# Sensata KP2 Jumpstart to Video Telematics Configuration Tool User Guide

Contents




# Sensata KP2 Jumpstart to Video Telematics Configuration Tool

## Introduction

### Welcome to Your KP2 Configuration Guide

- This guide aims to inform users of the proper processes involved in setting up your Sensata INSIGHTS KP2 device.
- This step-by-step walkthrough will act as your teacher as you learn our product's layout, functionality, and configuration settings. Each section shown in this guide features the KP2's default settings.
- You can find an overview of the configuration tool's layout in section 3.
- The fastest way to find information in this document is through the Table of Contents.
  We hope that this training document will remove common end-user pain points involved with the setup process. If you experience any issues with this guide, please lend us your feedback and contact our support teams.
- **Note:** Use this configuration guide with at least version 1.2.2.0 of the KP2 Configuration Tool. Content in this guide was released in coordination with KP2 firmware version 1.2.2.

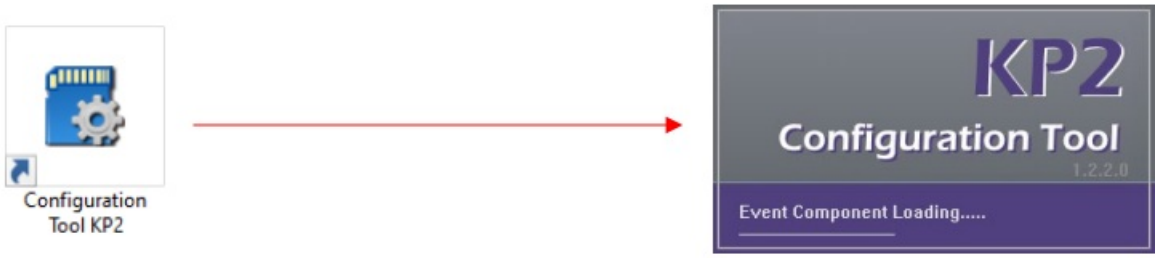
### KP2 Configuration Download & Installation

## KP2 Configuration Tool Installation

- **Goal:** Find your configuration wizard and learn about your device's capabilities

### Downloading & Installing Your Configuration Tool

- Download configuration software here.




1. After download, proceed to installation.
2. Open the configuration tool and insert your MicroSD card*.
3. Click Initialize SD Card.
4. Select SD Card from your preferred internet browser.
5. Click Start to initialize.

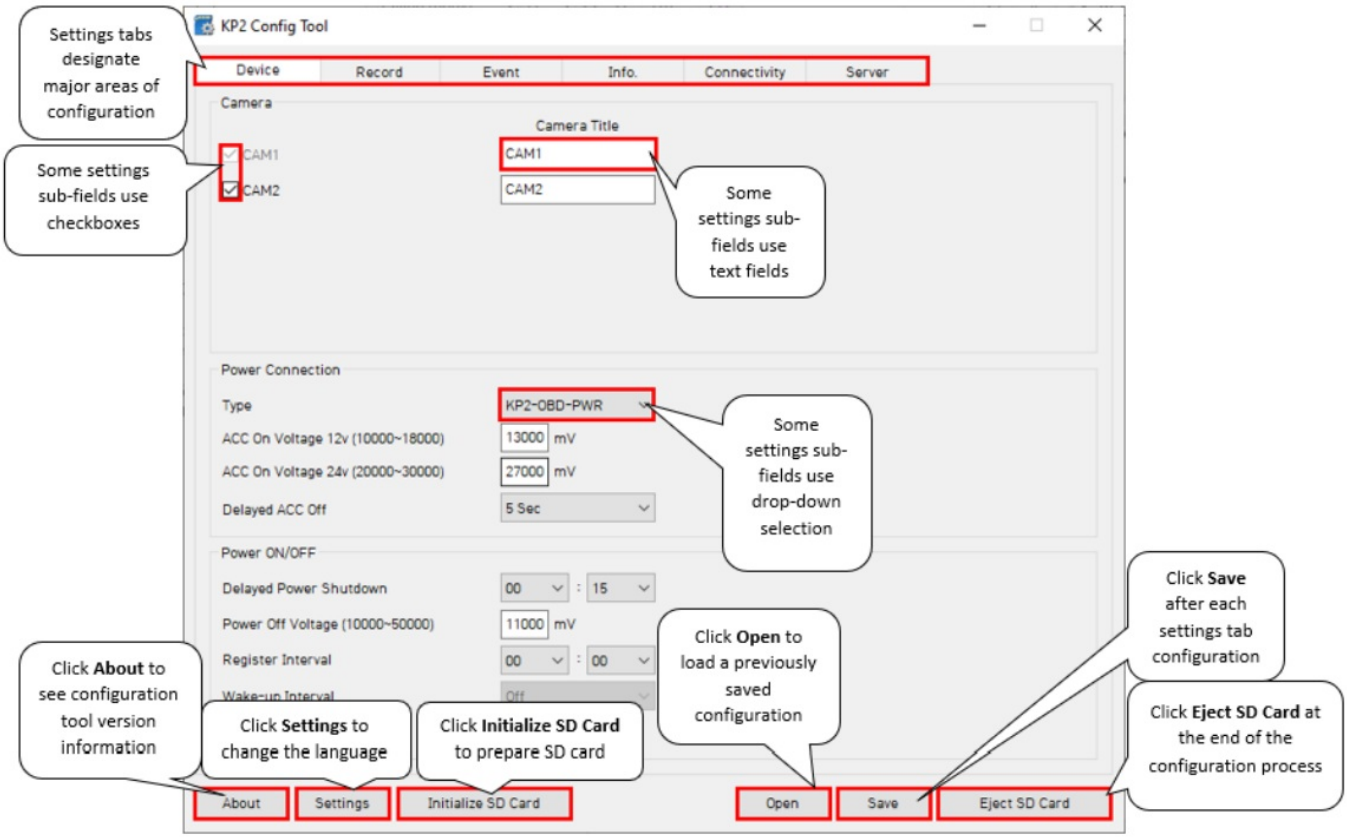
   **Note**: MicroSD cards from Sensata INSIGHTS come pre-installed and initialized.

- The maximum supported onboard storage is 256 GB.

#### KP2 Configuration Tool Layout

## Configuration Tool Layout & Settings

**Goal:** Understand your tool's main features




#### ADAS Event Definitions

To better understand the settings and functions of ADAS (Advanced Driver Assistance Systems) events in the Event tab, review the definitions and related conditions below.

| Event Type | Event Definition | Detection Conditions & Configuration Values |
| --- | --- | --- |
| **FCW** | **Forward Collision Warning** – Detects an imminent collision with something ahead. | **Detection Conditions**<br>Vehicles must surpass a minimum speed and be moving within the configured speed range.<br>After a previous FCW event trigger, subsequent FCW triggers will only occur once the vehicle exceeds 5 meters/16 feet from the vehicle in front for more than 2 seconds.<br>**Configuration Values:** Review various configuration settings in greater detail **here**. |
| **LDW** | **Lane Departure Warning**<br>– Your vehicle crosses a solid lane line on either side of the road. | **Detection Conditions**<br>Vehicles must surpass a minimum speed to enable LDW. Event type only recognizes solid lane lines.<br>**Configuration Values:** Review various configuration settings in greater detail **here**. |

| | | |
|---|---|---|
| **HMW** | **Headway Monitoring Warning** – Monitors distance to the vehicle ahead at configurable speeds. Also referred to as “Tailgating.” | **Detection Conditions**<br><br>HMW has three distinct speed ranges (low/middle/high) for detecting headway distances, with corresponding distance thresholds.<br><br>Vehicles must be moving within the configured speed range.<br><br>The furthest threshold distance is 20 meters or approximately 66 feet.<br><br>**Configuration Values:** Review various configuration settings in greater detail **here**. |

## DSM Event Definitions

To better understand the settings and functions of DSM (Driver State Monitoring) events in the Event tab, please see the definitions and sensitivity conditions below.

| Event Type | Event Definition | Event Details |
|---|---|---|

| | | |
|---|---|---|
| **Fatigue** | **Driver Fatigue Warning (DFW)** – Driver is yawning or has prolonged eyelid closure. | **Calibration Requirements**<br><br>Driver position requires manual calibration through the KP2 Installer App for initial installation. Post-installation, auto calibration occurs during vehicle trips and is recommended. Auto calibration intervals are configurable.<br><br>**Detection Conditions**<br><br>Sensitivity % measures the height of the driver's mouth opening .<br><br>Fatigue event trigger **must meet either of the following conditions:**<br><br>· Driver's mouth opening (yawning) is *greater* than the **sensitivity**<br><br>**%** for *longer* than the **sensitivity time**.<br><br>· Driver's eyelids are closed for *longer* than the **sensitivity time**.<br><br>Follow this **link** to review an example. |
| **Distraction** | **Driver Distraction Warning** (**DDW**) – Driver's head and eyes are off the road for a prolonged period of time. | **Calibration Requirements**<br><br>Driver position requires manual calibration through the KP2 Installer App during the initial installation. Post-installation, auto calibration occurs during vehicle trips and is recommended. Auto calibration intervals are configurable.<br><br>**Detection Conditions**<br><br>Two critical values determine the calibrated head area of the driver:<br><br>· **Yaw deviation** – Degree difference from the camera's center line axis to the driver's face<br><br>· **Pitch deviation** – Degree difference from the ceiling of the vehicle to the top of the driver's head |

- Sensitivity % measures the change in degrees of the driver's head area.
- 30% to 50% is recommended. More than 90% is not recommended. Associate this value, 90% (90°), with the maximum change in head area.
- Distraction event triggers **must meet the following condition:** The driver's face *exceeds* the calibrated head area by the **sensitivity %** for *longer* than the **sensitivity time.**

