



## The Specialist 2.0 & License Plate Guide

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Updated: 7/19/24

### Important License Plate Info:

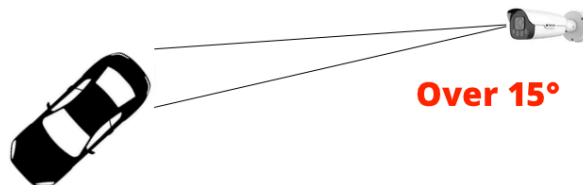
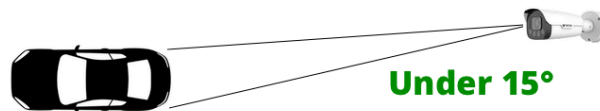
Please read this important information carefully, consistently capturing license plates requires specific installation planning and execution. Any license plate system is only as good as the image it captures.

#### Angle

This camera's license plate performance is directly tied to the height, angle, and distance it's installed in.

You want to have no more than a 15° offset, both horizontally and vertically. Plates should be as direct/inline to the camera as possible. If the angle is incorrect, it will result in missed captures or incorrect plate readings.

Please carefully plan to capture the right angle.





Good angle - directly on, good read



Bad angle - very unlikely to read properly

## Lane Selection

The Specialist 2.0 is best for single “lane” operations and choke points. Choke points include exits, stop sights, speed bumps, and gates.

Choosing the correct choke point is important because you need it wide enough to capture various plate sizes, vehicle approaches/angles, but narrow enough to be able to zoom in the capture details consistently.

For wide exits, roads, etc, two cameras may be required.

## Installation Surface

This camera has a very powerful zoom lens and when zooming in on any camera, movements such as vibrations, wind, etc will be much more apparent than as standard wide/normal lens camera.

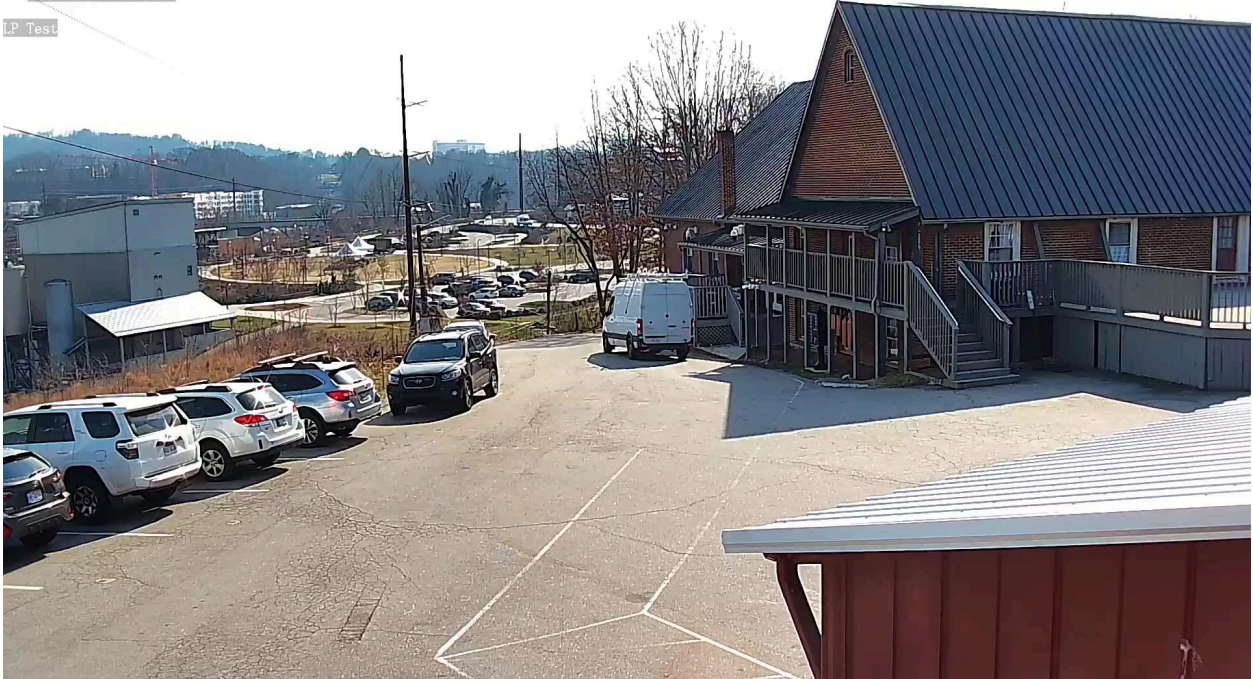
Take proper precautions to install this camera on a stable surface that doesn't transfer vibrations. If you are mounting this camera on a pole, be sure the pole is sufficiently stable and does not introduce vibrations.

