the alarm - out automatically when targets are detected. To set the delay and schedule of the alarm outputs, see Alarm - out.
- Preset: Click and then select the preset for each camera. To add presets, please see Preset Setting for details.

## General Event

These handle non- AI events.

### Motion

Here you select which cameras detect basic motion, and what they do when motion is detected. Note that this is prone to false alarms; for example, a lightning flash trigger a basic motion event.

For each camera, set its schedule, which cameras the motion triggers to record and/or take a snapshot, and what non- surveillance events it triggers. Click the **Motion Settings** button to jump to Function Panel > Camera > Motion Settings.

### Sensor

Here you select which sensors trigger recordings.

For each sensor, set its schedule, which cameras the sensor triggers to record and/or take a snapshot, and what non- surveillance events it triggers. Click **Apply** to save changes.

### Combination Alarm (for 120/ 220 NVRs)

Here you select which specialized system you have to trigger recordings.

For each system, set its schedule, which cameras the system triggers to record and/or take a snapshot, and what non-surveillance events it triggers. Click **Apply** to save changes.

## Combination Alarm (for 420/820 NVRs)

Here you create complex and multi-layered alarm responses.

**Alarm Name:** Double-click this text to customize the name.

**Combination Alarm:** Click to enable this, then select the combination of alarms that trigger the response.

In **Record** and **Snapshot**, you set which cameras should undertake those activities.

**Push** sends notifications to your Luma View app.

**Alarm-out** lets you select multiple alarms to trigger.

**Preset Name** is the specific preset you want the activated PTZ to use.

You can also have the alarm trigger a buzzer, set a video or text message to pop up on the monitors, and send an email.

Click **Apply** to save changes.

## IPC Offline

Here you set how the NVR handles it when one of its cameras goes offline for whatever reason.

For each camera, set its schedule, which cameras the motion triggers to record and/or take a snapshot, and what non-surveillance events it triggers. Click **Apply** to save changes.

## Exception Alarm

Here you set what the NVR does to notify you when the surveillance system is not operating properly. Click **Apply** to save changes.

## Alarm Status

### Alarm Status

Here you can review your alarms to ensure everything is operating properly. Click the chevron at right for details on any problems.

---

# NVR Function Panel - Camera Tile

## Contents:

- Manage Camera
- Image
- Motion
- PTZ

## Manage Camera

### Add Camera

**Pro Tip:** Use OvrC to add cameras. It grabs all x20 cameras automatically, and adds third-party cameras with a few clicks.

### Edit Camera

This table lists data for all of the cameras in your system. If you have a large system use the Search bar in the top right to find your camera.

A few tips:

- The camera's Name column also shows which NVR port it's plugged into in brackets.
- Click the icon in the Preview column to load a pop-up with a live video stream.
- Click **Delete** to unassign a network camera from the NVR (it remains available in OvrC).
- The Settings icon opens the web UI of the IP camera.

## Edit Camera Group

Here you edit camera groups, which are used by display schemes. See System > Output Settings for details on schemes.

The Add Group button at the top right creates a new group. You must name the group, set a dwell time, and use the checkboxes to select which camera(s) belong to that group. Click a camera's Preview icon to launch a quick pop-up for that camera. Each group must have at least one camera, and a camera can belong to more than one group.

If you click on a group to select it, you can click the Edit icon to adjust the name or dwell, or the down arrow to add or remove cameras from the group, or the trash icon to delete it entirely.

## Image

### OSD Settings

**Pro Tip:** Pro Tip: This is more easily done in OvrC. In addition, OvrC gives you more options and control.

The right side of the page shows a list of all cameras on the NVR. The table includes data on the OSD settings for each camera. At the bottom, you can navigate multiple pages of the table if needed.

The top left shows the video feed of the camera that is selected in the dropdown list below. Immediately above this dropdown, you can activate or deactivate the OSD for name and time.

You can change the name of the selected camera. This change propagates across the NVR.

You can change the date and time format in the Function Panel System tile.



The watermark text appears when using video playback.

## Image Settings

**Pro Tip:** This is more easily done in OvrC.

The right side of the page shows a list of all cameras on the NVR. The table includes data on the image settings for each camera. At the bottom, you can navigate multiple pages of the table if needed.