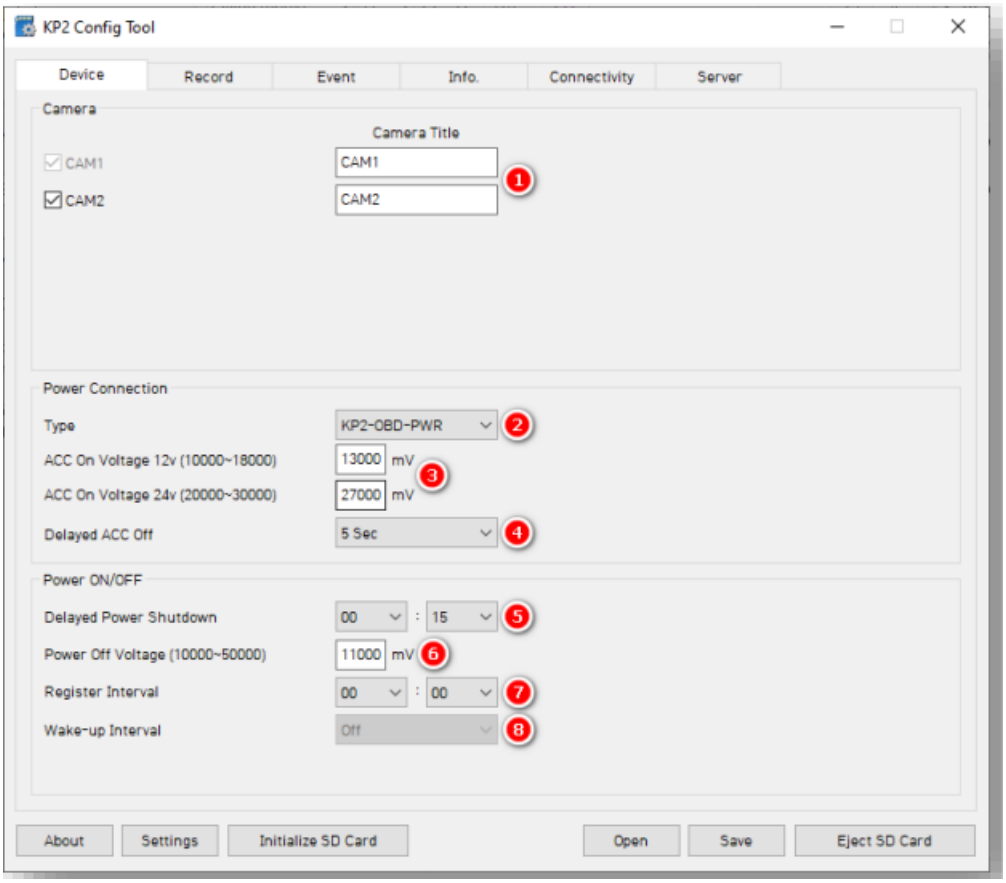
**Device**

## Configuring Your Device

**Goal:** Personalize and optimize device settings

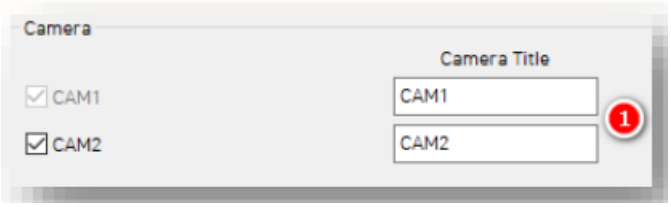
#### How to Configure Device Tab

### Device Tab Layout: At a Glance




### Camera

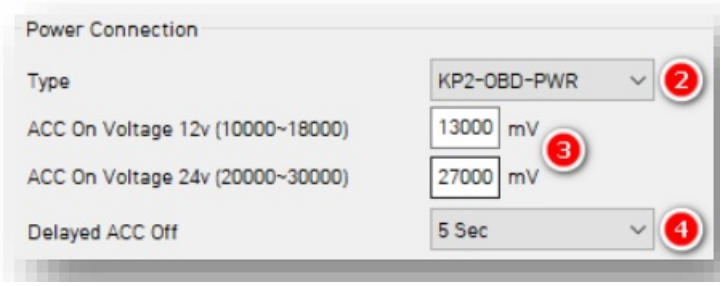
1. Activate your road-facing camera channel, CAM2. A KP2 driver-facing camera is required. Deactivating CAM2 removes the ability to change video channel settings in the Record tab and DSM settings in the DSM tab.




### Power Connection

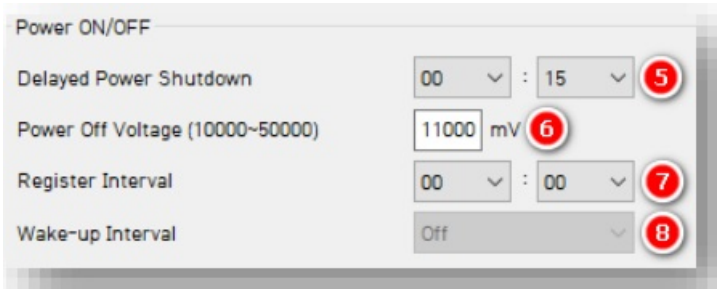
2. To automatically apply appropriate power settings, select the device power Type. Using KP2-Cig-PWR prevents access to Power On/Off settings.
3. Manually adjust these values to your preferred ACC On Voltage 12v and ACC On Voltage 24v.
4. To continue device operations for a limited period when ACC is off, select a Delayed ACC Off.

   **Note:** ACC On Voltage 12v, ACC On Voltage 24 and Delayed ACC Off are only available for the KP2-OBD-PWR type.




**Power ON/OFF**

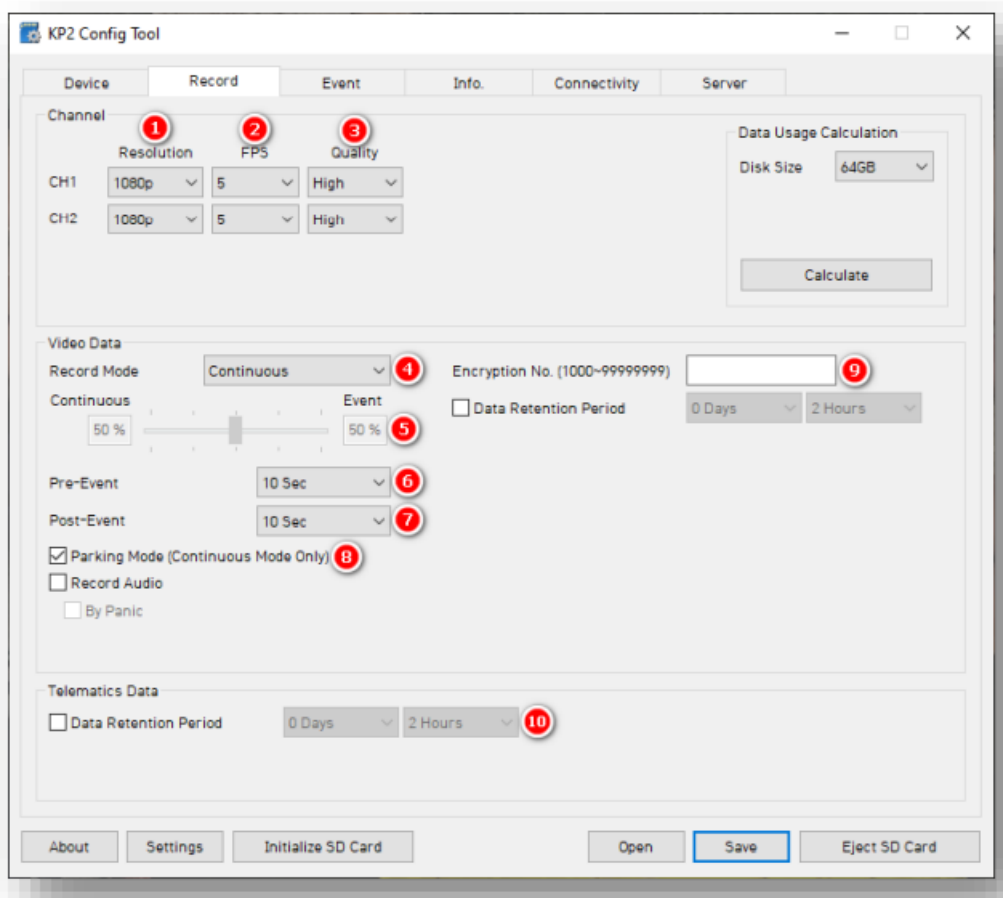
5. Select the time your KP2 remains on after ignition off with Delayed Power Shutdown.
6. Enter a Power Off Voltage. This signals the device shut down due to declining vehicle battery voltage to protect battery drainage.
7. Set the time your KP2 stays awake during its Wake-up Interval by choosing a Register Interval.
8. Set a time that your KP2 powers on again after shutting down by selecting your Wake-up Interval.




## Record

#### How to Configure Record Tab

### Layout: At a Glance

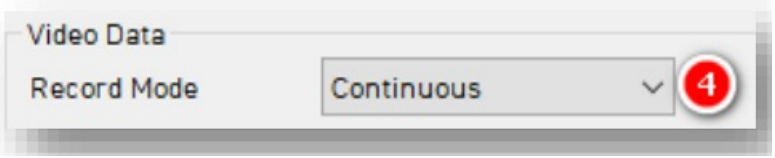



### Channel

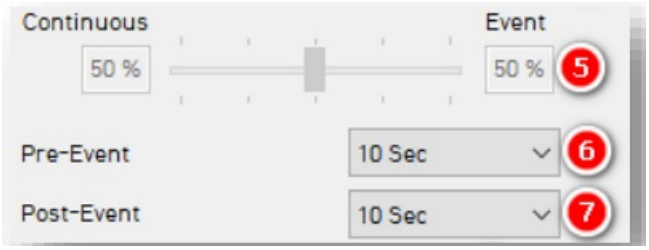
1. Select your Resolution for CH1, CH2:
    - HD (720p), FHD (1080p).
2. Select from the following Frame Rate (FPS) options:
    - 30, 15, 10, 5, 4, 3, 2, 1 and 0.
3. Choose your default video Quality from the following:
    - Normal, High or Super Bitrate. Higher-quality video contains more detail but consumes more storage space on the SD card.
    - **Note**: Selecting different video recording options may affect your on-device storage capacity.


**Video Data**

4. Select your preferred Record Mode:
    - **Event:** Events only. Pre and post-event settings determine recording settings.
    - **Continuous (Default & Recommended):** Video continuously records. No events record separately on the SD card (Events are still sent to SmartAPI if configured on the Server tab). This setting renders pre and post event capture settings void.
    - **Continuous+Event:** Video continuously records at 1 FPS. Events will record at your chosen FPS.

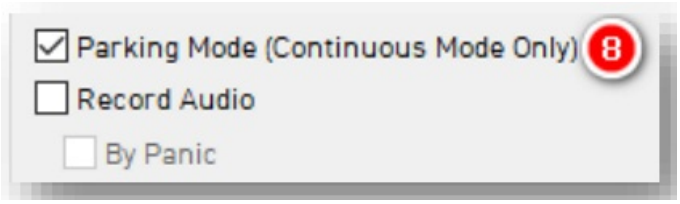



5. Set the Continuous+Event ratio of video data recording (applicable only when you set Continuous+Event record mode).
6. Select your Pre-Event setting to determine the amount of time video records before an event
7. To set the amount of time video records after an event, select a Post-Event setting.

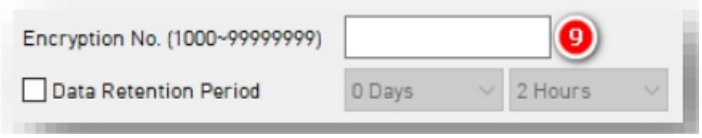



Parking Mode reduces your camera's FPS to 1 when your vehicle is idle for 5 min.