## Zoom Level

This camera will need to be zoomed in to capture plates. When getting plates it's important to remember this is a dedicated license plate camera - it will likely not capture any other details but the plate, especially at night. For more general coverage, and details like make/model be sure to have a second camera looking over the general area vehicles will be.

22/02/2024 10:44:43

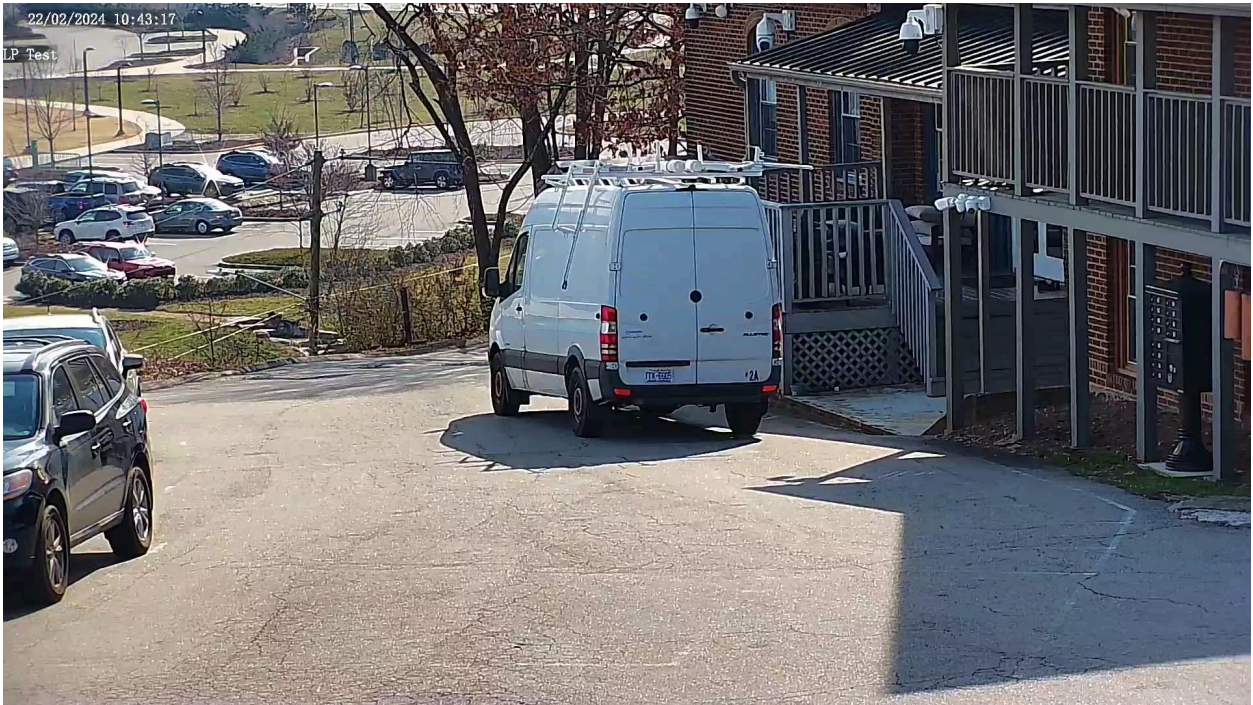
LP Test



Zoomed Out

22/02/2024 10:43:17

LP Test



Zoomed in some, but not enough - plate is too small to capture consistently





Zoomed in to appropriate size. The larger the license plate in the image the better the accuracy.