The top left shows the video feed of the camera that is selected in the dropdown list below.

At the bottom, edit the settings for that camera. You can click on the bars, or click and drag the circles. You cannot enter values in the text boxes, but you can use up and down arrows to adjust the values.

**Brightness:** Set the brightness level of the camera's image.

**Contrast:** Set the color difference between the brightest and darkest parts.

**Saturation:** Set the degree of color purity. High saturation makes for vivid color; low makes the image more grayscale.

**Hue:** Adjust the total color of the image.

Click **Default** to restore the image settings to factory default.

Click **Advanced** to open additional options. There are three tabs:

### ***Image Adjustment Tab***

The dropdown at top lets you edit the Common configuration file (used all the time) or the separate config files for day and night.

- **Sharpness:** Set the resolution level of the image plane and the sharpness level of the image edge.
- **Wide Dynamic:** All x20 device have WDR, so this has been disabled.

- **Noise Reduction:** Decrease the visual noise (snow, random pixel errors, etc.). Increasing the value improves the noise reduction effect but reduces image resolution.
- **Fog Reduction:** Enable this and test the settings to improve visibility in foggy, dusty, smoggy, or rainy environments.
- **Image Shift:** This setting is used on the DVR only.
- **BLC:** Select which backlight compensation option to use:
  - **Off:** Disables the backlight compensation function. It is the default mode.
  - **HWDR:** Hardware Wide Dynamic Range adjusts the image when there are both very bright and very dark areas in the field of view. It dims the bright areas and boosts the dark areas. Recording stops for a few seconds when the camera switches into or out of WDR mode.
  - **HLC:** Highlight Compensation suppresses the brightness of the image's bright areas and reducing the size of any halo.
  - **BLC:** Enabling backlight compensation makes dark areas (especially backlit areas) clearly visible.
  - **Grade (HWDR only):** Sets the amount of WDR to use. The higher the level, the less contrast there is between the lightest and darkest areas.
- **White Balance:** Adjust the color temperature according to the environment automatically.
- **Anti Flicker:** If lights pulsate or flicker in your video feed, test the settings here to try to eliminate it.
- **Exposure Mode:** If you select Manual, another dropdown appears where you select a fixed value for the digital shutter speed.
- **Gain Mode:** If you select Manual, this activates the Gain Limit slider below. The higher the value is, the brighter the image is.

- **Gain Limit:** Increasing the gain limit improves nighttime visibility at the cost of adding more noise.
- **Corridor Pattern:** Enable this for situations like long hallways. Set the video resolution to 1080P or below, and choose the rotation of the camera image (in 90° increments).
- **Image Mirror:** Reverse the image horizontally.
- **Image Flip:** Reverse the image vertically.
- **High FPS Mode:** Enable this to record at settings higher than the standard 30fps.
- **Day/Night Mode:** This tells the camera when to switch to night mode. Auto lets the camera decide, Day and Night leaves the camera in that mode constantly, and Timing switches according to a set schedule.
- **Sensitivity (Auto mode selected):** This sets how readily the camera switches. Higher sensitivity requires less change to make the switch.
- **Smart IR:** This function avoids overexposure and underexposure by controlling the brightness of the IR lights according to the ambient light.
- **Delay Time (Seconds) (Auto mode selected):** How long a change in light must remain at that light level before the camera switches modes.
- **Shutter Mode:** If you are using manual controls, you can adjust the shutter speed to avoid flicker.
- **Infrared Mode:** Choose how the camera chooses to engage its infrared emitter.

### ***Schedule Control Tab***

The schedule dropdown lets you choose whether to use one configuration around the clock (Full Time, then select Common or Auto, which leaves it to the camera to switch between day and night), or to switch between the Day and Night configurations on a schedule (select Timing). To set the times that the camera switches, use the text boxes to define which time span uses the Day config. All other times are considered night. You cannot edit the schedule by clicking and dragging.

When you click **Apply**, all settings are saved for the selected camera only.

## ***Lens Control Tab***

If the selected camera has a motorized lens, you can adjust the zoom and focus here.

Enable the Day/night mode switch autofocus to have the camera refocus itself when switching modes.