- Click Record Audio to turn on the device's internal microphone for audio recording.
- Click By Panic to trigger audio recordings only when you press the panic button. In this case, audio records for 2 minutes.

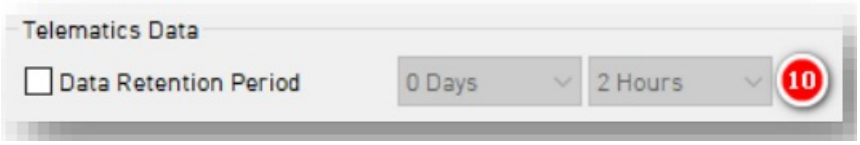


- Protect SD card data from being easily viewable by entering a 4 to 8-digit Encryption No.
- Set how long video data remains on the SD card before being rewritten via Data Retention Period.




**Telematics Data**

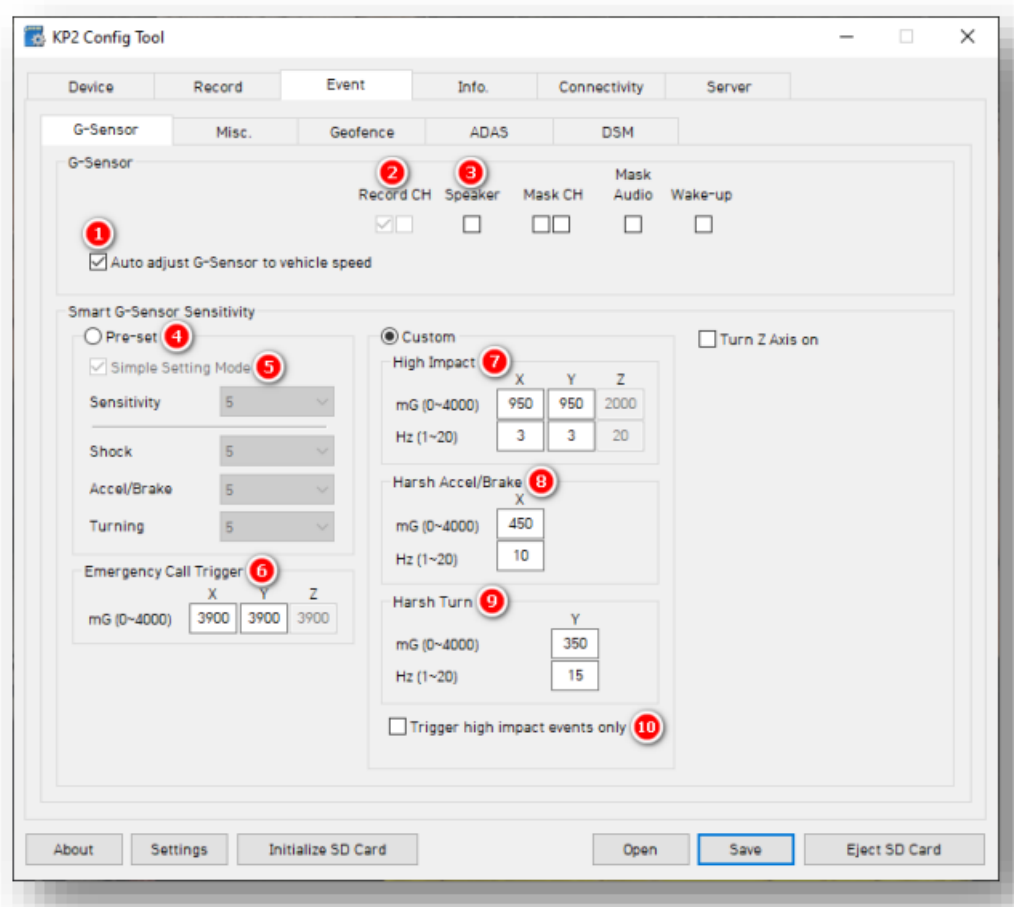
- Select the Data Retention Period, or how long telematics data (DRV file) remains on the SD card before being rewritten.
- Use the Data Usage Calculation to estimate your SD card's storage capacity based on your applied recording settings.




## Event

**How to Configure Event Tab 4.3.1 G-Sensor Fields**

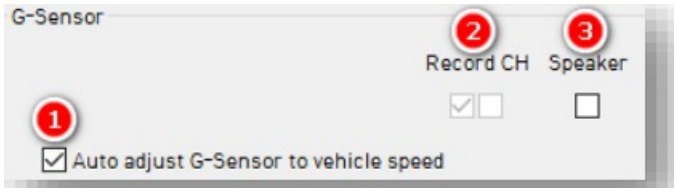
**Event > G-Sensor Tab Layout:** At a Glance




**Event > G-Sensor**

**G-Sensor**

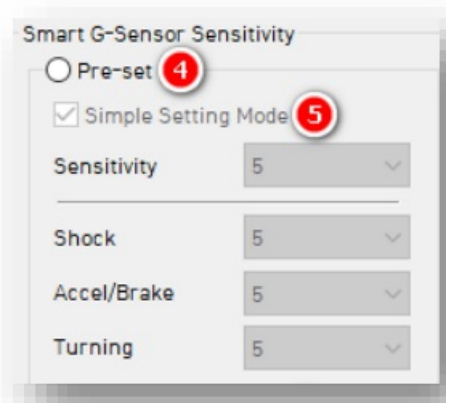
1. Automatically scale G-Sensor speed thresholds by clicking Auto adjust G-Sensor to vehicle speed. This increases your G-Sensor event threshold on each axis by 300mcg when your vehicle speed exceeds 20 km/h.
2. To specify event recordings for camera channels 1 and 2, check Record CH.
    - Only available for Event and Continuous+Event modes.
3. Turn on in-vehicle notifications for G-Sensor event triggers by clicking Speaker.



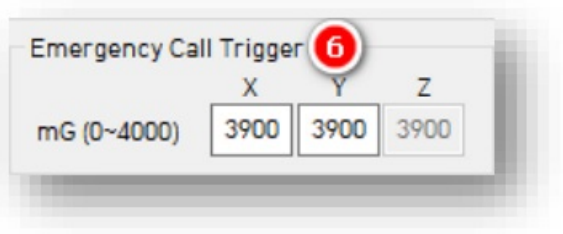

**Smart G-Sensor Sensitivity**

Determine your G-Sensor sensitivity with Pre-Set or Custom options.

1. To set general sensitivity settings, check Pre-Set. Lower sensitivities result in fewer G-Sensor-related events. Higher sensitivities result in more events.
    - Disable Simple Setting Mode to set Shock, Accel/Brake and Turning settings.
2. To set an overall G-Sensor sensitivity, click Simple Setting Mode, then Sensitivity.

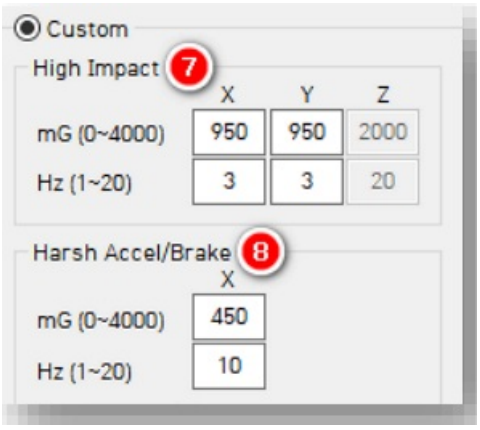



3. Events generate when the X, Y or Z axis acceleration exceeds the set G-Sensor threshold for Emergency Call Trigger (Severe Shock).

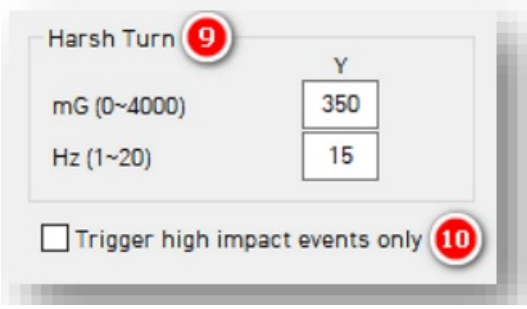



Click Custom to set personalized G-Sensor sensitivity settings.

1. High Impact events occur if acceleration exceeds the X, Y or Z axis threshold (Activate the Z axis via Turn Z Axis on).
2. Harsh Accel/Brake events generate if acceleration exceeds X, Y or Z axis thresholds.
   **Note:** Hz values set the number of times in a row the device's G-Sensor must exceed the X, Y or Z thresholds to trigger a harsh event.



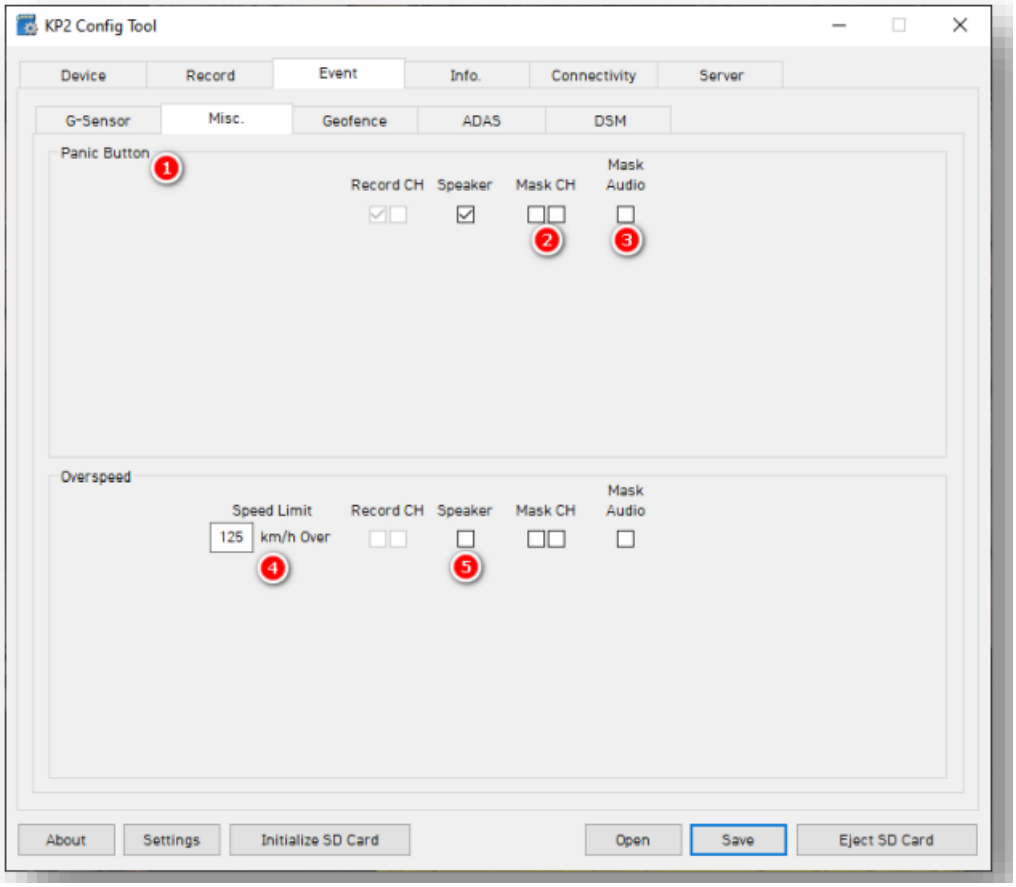

3. Harsh Turn events occur if acceleration exceeds the X, Y or Z axis threshold.
4. Check High Impact Trigger to limit alerts to high-impact events. This disables Accel/Brake and Turn events.