SCW recommends having a car parked while aiming and zooming. Use the web interface of the camera to set up. The red box should roughly line up to the plate size.. If the red box is larger than the plate, you will have to zoom in more or if you are zoomed in to the max it may be out of range of the camera.



The red should be "filled" with the license plate

## Speed

This camera is rated for 15MPH maximum speed. Vehicles over 15 MPH are unlikely to capture correctly.

The Specialist is designed primarily for entry/exit point applications. SCW ideally suggests aiming at stop signs or slow down points like speed bumps or gates.

## Back Plates vs Front Plates

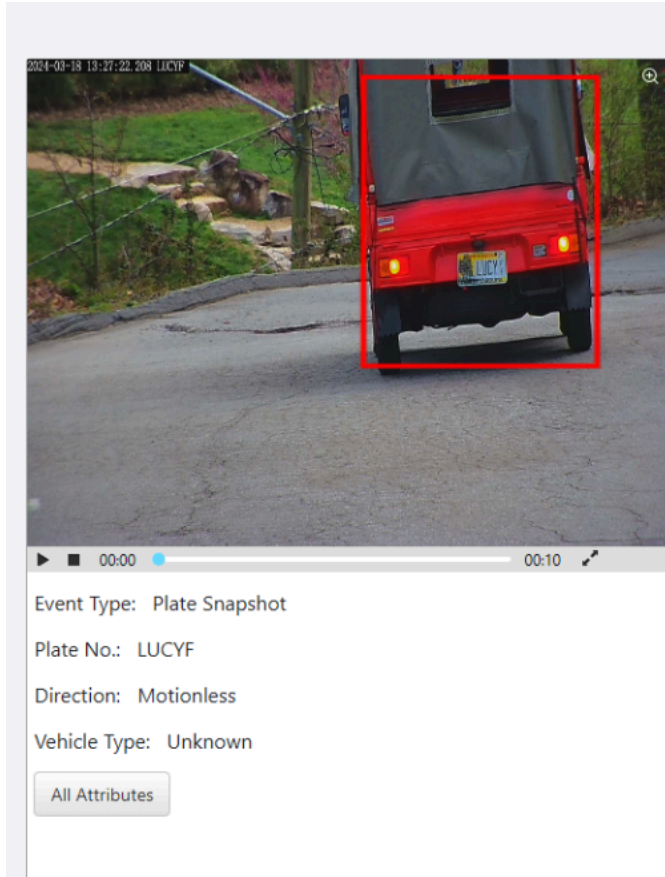
SCW strongly recommends planning your license plate solution to capture the back of vehicles / back plates rather than front plates.

- Many states do not require front plates.
- Even if your state requires them, out of state visitors may not have them.
- Back plates are lit - and significantly easier to get correctly at night
- Front plates are not lit - and have bright headlights
- This will require careful placement considerations (height, angle, elevation)
- As well as significant image setting tweaks for various vehicle heights
- These issues are especially important at night
- Additional lighting in the area may be required for front plates

## General LP Operations

All LPR cameras and systems accuracy is determined by the quality of image fed to the system. Good, clear shots will have a greater rate of accuracy than poor images. There are several factors on any license plate camera that may impact the performance of license plate recognition and/or the OCR capability. OCR (optical character recognition) refers to the ability for a system to read digits and turn them into text.

- Plate “covers” that darken or obscure the plate
- Obscured plates - like tow hitches, trailers, racks or anything else blocking the plate
- Weather such as heavy rain, fog, and snow can impact the effectiveness - especially for those at distance
- Angle and LPR area are setup improperly - leading to partial captures
- Speed is too fast - Stay under 15MPH
- Vehicle is too far - we recommend 150FT maximum for accurate OCR
- Sun “Splashing” - Where the sun hits the plate at certain times of the day, leading to overexposure
- Vanity / Special Plates - These may not capture the full OCR for example the “FF” on this plate



## The Specialist 2.0 Info

The Specialist 2.0 is a camera that features lens and imaging specs capable of capturing license plates at a maximum of ~150FT feet away. It also features built-in software that allows it to capture license plates, and read the digits with an SCW NVR.

## Mac Info

This camera requires you to log into the camera's web interface for initial license plate setup and sizing.