## **Mask Settings**

Your Lumina NVR supports up to four video masks per camera to preserve privacy, whether it's a secure item of yours, or a window into a neighbor's house. Areas covered by a mask are excluded from all recordings.

The right side of the page shows a list of all cameras on the NVR. The table includes whether the mask is active, and the mask color (which cannot be edited). At the bottom, you can navigate multiple pages of the table if needed.

The top left shows the video feed of the camera that is selected in the dropdown list below.

Click **Draw** to begin drawing your mask(s). Click and drag across the screen to set the areas to block. **Delete** erases all masks.

Use the dropdown to turn that camera's mask on or off.

Click **Apply** to save your changes.

# Motion

## **Motion Settings**

**Pro Tip:** This is more easily done in OvrC (though OvrC doesn't have the duration setting). In addition, OvrC allows multiple activity zones each using different motion sensitivities.

The right side of the page shows a list of all cameras on the NVR. The table includes whether motion detection is active, the camera's sensitivity, and the duration. At the bottom, you can navigate multiple pages of the table if needed.

The top left shows the video feed of the camera that is selected in the dropdown list below.

Click and drag in the video image to add areas to the camera's motion detection analysis. The **All** button fills the screen, **Clear** empties the screen, and **Reverse** inverts the selection.

Enable or disable motion for the selected camera below. **Sensitivity** determines how readily the camera decides if something is motion. **Duration** refers to the assumed time that a motion event lasts. For example, if the duration time is set to 10 seconds, when the system detects motion, any other motion detected by that camera within the next 10 seconds is considered a continuation of that motion event, and not a new event.

Click **Processing Mode** to go to the Alarm handling configuration interface of the motion alarm.

## PTZ

Although this page is designed for PTZ cameras, the zoom and focus controls can also be used with varifocal cameras.

## Preset

Here you set fixed scenes (a combination of aim, speed, focus, iris, and zoom) that your camera can move to with the click of a button.

Below the camera image are the PTZ controls. Control the aim using the buttons on the left. The central button on the left stops the camera's motion. To the right, the top slider controls the camera's panning speed. Below that, the paired buttons let you control the zoom, focus, and iris of the camera.

Below the controls, you select which camera you are controlling and which preset (if any) you wish to edit.

To create a preset, aim the camera as desired and click **Add**. A dialog pops up where you can select a number for the preset and give it a name.

After creating a preset, you can edit the name in the text box and click the disk icon to save the change. To adjust a preset's aim, select that preset, adjust the settings, and click **Save Position**. Note that the NVR and camera have separate presets.

To delete a preset, select it from the dropdown menu and click **Delete**.

To the right, a table shows the cameras you have and the various presets created for each. Click the arrow icon to go to that preset, or the x icon to delete it.

## Cruise

A cruise cycles the camera through a designated series of presets. It is therefore only enabled for PTZ cameras.

To add a new cruise, click the down carat at the right side of the camera's entry, then click the + button. Name the cruise, then click **Add Preset** for each preset you want the camera to visit. **Duration** is how long the camera stays at that preset, and speed is how quickly the camera moves to that preset. This overrides the preset's inherent speed setting.

When you have several presets added, click on a preset and use the **Move Up** and **Move Down** buttons to change the order that the cruise uses. Click **OK** to save.

Once you have one or more cruises, you can select a cruise to edit in the dropdown, and add or remove presets, change their order, rename it, etc.

## Cruise Group

A cruise group cycles the camera through a designated series of cruises. Each camera has one cruise group.

To add a cruise to a group, click the down carat to the right of the camera's entry, and click the + button. Select the cruise to add from the dropdown. You can also click the Add Cruise button at the bottom of the table.

Click **Play** and **Stop** to view the cruise group shown in the table below.

At the bottom, click **Add Cruise** to select a cruise to add to the group.

In the table, click the trashcan to remove that cruise from the group.

## Pattern

Here you set fixed scenes (a scene is a combination of direction and zoom) that your camera can move to with the click of a button.

SNIPPET

Below the controls, you select which camera you are controlling and which pattern (if any) you wish to edit.

To create a pattern, aim the camera as desired and click **Add**. A dialog pops up where you can select a number for the preset and give it a name.

After creating a preset, you can edit the name in the text box and click the disk icon to change it.

To delete a preset, select it from the dropdown menu and click **Delete**.