**Event > Misc**

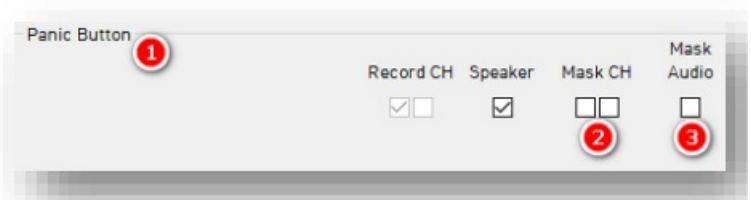
**2 Misc. Fields**

**Event > Misc. Tab Layout:** At a Glance



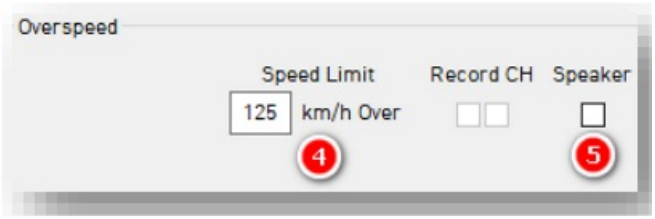

**Panic Button**

1. Determine your Panic Button response settings.
2. To obscure camera channels 1 and 2 during Panic events, check Mask CH.
3. To prevent the device's audio recording during Panic events, check Mask Audio.



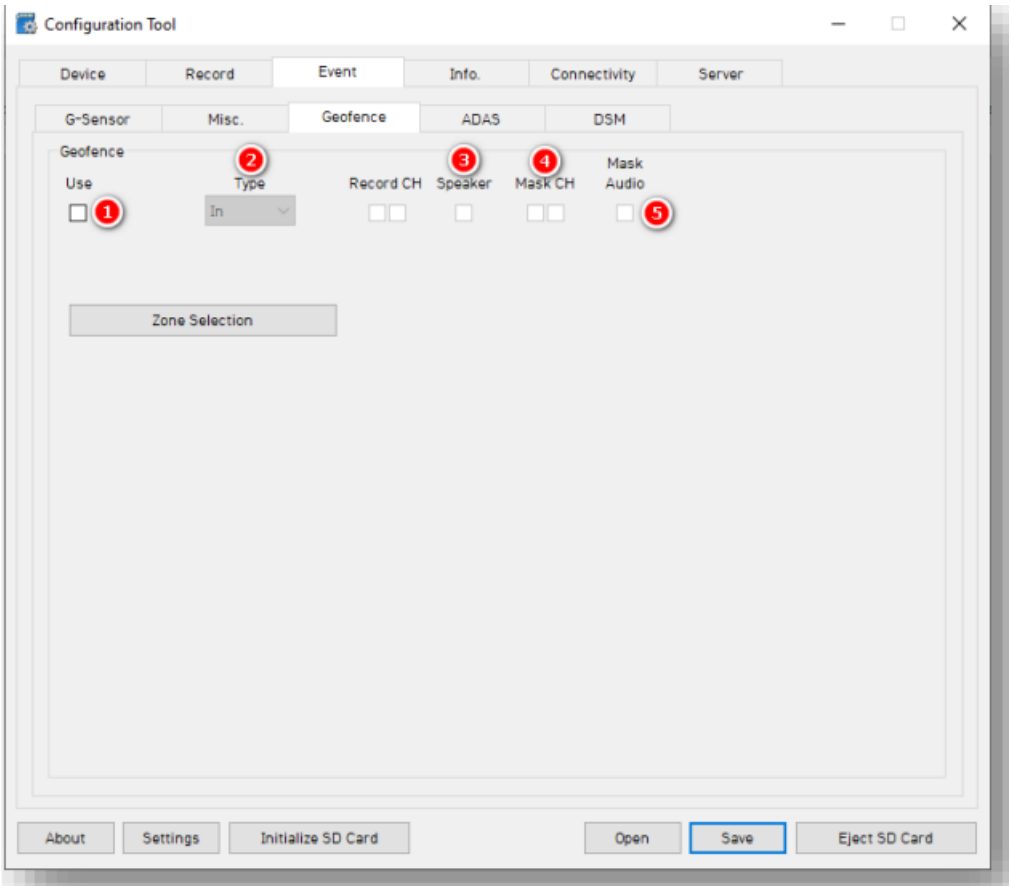

**Overspeed**

4. Set your speed threshold for recording Overspeed events by entering a Speed Limit.
    - This accounts for vehicle speed only, not posted speed limits.
5. Turn on audible alerts for Overspeed events by clicking Speaker.




**Geofence Fields**

**Event > Geofence Tab Layout:** At a Glance



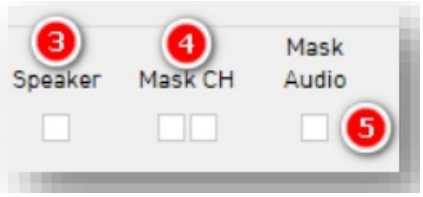

## Event > Geofence

### Geofence

Set virtual boundaries for your device to trigger Geofence events.

1. To trigger a Geofence, check Use.
2. Select the Type of Geofence.
    - It activates a Geofence when the vehicle enters a geographic boundary.
    - Out activates a Geofence when the vehicle exits a geographic boundary.

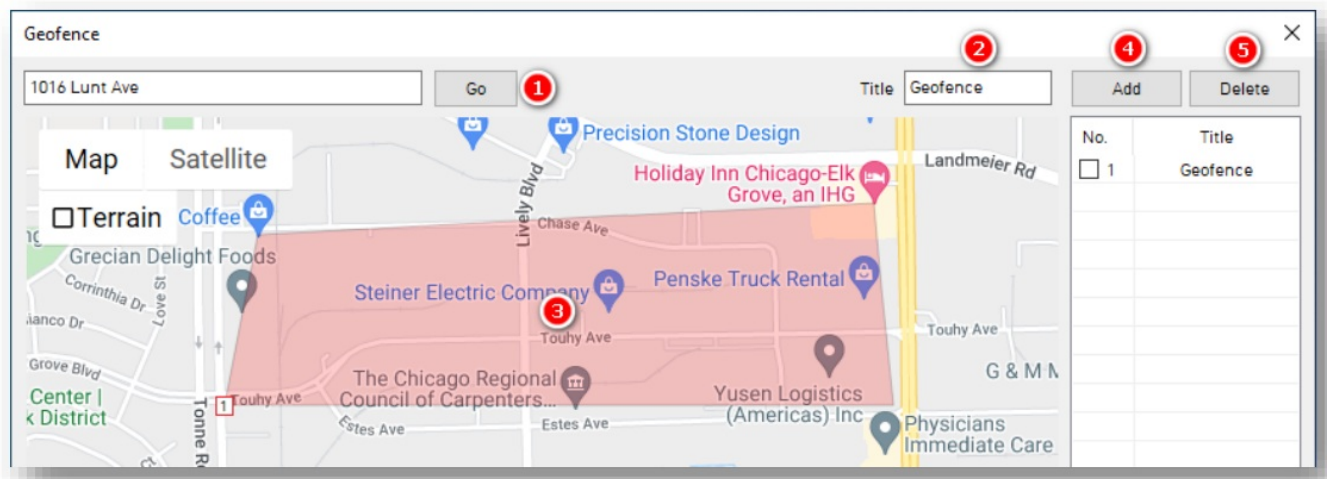

3. Audibly notify drivers that they've crossed a Geofence's boundary by clicking Speaker.
4. To obscure camera channels 1 and 2, check Mask CH.
5. To prevent audio recording within a Geofence, click Mask Audio.




#### Zone Selection

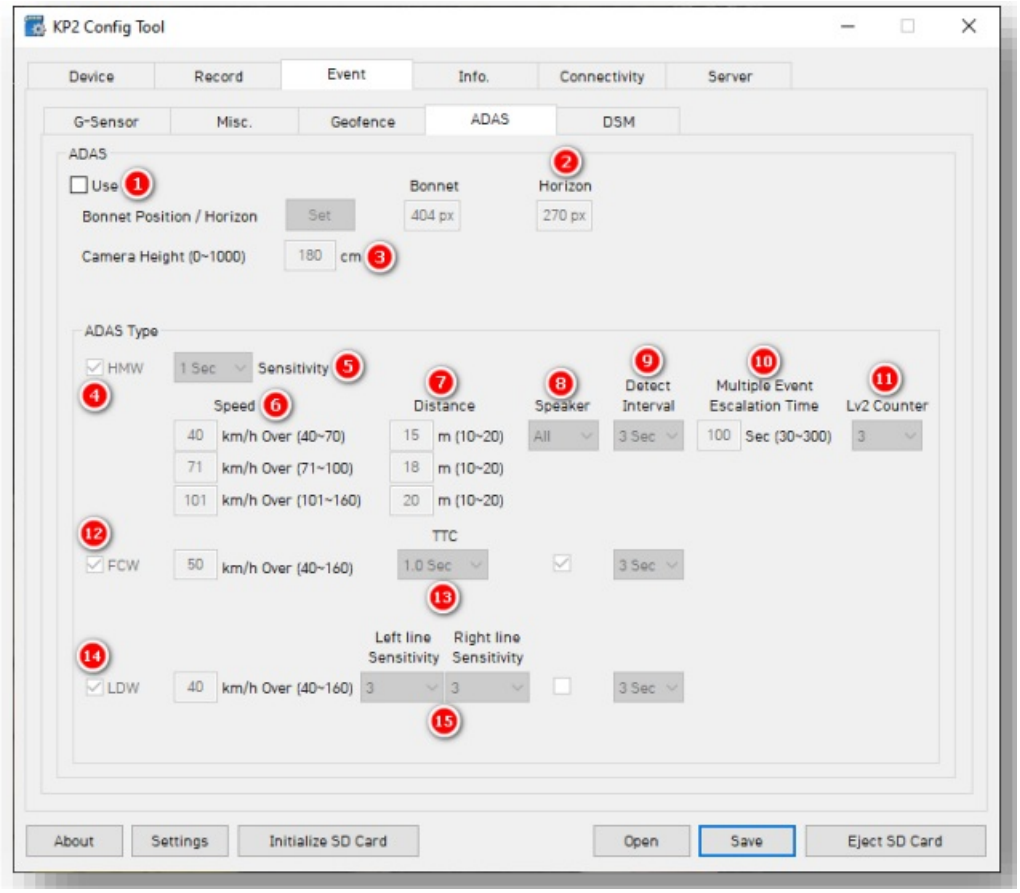
- To set Geofence boundaries on Google Maps, click Zone Selection. Set up to 20 Geofence zones.