This requires the IP camera plugin - meaning you can only setup and adjust these settings on a Windows computer. Mac computers are currently **not** supported for setup.

Mac users can still see the plate listings on the NVR, but can not play back from that interface without the plugin. SCW Viewstation also supports license plate searches on Mac.

# Setup Info

This camera requires you to log into the web interface. You will need to download the plugin, which is only available for Windows computers. Mac setup is currently not supported.

1. Log into the camera directly
2. You can access this via the NVR's camera menu, or by accessing it by IP if it's on the network directly
3. When you log in for the first time - you'll see the LPR Wizard
4. You will need to adjust the license plate detection area (Cyan box)

Note, this is a very important part. You want the cyan license detection plate box to cover a large enough area to cover various size vehicles. You also want to make sure the box is drawn in an optimal area so that plate detection happens at the right time for various vehicle heights and at the optimal angle.

For example, setting it up too early may get partial plates, but setting the area further away from the camera may limit the quality of plates. The detection area can only be  $\frac{2}{3}$  of the screen. SCW recommends testing this step thoroughly and making adjustments as needed.



As mentioned in the zoom level section, the red box should be about the same size as the plate. If the red box is larger than the plate - your plate detection and OCR (digit recognition) performance will suffer.

## Setup Tips

Once you setup the camera position and zoom level - have a vehicle drive through normally, at normal speeds and make sure the plate is in the correct position.

Once you confirm the correct camera position - have a vehicle park at the spot. Make sure the plate capture area is set up, and that the plate size is correct. Consider the various locations plates may be on various sized vehicles. This is also a good time to make sure the focus of the camera is correct as well.

Once the area, size, and focus is correct, do a few more normal test runs to make sure plates are being captured correctly.

## Snapshot Handling

The screenshot shows a web interface with four tabs: "Smart", "Snapshot Handling", "Vehicle Parameters", and "Vehicle List". The "Snapshot Handling" tab is active. It contains the following elements:

- Unidentified Vehicles:** A checkbox labeled "Generate Passing Record" which is checked.
- Generated Photos:** A section containing:
  - Photo of Passing:** A sub-section with a "Photo of Motor Vehicle" label and a "Small Photo of P..." label. A checkbox "Generate Color Photo" is checked.
- Vehicle Passing Record Report Policy:** A section with two rows of radio button options:
  - Identified Vehicle:  Report All,  Report Allowlist Vehicle,  Report Non-Blocklist Vehicle
  - Unidentified Vehicle:  Report,  Not Report
- Save:** A blue button at the bottom left.

By default the Specialist will take a snapshot of all vehicles, even if the plate is not detected. You can change that in the IP Camera interface by going to Setup - Smart - Snapshot Handling

Uncheck the box for "Unidentified Vehicles".

## Night vs Day



Nighttime presents more challenges than daytime - so it's highly recommended to also test at night to make sure plates are getting properly captured.

Adjustments to shutter speed, gain, white light level etc may need to be done at night and it's significantly quicker to adjust these in real time, rather than adjusting from overnight results.

## White Light

The Specialist 2.0s White Light is manually operated, and can be adjusted

## NVR Compatibility

License plate logging can be setup on the following SCW NVRs

Admiral 8 v3  
Admiral 16 Standard v3  
Admiral 16 Pro v3  
Admiral 32 Pro v3

Imperial 32 v2  
Imperial 64 v2  
Imperial 64 16-S  
Imperial 128  
Imperial 256

# NVR License Plate Operations

## NVR Setup Info

Before setup, ensure that your NVR Is supported by referencing the “NVR Compatibility” section above. Secondly, make sure your firmware is updated to the latest available version, older firmwares may not support LP operations.

These steps are after you set the LP operations on the camera’s interface.