## Task

Here you schedule your PTZ camera to undertake certain activities at certain times of day. This page does not work with motorized cameras.

Select the camera, then select which function (activity) it should use. If there are several options (for example, several presets), select the specific under the Name dropdown. Then set the start and end time, and click **Add**.

The table at right shows all the cameras. To see which Tasks are assigned to each camera, click the down carat at the right of the camera's entry. You can enable or disable all tasks on a per-camera basis, and edit individual tasks by clicking the edit icon at right.

## Smart Tracking

Your PTZ can track objects that it detects moving.

Select the camera, and select either:

- **PTZ Auto Tracking Priority:** If selected, when an event triggers tracking, you cannot control the PTZ through the PTZ control panel in the live view interface.
- **Manual PTZ Control Priority:** If selected, when an event triggers tracking, you can control PTZ by clicking the buttons on the PTZ control panel in the live view interface while it is engaged in smart tracking. After you cease control for 5 seconds, the PTZ camera returns to its pre-defined detection area to await a new target.

**Still time:** While enabled, when the tracking target stops or hides behind an obstacle for the length of the indicated time, or the target tracking is complete and no target appears in the detection area during the indicated time, the PTZ returns to its home position.

If it is not enabled, the PTZ returns to its home position after 5 seconds.



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# NVR Function Panel - Disk Tile

## Disk Management

### Disk Management

This gives data on each hard drive in your system, and a button to format a newly added drive.

**Unlock:** If you have transferred an encrypted disk from another NVR to this NVR, its status reads "locked". Select the locked disk by clicking on its row, then click Unlock.

Enter the password for its encryption, and the disk status changes to "Read Only". This allows you to read and export the data of this disk (you still cannot write to it).

## Storage Mode

### Storage Mode Settings

Disk groups let you restrict which cameras can record to which disks.

During installation, all disks and cameras are added to group 1 automatically.

Each group can add disks and cameras from other groups. To create a new group, select a disk group by clicking on it in the left column and then click the + button in the disk or camera row. This opens a pop-up where you select the disks or cameras in the window and then click **Add**.

To delete disks and cameras from a group, select a disk group and then click on the top right corner of the added disk or camera to delete it. Deleted disks and cameras move into group 1 automatically, which means you cannot delete them from group 1.

**Pro Tip:** Each HDD and each camera can only be in one group.

# Information

## **View Disk Information**

This gives basic information on NVR's available disk drives to assist with troubleshooting. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

## **S.M.A.R.T. Information**

SMART stands for Self-Monitoring, Analysis, and Reporting Technology. This page shows detailed information for whichever disk you have selected in the dropdown menu.

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# NVR Function Panel - Network Tile

Explaining networking details is beyond the scope of this document. If you are a network professional, you know what you're doing. If not, we suggest enrolling in the Professional Certified Network Administrator (PCNA) course at <https://www.snapav.com/shop/en/snapav/pcna>.

## Contents:

- Network
- Stream Settings
- Integration
- Network Status

## Network

The 420 NVR can handle up to 160Mbps bandwidth. The 820 can handle up to 196Mbps.

### TCP/IP (for 120/220 NVRs)

**Ethernet Port 1:** Here you can set your NVR's IP address manually, or let the router handle it automatically (using DHCP). We recommend leaving this set to automatic.

**Advanced:** This button lets you set a secondary IP and subnet.

**Internal Ethernet Port:** Here you configure the settings for your gateway.

Click **Apply** to save your changes.

### TCP/IP (for 420/820 NVRs)

These high-capacity NVRs have two Ethernet ports. Each port acts as a failover for the other. Plug both ports into your surveillance switch.

**Ethernet Port #** : Here you can set your NVR's IP address manually, or let the router handle it automatically (using DHCP). We recommend leaving this set to automatic.

**Advanced**: This button lets you set MTUs for each port.

**Default Route**: Select which Ethernet port has priority for data transmission.

**Internal Ethernet Port**: Here you configure the settings for your gateway.

Click **Apply** to save your changes.

## Port

Here you configure the port settings for HTTP, HTTPS, etc. Be sure to click **Apply** to save any changes.

## PPPoE

Set the user name and password for Point-to-Point Protocol over Ethernet communication.