1. Search for a geographic region by entering an address and clicking Go.
2. Change the name of your Geofence in the Title text field.
3. Click on the map to set a perimeter. The area in red is your Geofence.
4. Set your Geofence by clicking Add.
5. To remove a Geofence, check No. and click Delete.



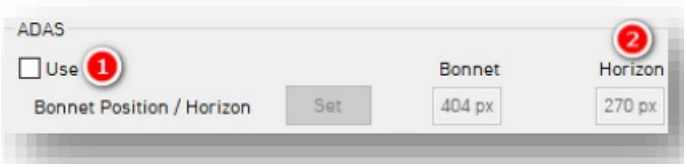

**ADAS Fields**

**Event > ADAS Tab Layout: At a Glance**

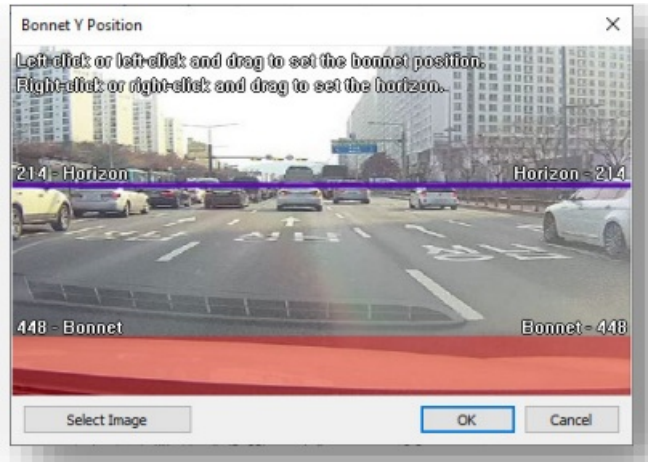



**Event > ADAS**

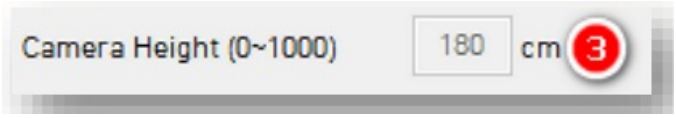
1. Turn on ADAS feature capabilities by clicking Use. This gives you access to enable ADAS events and change individual settings independently.
2. To mark the Bonnet Position (vehicle hood's horizontal pixel line) and Horizon line, click Set.




- Use the pop-out window to set each line and click OK to save.

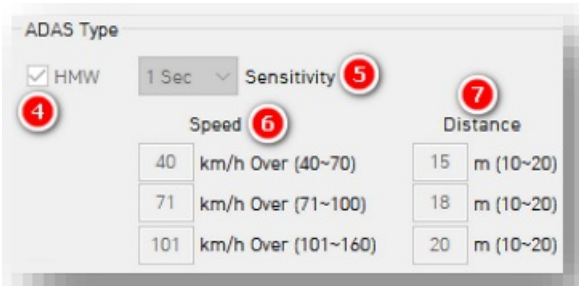



3. Mark the Camera Height on the windshield. This measurement is from the ground to the center of the camera lens. Set your camera height in 10cm increments.
    - **For example:** if the height is 173cm, set the Camera Height as 170cm.
    - This setting is integral to proper ADAS calibration, so ensure you have inputted measurements correctly.

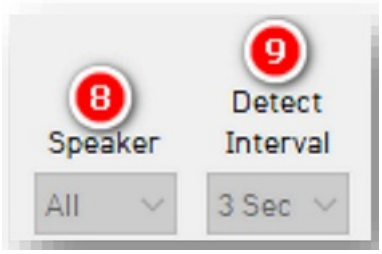



**ADAS Type**

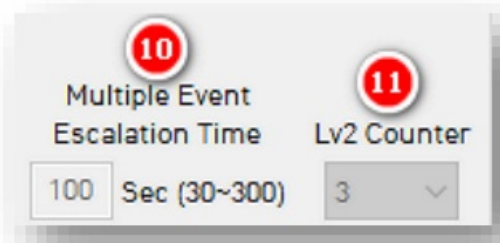
4. Click HMW to activate the event type.
5. To set the amount of time your vehicle must be within a speed/distance window to trigger an event, select a Sensitivity.
6. Establish the Speed range for event activation. The configurable threshold must be surpassed for HMW in each speed window. Within this window, events will trigger.
7. Set the Distance threshold. An event triggers if this distance, measured from the front end of the driver's vehicle to the rear of the vehicle ahead, is breached and the speed threshold is surpassed.




8. To determine the conditions for in-cabin alerts, select a Speaker setting. All plays Lv1 and Lv2 audio alerts.
   **Note:** You can determine the type of sound received by drivers here.
9. Define a time, or Detect Interval, during which KP2 disregards repeated event instances.
    - **Example:** If the interval is set to 10 sec, and an event triggers continuously for 10 sec, only one event is delivered.




10. Select a Multiple Event Escalation Time. If the vehicle exceeds the number of tailgating instances set in Lv2 Counter during the Escalation Time, event severity escalates to Lv2 or “Level 2.”
    - **Example**: A time of 100 seconds with an Lv2 setting of “3” is set. If an event triggers more than three times, the event raises to Lv2.
11. Choose the Lv2 Counter or number of event instances required during the Escalation Time to raise severity.
    **Note:** Multiple Event Escalation Time and Lv2 Counter manage event reporting. They are not correlated with event detection sensitivity.

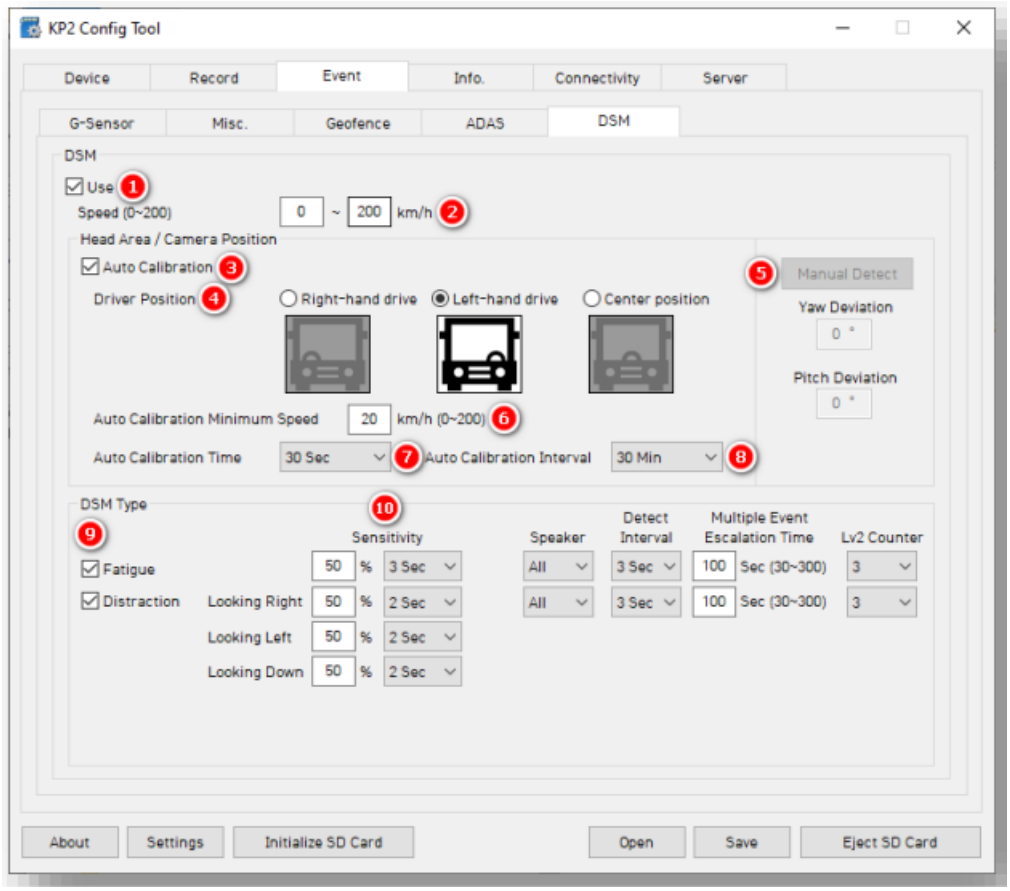



12. Check FCW to enable the event type.
13. TTC, or Time to Collision, is a value that determines the amount of time until approximate collision.
    - TTC is based on the driver’s vehicle speed and the apparent speed of the vehicle ahead.
    - We recommend that the higher your speed threshold, the greater the TTC setting.
    - TTC resolution time is as follows:
    - 0.1 sec if TTC < 1 sec
    - 0.5 sec if TTC > 1 sec


14. Select LDW to enable the event type.
    - Set the Left line and Right line Sensitivity. This determines the AI confidence level regarding solid lane line detection.
    - power line detection sensitivity results in fewer events triggered.
    - The higher the line detection sensitivity, the greater number of events triggered.
    - A setting of 3 is recommended.
    - **Note:** LDW lane detection does not incorporate color recognition.


**DSM Fields**

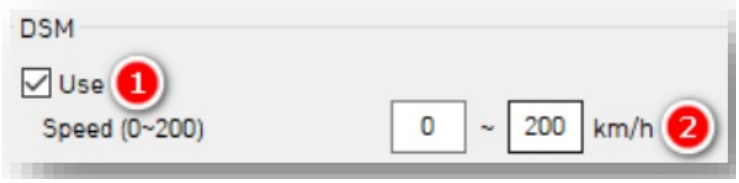
**Event > DSM Tab Layout: At a Glance**




**Event > DSM**

**DSM**

1. Activate DSM event capabilities by clicking Use. This gives you access to enable DSM events and change individual settings independently.
2. Limit DSM events to a specified range by setting Speed values.