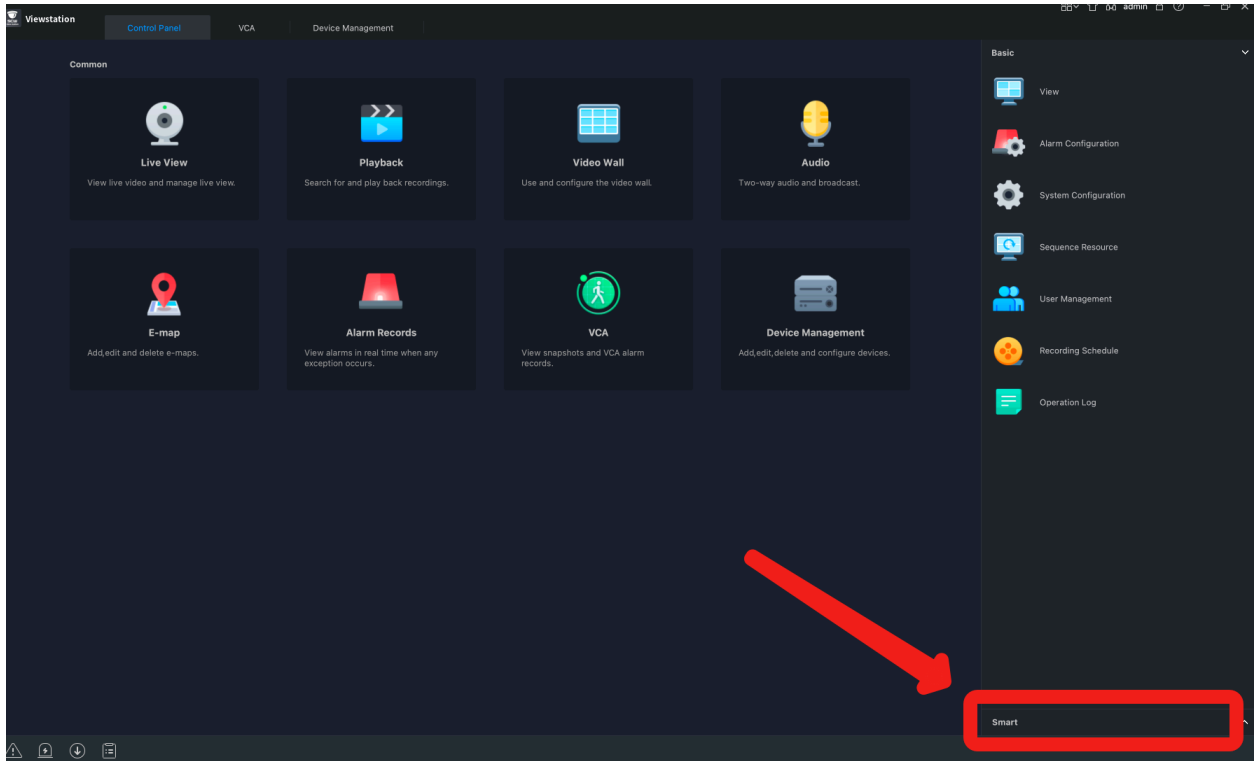
1. Login via the web interface and navigate to the “Smart” tab at the top of the page
2. Select the Specialist
3. Locate “Plate Detection” and enable plate detection using camera side analysis
4. Locate “Plate comparison” and enable plate comparison using NVR side analysis

Once these steps are enabled, the plates will begin being logged.