## DDNS

If you are not using OvrC or Control4, here you can configure a DDNS name for remote access to your system.

## E-mail

Here you configure the emails that the camera sends with alerts.

**Sender Name**: This is who the email appears to be from.

**Email Address**: If someone replies to this message it'll go here.

Next, fill in the **Server Address** and **SMTP Port**, and select the security mode.

If **Attaching Image** is enabled, the NVR adds a snapshot of the event to the email.

Finally, enter the credentials for the email server, or click **Anonymous Login**.

Click **Test** to verify all settings, and **Apply** when it works.

Click **Edit Recipient** to open a page that lets you select who gets the alert emails.

- To add a recipient, enter their email in the text box, and select whether they get emails 7 days a week, or on another schedule (the default schedules are weekdays only or weekends only). Click **Add**.
- Once a recipient is added, you can change their schedule or click the trashcan to delete them.
- Click **Apply** to save your changes before clicking any of the other buttons.
- **Edit Sender:** Sends you back to the base email page. To view or redact the sender's assigned email, click the eye icon to the left.

**Schedule Management:** This opens the Schedule dialog. You can have up to three schedules for your system. The first is the default 24x7 schedule. This cannot be edited or deleted.

The other two default to weekdays (24x5) and weekends (24x2), but can be edited and renamed to fit your needs.

When you click **Edit**, it opens to the **Edit Schedule** dialog. At the top you can rename the schedule. Click **Erase** or **Add** to modify the schedule bars. Click and drag in a schedule bar to add or erase times.

## UPnP

Enable or disable Universal Plug- and- Play, and name the camera.

## 802.1x

Manually select the camera's authentication mode.

## NAT

This displays our P2P server information, which is used for the Luma View app.

## Https

If you want to create a self-signed certificate, you can do so here.

## FTP

Here you configure the settings for your FTP server.

The table shows the FTP servers you have set up. Click **Add** to create a new server to use, or select a server in the display and click **Test**, **Modify**, or **Delete**.

## SNMP

Monitor your network for any concerns.

## Stream Settings

Here you set the parameters of each camera's sub streams. These vary based on your network capacity and need, though we recommend using H.265+ wherever possible.

## Integration

This handles automated access into your surveillance system.

## ONVIF

Enable ONVIF if you plan to use third-party VMS platforms.

Click **Add** to add a user for your ONVIF system , then use the dialog box to set that user's a username, password, and capability.

## **Platform Access**

This is for integration into 3rd party VMS platforms.

## **UPnP Report**

To enable the UPnP Report, you must first enable UPnP functionality, which is done in the Network section, above. Some third- party VMS platforms support this protocol, and it is used to get the NVR to work with these systems.

## **Network Status**

This gives basic information regarding IP addresses, bandwidth, ports, etc., to assist with troubleshooting. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

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# NVR Function Panel - Record Tile (mode set, advanced)

## Contents:

- Record
- Encode Parameters
- Record Status

## Record

### Mode Settings

Here you set which types of recordings your NVR uses, and when.

**Auto Mode** uses the selected recording types 24/7.

**Customization Mode** lets you set different schedules for each type of recording.

**Schedule Management:** This opens the Schedule dialog. You can have up to three schedules for your system. The first is the default 24x7 schedule. This cannot be edited or deleted.

The other two default to weekdays (24x5) and weekends (24x2), but can be edited and renamed to fit your needs.

When you click **Edit**, it opens to the **Edit Schedule** dialog. At the top you can rename the schedule. Click **Erase** or **Add** to modify the schedule bars. Click and drag in a schedule bar to add or erase times.

Use the radio buttons to select which sorts of recordings you want. If the mix you want doesn't appear, click **Advanced** to pick and choose the recording types.



Under Manual Record Settings, set the record time for a default when manually initiating recording.

## Advanced

Check the Overwrite box if it's all right for your new recordings to overwrite old ones. The frequency with which this happens depends on multiple factors including disk size, activity, etc.

In the dropdown, check with of the camera's streams you wish recorded.

In the table, set pre-record and post-record times for each camera. The camera adds these to the front or back of any event to provide better context. Also set the time that must pass before a recording is considered "old" and automatically deleted from the system to free up disk space.

Click **Apply** to save all changes. This reboots your system .