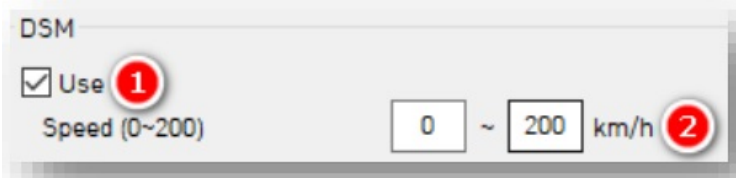



**Note:** Changing minimum speed values within the speed range affects the device's autocalibration capabilities. Ensure the minimum DSM Speed value does not exceed the Auto Calibration Minimum Speed.

**Head Area/Camera Position**

You may automatically or manually set a driver's position. See steps 3-5 for automatic or step 6 for manual calibration.

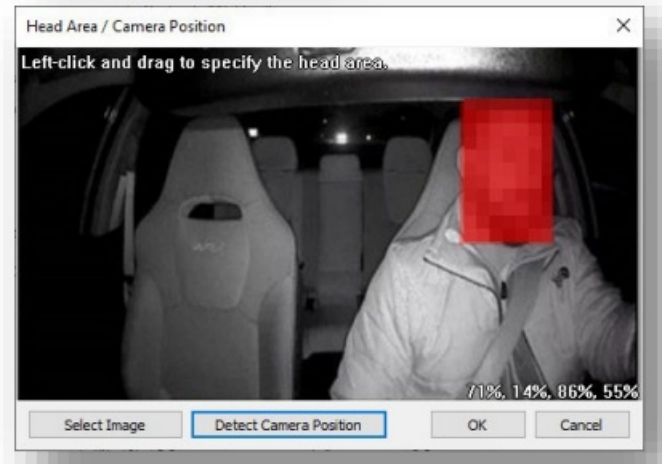
3. To automatically recalibrate a driver's head and camera position for DSM event detection, click Auto Calibration.
4. Select the Driver Position in the vehicle.




5. To manually mark a driver's head area, click Manual Detect. Only use this feature if the driver's head position is

fixed.

- Use the pop-up window to specify the area and click OK.

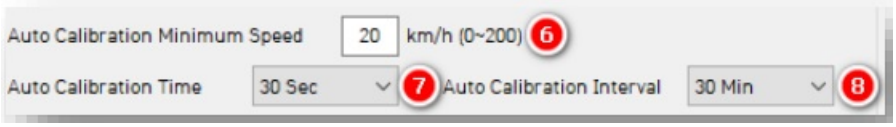




- **Yaw Deviation calculates**
- automatically once the driver's head area is set.


- **Pitch Deviation calculates**
- automatically once the driver's head area is set.

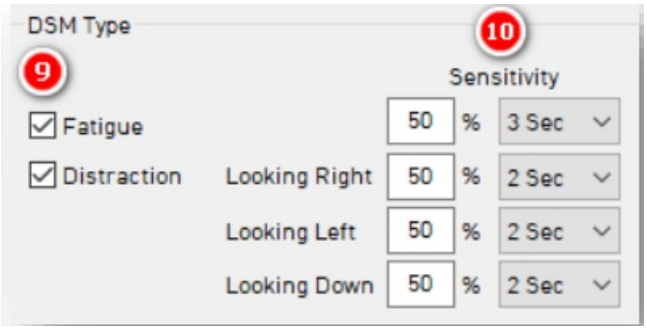

6. Specify a threshold to enable auto-calibration functions via Auto Calibration Minimum Speed. It is recommended to set a speed above 30 km/h to improve calibration accuracy.
7. Choose the Auto Calibration Time for your camera (30 sec recommended).

8. To set a threshold for the device auto re-calibration period, select an Auto Calibration Interval.

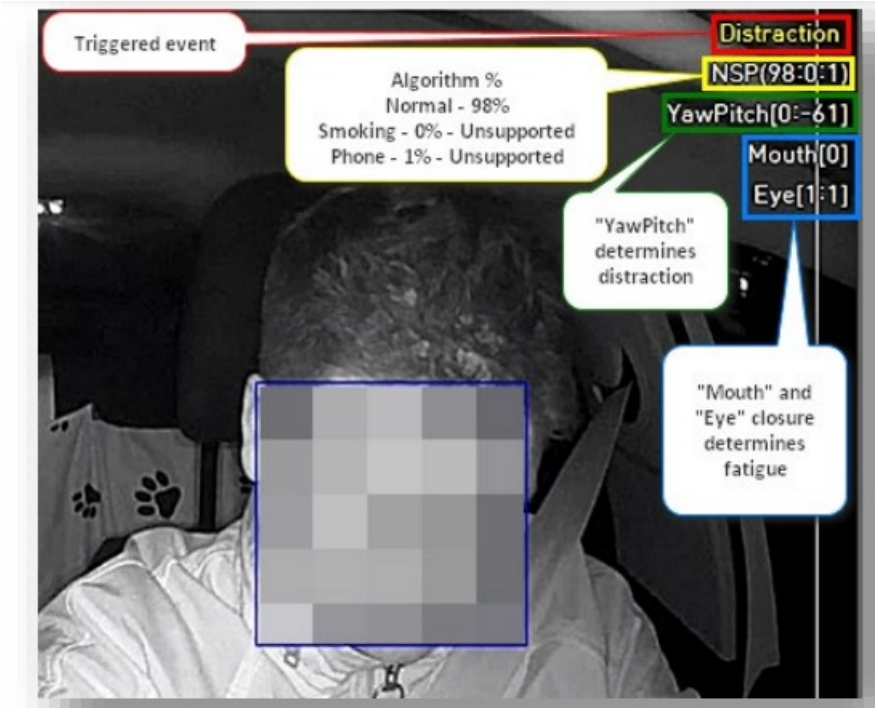



- **DSM Type**

9. To assign various DSM triggers, check behaviors like Fatigue.
10. Set a Sensitivity % and the time necessary to trigger an alert.
    - **Example:** Fatigue events trigger when eyelid closure occurs for 3 or more seconds or if yawning exceeds 50% (2.5 cm) for the same period.




    - **Note:** Review details about other settings, such as Multiple Event Escalation Time, here. Despite these values being ADAS settings, the logic is the same.
    - **Event > DSM**
    - Review the image and corresponding values below to see how edge analysis identifies a DSM event.




    - **Note:** “Drowsiness” in the settings.ini file equates to “Fatigue” in the configuration tool.

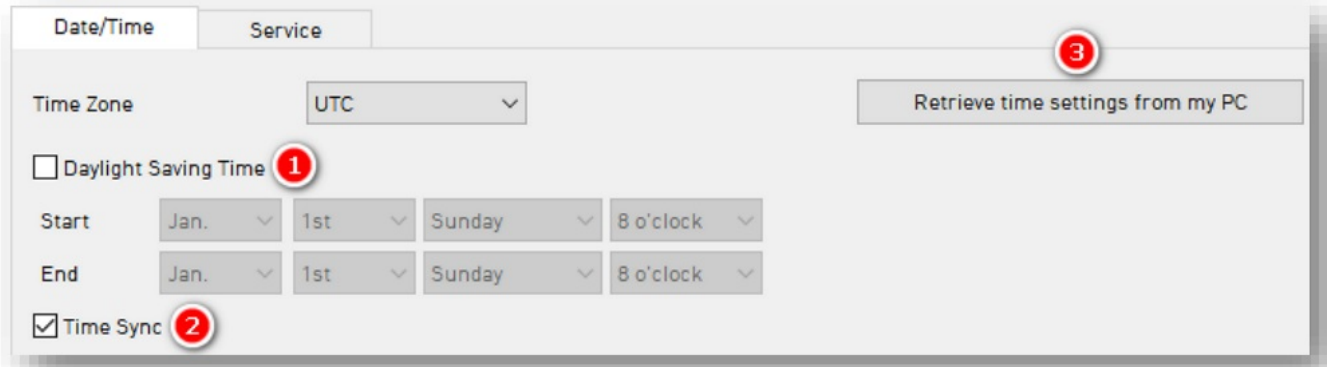
**Info > Date/Time**

## How to Configure Info Tab

**Date/Time Fields**
Setting time preferences on your KP2 is not recommended. PC Viewer software and SmartAPI automatically adjust UTC to your local time zone. If you’ve connected your KP2 to SmartAPI, do not set time preferences.

1. Set a customized date and time range for Daylight Savings Time.

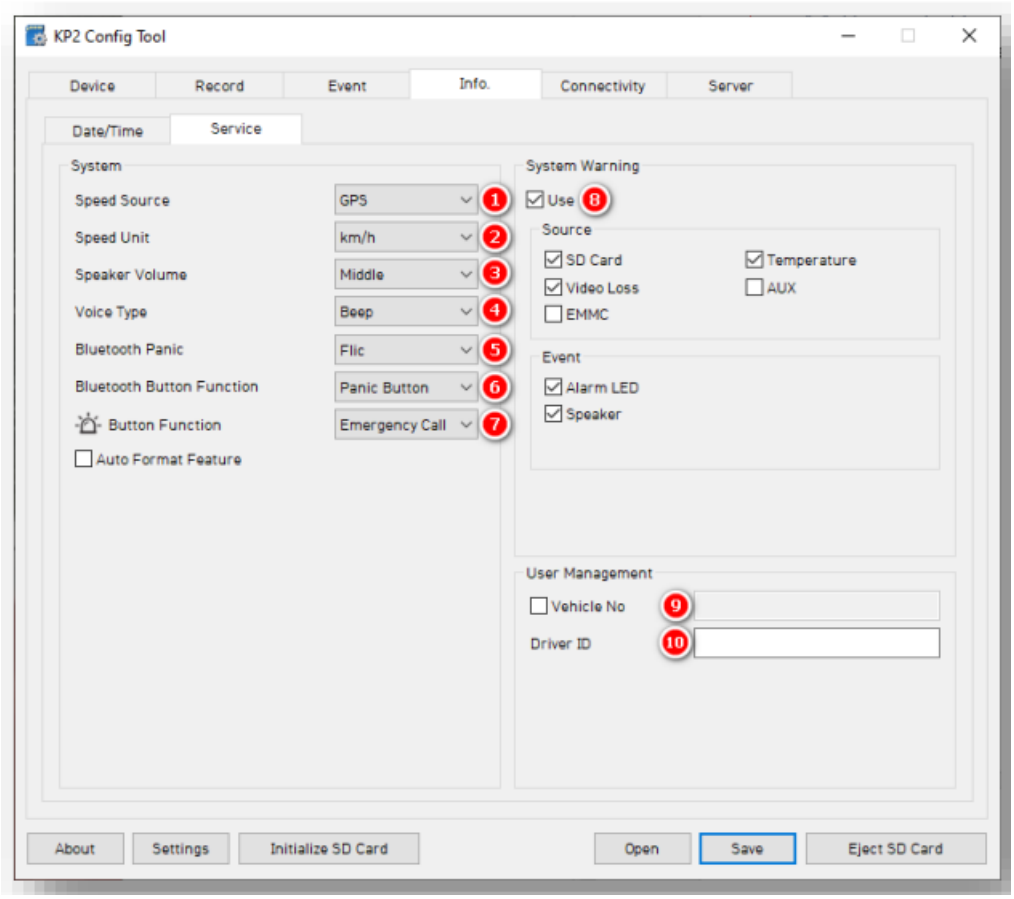
2. Ensure GPS time syncs with device OS time by clicking Time Sync.
3. Use PC Viewer software to set your device's time zone by clicking Retrieve time settings from my PC.