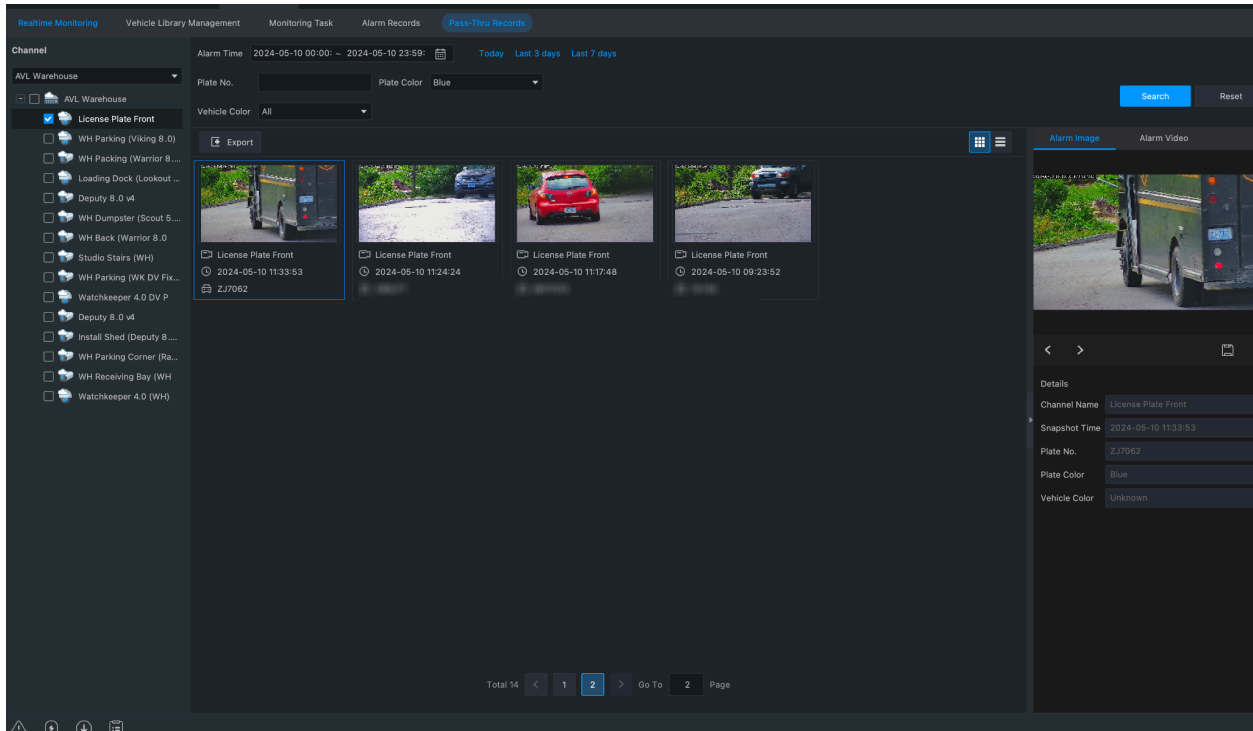
## Plate Operations via SCW Viewstation

SCW Viewstation is the recommended method of accessing license plate records as it allows easy snapshot and video clip downloads.

1. Make sure your Viewstation is up to date. You can check your version by going to the ? Icon on the top right and selecting about Viewstation. Download the latest [here](#)
2. Locate the new LPR section - this may be listed under “Smart” on the bottom right of the Control Panel tab



3. From the LPR menu you can choose to do real time monitoring, which will show plates as they pass, or check recorded events using the “Pass Thru-Records Tab”
4. Under Pass-Thru Records, select your camera on the left, and search by plate number or just hit search to see all events.



5. You can also select the thumbnail - on the right you'll see the screenshot and an "Alarm Video option" you can view and download the snapshots from there.

## Plate Operations via NVR's Web Interface

The NVR web interface can also search for plates, but has some limitations on downloading that make it less convenient. For quick searches it's a great option.

1. To locate and search for plates go to the Smart tab of the web interface and select the

VCA search menu on the left hand side.



2. Select the "Motor Vehicle Search" on the top tab. From here you'll need to select the correct channel, time, and parameters.

You can search by plate number, using the "Plate No." section. Note that the Specialist 2.0 only supports plate number search, it does not catalog vehicle type, color, brand, direction.

If you do not wish to search for specific plates, you can hit search to bring up all vehicles during this time.

You can also specify plates by using the "Plate Color" section, the Specialist will only log plates as Blue. So select blue to only see plates detections rather than all vehicles.



Face Snapshot S...	Face Compariso...	Motor Vehicle Se...	Non-Motor Vehi...	Human Body Se...	General Search	People Counting...
Select Channel	<input type="text" value="D1"/>		Event Type	<input type="text" value="All"/>		
Start Time	<input type="text" value="05-10-2024 12:00:00 AM"/>		End Time	<input type="text" value="05-10-2024 11:59:59 PM"/>		
Basic Attributes ^						
Vehicle Type	<input type="text" value="All"/>		Plate Type	<input type="text" value="All"/>		
Vehicle Color	<input type="text" value="All"/>		Plate Color	<input type="text" value="All"/>		
Vehicle brand	<input type="text" value="All"/>		Plate No.	<input type="text"/>		
Direction	<input type="text" value="All"/>					
<input type="button" value="Search"/>						