## Encode Parameters

### Event Recording Settings

Here you define the settings for the main stream of each camera when it is recording an event (for example, motion was detected or an alarm triggered a recording).

A few tips:

- **Encode:** We recommend H.265+
- **Bitrate Type:** Use VBR (variable bitrate) if the scene is largely static, or CBR (constant bitrate) if the scene is constantly changing.
- **GOP:** Group of Pictures is basically the same as i-frame interval. Lowering this value increases the quality of your video, but makes the stream larger.

At the bottom, Remain Bandwidth shows how much traffic your cameras are using with their current settings, compared to how much traffic your NVR can handle.

Click **Apply** to save all changes.

## Schedule Recording Settings

Here you define the settings for the main stream of each camera when it is operating under a scheduled recording.

A few tips:

- **Encode:** We recommend H.265+
- **Bitrate Type:** Use VBR (variable bitrate) if the scene is largely static, or CBR (constant bitrate) if the scene is constantly changing.
- **GOP:** Group of Pictures is basically the same as i-frame interval. Lowering this value increases the quality of your video, but makes the stream larger.

At the bottom, Remain Bandwidth shows how much traffic your cameras are using with their current settings, compared to how much traffic your NVR can handle.

Click **Apply** to save all changes.

## Record Status

### Record Status

This gives basic information on each camera's surveillance streams to assist with troubleshooting. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

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# NVR Function Panel - System Tile

This tile covers informational and administrative tasks.

## Contents:

- Basic Settings
- Maintenance
- Information

## Basic Settings

### General Settings

Here you prescribe fundamental settings for your system .

Device Name and Number does not appear in displays; it's available for housekeeping/inventory use.

Set the **Video Format** based on your location (NTSC in North America, and PAL in Europe).

Enable **Fixed Display Resolution** to adjust the resolution of the stream to your specifications.

**Main Output** and **Secondary Output** (420/820 only): High-capacity NVRs can support two independent screens displaying 9 channels each. Here you set the resolution of those screens.

**Enable Wizard:** The setup wizard launches on both the local and web UI when you first activate the NVR, or after you factory reset it. You can disable it here.

**App Live Self-adaptation:** When enabled, the NVR adjusts resolution for the Luma View app based on the internet connection.

When you enable **Dwell Automatically** and select a time, then, if the system has not been operated by a user in that specified amount of time, the system switches to the next camera or grid view.

## Date and Time

You have three options for maintaining your NVR's time clock.

If you want it to coordinate with one of the national servers, set **Synchronous** to **NTP** and select your preferred NTP server. This is our recommended setting.

If you want it to synchronize with your computer, set **Synchronous** to **Manual** and enable **Synchronize with computer time**. The NVR syncs with the computer once, then maintains its own time henceforth.

You can also define the NVR time yourself. Set **Synchronous** to **Manual**. Click in the **System Time** box, set the date, and set the NVR time at the bottom. Click **OK**. The NVR resets to that time, then maintains its own time going forward.

Use the dropdowns to adjust how the timestamp appears.

## Output Settings

This is where you manage your display schemes. A scheme is a selection of cameras in a specific arrangement. This page has three primary areas.

- **Left Column:** To the left, the NVR displays the NVR's dwell schemes.
- **Center Area:** The center area shows the selected display scheme and a toolbar.
- **Right Column:** To the right you can select various cameras and groups.

To create a new scheme, click the + icon in the left column. When you have at least one scheme, you can select it by clicking on it (the outline turns blue), or delete it by clicking the X at the top right. When a scheme is selected, you can edit it using the center toolbar. Note that the toolbar allows you to select the scheme as a favorite (starred button at left).

To customize a scheme,

1. select it in the left column,
2. choose the multicamera display in the toolbar,
3. select a camera window in the display, then
4. double-click a camera or sequence in the right column.

A single camera cannot appear twice in the same scheme. To remove a camera from a scheme, select its window then click the trashcan icon in the toolbar, or right-click the camera and select **Clear**.

Click **Apply** to save all changes.

## POS Settings

To use POS surveillance, choose one of the POS lines in the table. Set Enable to ON and choose the connection type. Click **Configure** to open a dialog where you set the POS IP address. If needed, click the POS Port checkbox and enter its port number in the text box. Finally, select your POS protocol.