**Info > Service**

### Service Fields

### Info > Service Tab Layout: At a Glance

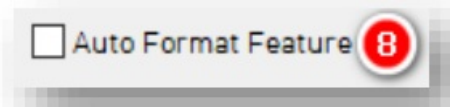



## System

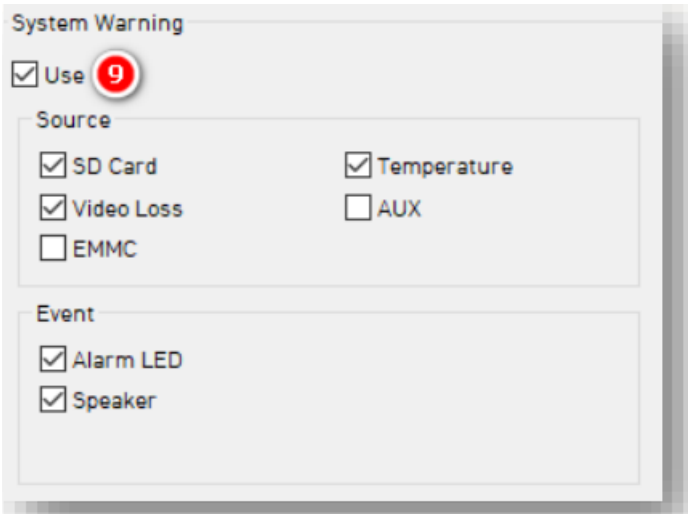
1. Your KP2 uses true vehicle speed data from the vehicle bus as a Speed Source whenever possible. Without vehicle speed data, the device will use GPS-sourced speed to inform related calculations (e.g., ADAS).
2. Set a preferred Speed Unit.
3. Set your device's audio levels by choosing a Speaker Volume.
4. Select the type of in-cabin alerts for ADAS/DSM events. Either Beep or Voice 1.


5. Pair your KP2 with a wireless Bluetooth Panic button. Find setup specifications on page 8 of the KP2 User Guide. To find more detailed instructions, follow this link. These instructions still apply, despite being for CP2.
6. Use your Bluetooth Button Function as an external Panic Button or for Emergency Call triggers.
7. Set your device's small black Button Function.


8. KP2 executes SD card necessary maintenance automatically when the Auto Format Feature is on.
    - This function formats blank SD cards automatically.
    - It will not format corrupted SD cards automatically. Instead, the device sends a "Media Error" event to the server. Optionally, an audible alarm and the red LED will turn on (see System Warning).




    - **System Warning**
9. Provide system component corruption and failure notifications by clicking Use.
    - Check any/all boxes to allow for those alerts.
    - System Warning Event types allow for specific alarms.



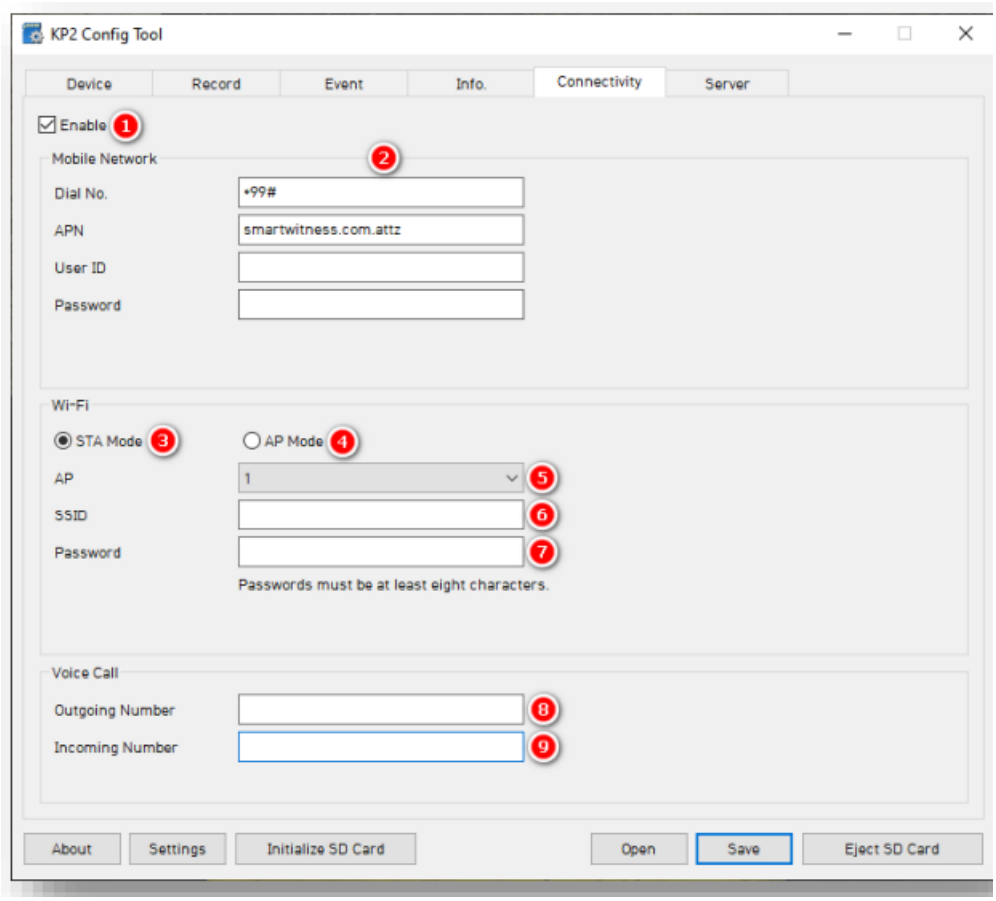

    - **User Management**
    - To assign a number to your vehicle, check Vehicle No, and enter a value.
    - Write a unique Driver ID for different vehicles.

      **Note:** You can watermark Vehicle No & Driver ID on your MP4 converted video feed with PC Viewer software


## Connectivity

#### How to Configure Connectivity Tab

**Connectivity Tab Layout:** At a Glance

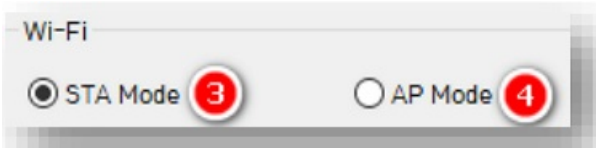



#### Mobile Network

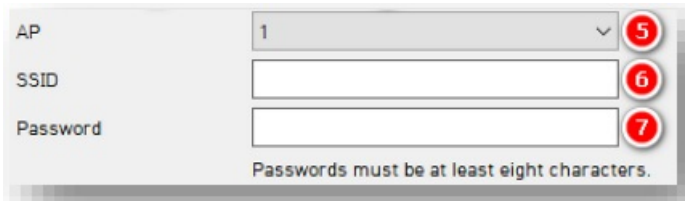
1. Specify mobile and WIFI network settings by clicking Enable.
2. Add Mobile Network details to relevant fields.


#### Wi-Fi

3. If choosing a standard setup for your Wi-Fi connection, click STA Mode. Select this when connecting to an existing Wi-Fi network (in place of a cellular network connection).
4. When setting up your device as its own access point, click AP Mode. Select this if you are creating a network hotspot with your KP2.

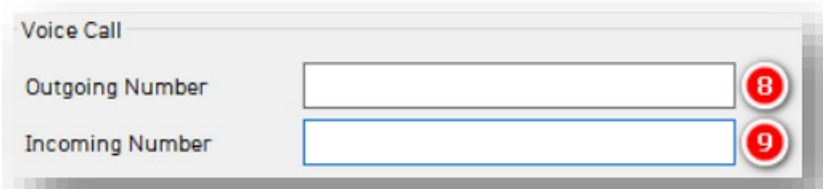



5. Set up to 10 Wi-Fi networks your KP2 can connect to for STA mode. Secure the access point with a password and WPA/WPA2 encryption.
6. The KP2 will scan for as many networks as are added in your settings.
7. Your password must be at least 8 characters.




- **Voice Call**
- To use this feature, you must turn on Emergency Call and associate Voice Call with the on-device or external button functions (see steps 6 & 7 in Info > Service). SIM cards require a phone number, and you must activate your SIM for voice communication.

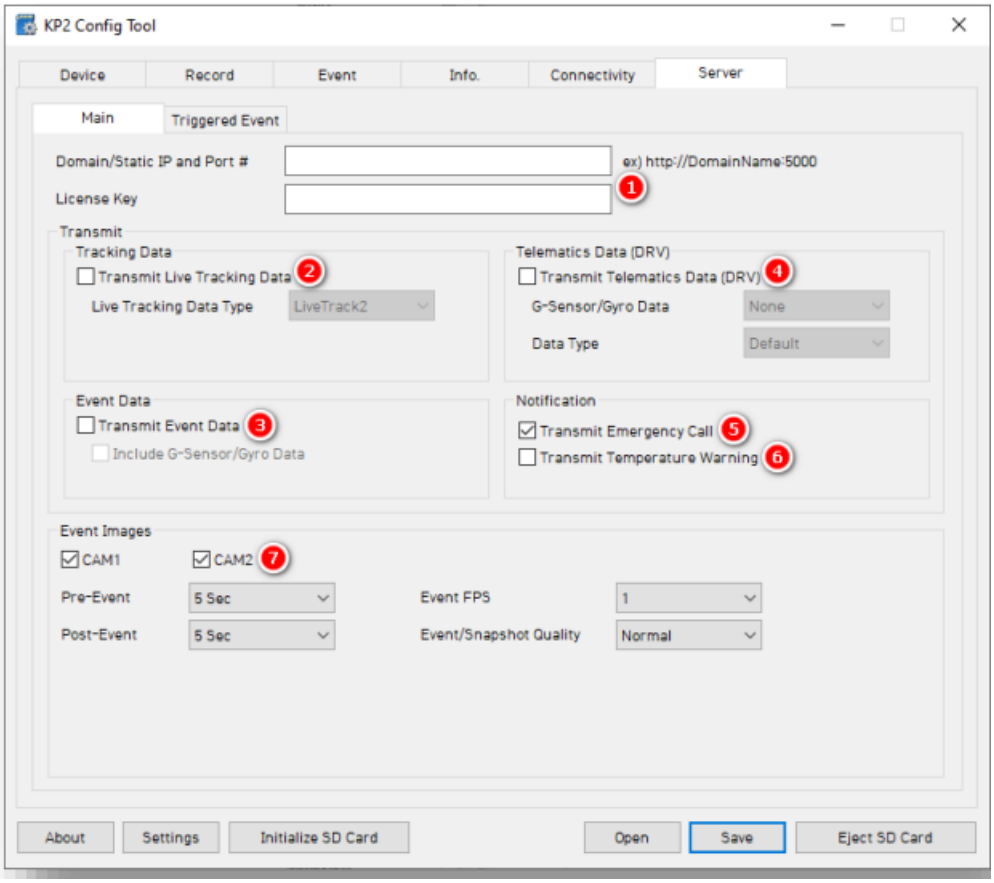
8. Enter your Outgoing Number. Press the button associated with the Ecall function. A tone signals connection.
9. Enter your Incoming Number. This is the only phone number allowed to call into your KP2.