Face Snapshot S...	Face Compariso...	Motor Vehicle Se...	Non-Motor Vehi...	Human Body Se...	General Search	People Counting...
Backup All						
<div style="display: flex; justify-content: space-between;"> <span>Back</span> <span>Back</span> </div> <div style="display: flex;"> <div style="flex: 1;"> <input type="checkbox"/> All </div> <div style="flex: 6;"> </div> <div style="flex: 1;"> </div> </div> <div style="margin-top: 10px;">       Event Type: Plate Snapshot        Plate No.: ZJ7062        Direction: Motionless        Vehicle Type: Sedan  <input type="button" value="All Attributes"/> </div> <div style="text-align: center; margin-top: 10px;">       Total 751 record(s).    &lt;&lt; &lt; 1 2 3 4 5 &gt;&gt; &gt;&gt; 1 go     </div>						

You can view the video by hitting play, and you can right click on the screenshots and “Save Image as” to save the thumbnail.

You can also export this data as a CSV by selecting the check boxes, or selecting all at the top and hitting “Backup All”. This process requires the plugin, and for large amounts may take several minutes.

## List Setup

Combined with SCW’s supported NVRs you can create lists to help keep track of plates, as well as create alerts, or even let through if connected to a gate.

To create a list follow these steps

**NVR Web Interface:** Smart - Select the Camera - Plate List Icon (Left Side) - Add  
**SCW Viewstation:** LPR - Vehicle Library Management - Select the NVR on the left - Click the “+” button to add a list

These lists can be named anything, some examples include employee vehicles or oppositely a list of plates suspected of theft or vandalism.

You can import and export lists by first exporting the template available on this screen, and adding plates to the CSV file. Once complete, hit the import button to import the plates.

## List Alerts

Once you create your lists, you can setup email alerts or other functions based on that list. We recommend setting this from the SCW NVR web interface.

**NVR Web Interface:** Smart - Select the Camera - Plate Comparison (Gear) - Add Monitoring Task

**Add Monitoring Task**

Task Name

Monitoring ...  On  Off

Cause of M...

Monitoring ...  ▼

Monitoring ...  ▼

Arming Schedule   Match Trigger Action   Not Match Trigger Action

Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	1
Tue	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	2
Wed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	3
Thu	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	4
Fri	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	5
Sat	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	6
Sun	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	7
Holiday	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	Armed	8

Legend:  Armed    Disarming

OK   Cancel

From this monitoring task menu you can choose the list and choose the response when a plate on that list is detected (Match Trigger Action) or not detected (Not Match Trigger Action) these alerts

Conventional	Alarm Output	Recording	Goto Preset	Send Email
<input type="checkbox"/> Buzzer	<input type="checkbox"/> A->1	<input type="checkbox"/> D1	<input type="checkbox"/> Preset	<input checked="" type="checkbox"/> Recipient1(james.campbe...)
<input checked="" type="checkbox"/> Push Alarm	<input type="checkbox"/> A->2	<input type="checkbox"/> D2		
<input type="checkbox"/> Let Through	<input type="checkbox"/> A->3	<input type="checkbox"/> D3		
	<input type="checkbox"/> A->4	<input type="checkbox"/> D4		
	<input type="checkbox"/> D1->1	<input type="checkbox"/> D5		
	<input type="checkbox"/> D2->1	<input type="checkbox"/> D6		
	<input type="checkbox"/> D9->1	<input type="checkbox"/> D7		
	<input type="checkbox"/> D13->1	<input type="checkbox"/> D8		

These responses include buzzers, let through (via relays on the camera with a gate) recording, PTZ preset snap, and email alerts.

Currently, only email alerts are supported, push notifications are not currently supported for plate lists.

## Other Resources

For videos on setup and operation - please click the following links

**Setup Guide** - <https://youtu.be/xQaA3xESWMc>

**Operations Guide** - <https://youtu.be/FtVTwQb28r4>

You can also contact our support staff at [www.getscw.com](http://www.getscw.com)