Click the **Trigger Camera** checkbox, then click the just-enabled Configure button to bind the POS to the camera. One POS can be bound to multiple channels, but each channel can be bound to only one POS.

Under Display Settings, click **Configure** to set the

- **General Settings**, where you set the characters that define the text
- **Display Position**, where you can draw a box to define the POS inset
- **Display Mode**, where you select the font color(s) and display method of the POS information.

Finally, set the format for the data. Click **Apply** to save all changes.

## PoE Power Management

Set PoE on or off on a port-by-port basis.

## Recorder OSD Setting

This controls the OSD for the signal sent through the NVR's local HDMI output. It also allows you to create custom views on the live page with the Web UI.

# Maintenance

## View Log

Here you can review all activities in your system.

When the window opens, it displays all events. To filter, choose the type of log you want to view, select the starting and ending time, and click **Search**.

Click **Export** to save a text file of the logs to your computer's Downloads folder.

## Factory Default

In the top box you can set all NVR parameters to their default states (including or excluding network settings as desired). If you exclude network settings, the defaulted recorder is still activated, and maintains the settings for passwords, time zone, language, video format (PAL/NTSC), date format, and time format.

In the bottom box you can restore everything in your NVR to its original state (though it does not roll back firmware). The NVR acts as if it were just removed from its box.

## Upgrade

To update your NVR's firm ware, click **Browse** and use your system's standard explorer window to navigate to and select the file. Click **Upgrade** to install the firm ware on your system, or **Backup and Upgrade** to first export a copy of your current firm ware to your computer's Downloads folder, and then update.

Luma x20 devices run in a dual-firm ware mode to protect the hardware (and your installs) from unforeseen glitches.

Once the firm ware has been applied to the first (operational) partition, the device goes into an observation mode to ensure the new firm ware operates properly. Observation mode lasts for about ten minutes once the firm ware update is completed.

Once proper function has been verified, the device applies the firm ware to the second (backup) partition and logs the new firm ware version with OvrC. If the new firm ware fails, the device restores the backup firm ware to the first (operational) partition.

As of this writing, OvrC does not track whether a Luma x20 device is in observation mode. This means that, for about ten minutes in OvrC, it looks like the firm ware update didn't take, and that an update is available. If you try to update the firm ware again while your Luma is in observation mode, the update will fail in OvrC but this will not impact the performance of the device.

The status of these firm ware files is shown below the controls.

## Config Backup and Restore

**Import System Configuration:** To load an NVR configuration file, click **Browse** and use your system's standard explorer window to navigate to and select the file. Click **Import** to install the config on your system.

**Export System Configuration:** To create a backup of your NVR's config, select the desired options, then click **Export**. The NVR creates a config file and copies it to your computer's Downloads folder.

## Reboot

This forces an immediate reboot of the NVR.

## Schedule Reboot

If you want the NVR to perform a regular maintenance reboot, click **Enable** and select the frequency and time for each reboot. Your system will be offline while the NVR reboots. Click **Apply**.

# Information

## Basic

This gives basic information on the NVR's network to assist with troubleshooting. You cannot edit anything

## Camera Status

This gives basic information for each camera's operation. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

## Alarm Status

This displays each alarm the NVR handles (including those on active cameras). If an alarm has an alert or exception, click the down arrow at right to see more information.



## **Record Status**

This gives basic information for each camera stream to assist with troubleshooting. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

## **Network Status**

This gives basic information on the NVR's network to assist with troubleshooting. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

## **Disk Status**

This gives basic information on NVR's available disk drives to assist with troubleshooting. You cannot edit anything, but you can refresh the data by clicking the button in the upper right-hand corner.

## Technical Support

For chat and telephone, visit [snp1.co/techsupport](https://snp1.co/techsupport) • Email: [TechSupport@SnapOne.com](mailto:TechSupport@SnapOne.com). Visit [snp1.co/tc](https://snp1.co/tc) for discussions, instructional videos, news, and more.

## Warranty and Legal Notices

Find details of the product's Limited Warranty and other resources such as regulatory notices and patent and safety information, at [snapone.com/legal](https://snapone.com/legal) or request a paper copy from Customer Service at **866.424.4489**.

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