## Server

#### How to Configure Server Tab Main Fields

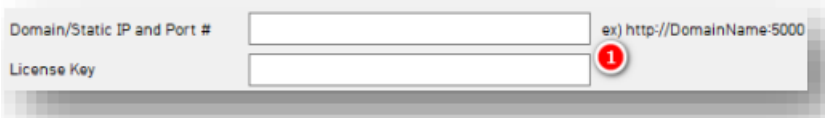
#### Server > Main Tab Layout: At a Glance




**Server > Main**

**Server**

1. Sensata INSIGHTS, or your service provider, will give you the Domain/Static IP and Port # URL and License Key (if necessary) to enter here

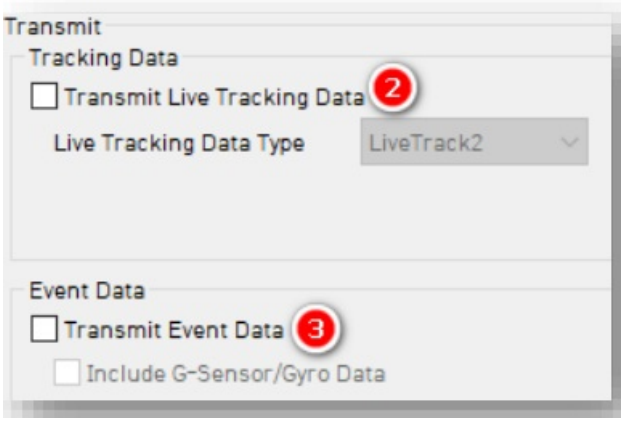



**Transmit**

2. To send HTTP posts from your KP2 to the server, click Transmit Live Tracking Data. Select from the Live Tracking Data Type options.

   **Note**: Livetrack2 has GPS coordinates. LiveTrack3 does not.

3. To deliver event notifications and images to the server, select Transmit Event Data.

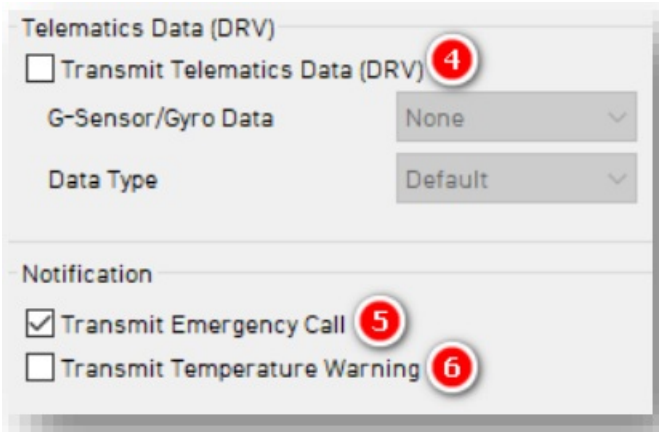



4. Send DRV data to the server by clicking Transmit Telematics Data (DRV). 4 Hz is the recommended setting.

This is the preferred frequency for AIDE.

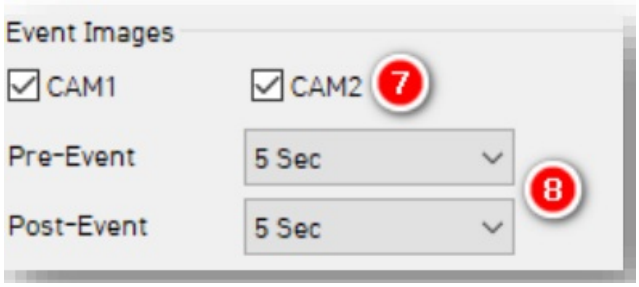
5. To send Ecalls (Severe Shock) to the server, click Transmit Emergency Call Notification.
6. To relay device overheating issues to the server, select Transmit Temperature Warning.

   **Note:** SmartAPI controls the frequency interval of LiveTrack and DRV uploads.

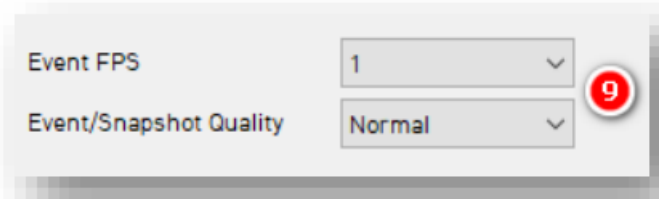



- **Event Images**

7. Choose which camera channels send event images to the server.
8. Determine snapshot timing before and after an event by selecting Pre-Event and Post-Event options.



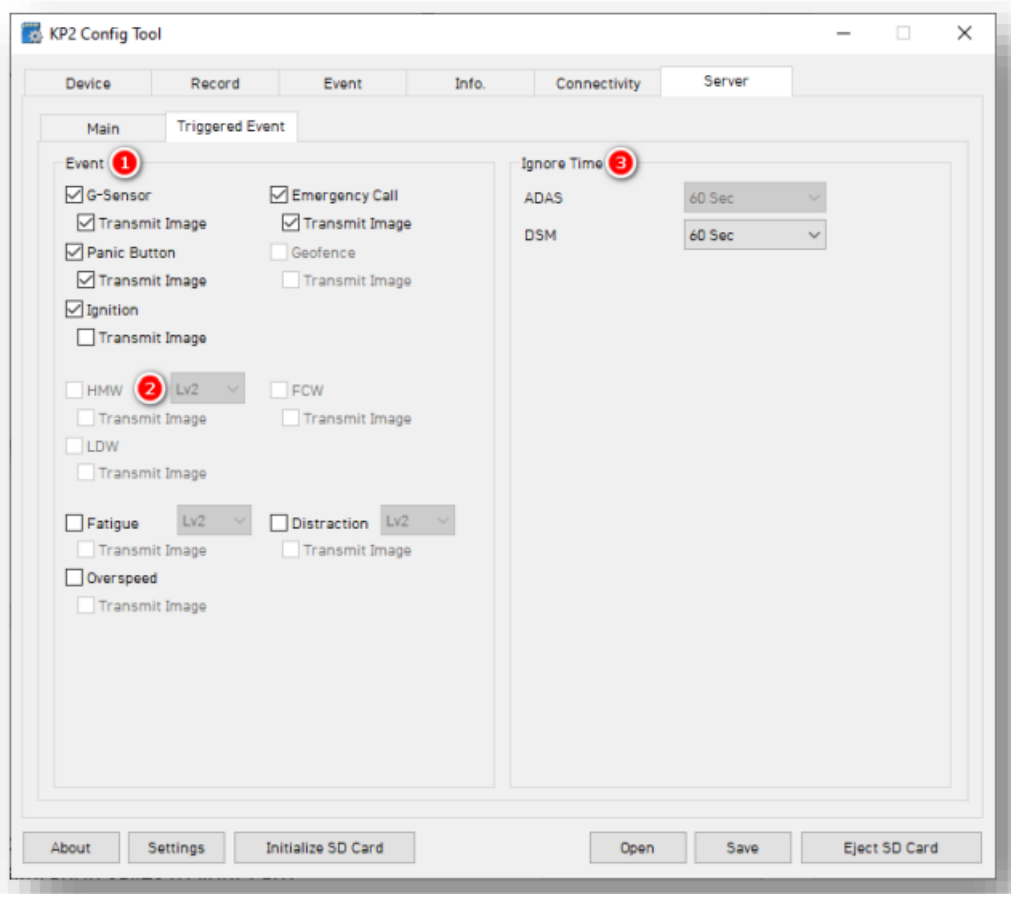

9. Select image capture settings for Event FPS and Snapshot Quality.




## Server > Triggered Event

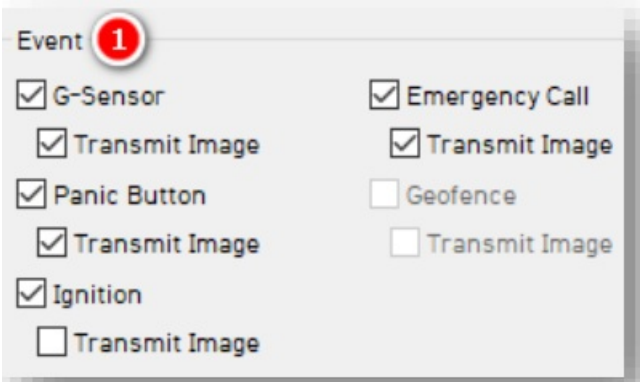
#### Triggered Event Fields

#### Server > Triggered Event Tab Layout: At a Glance



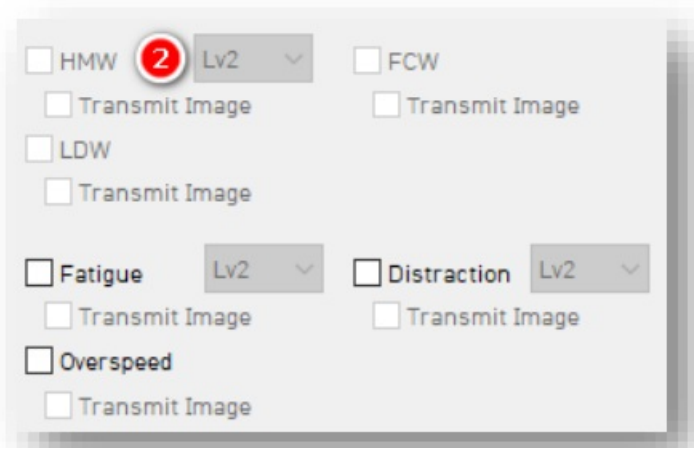

**Event**

1. Decide what events and notifications your device sends to the server by selecting options like G-Sensor and Emergency Call (Severe Shock). Events will send instantly, even if your device is in “Continuous” record mode.




**Note:** SmartAPI Workstation event admin controls dictate what events and event notifications are sent from SmartAPI to our partner’s servers.

2. Select the alert severity sent to the server. Lv2 is a different event payload sent to the server. It is not a separate event type.



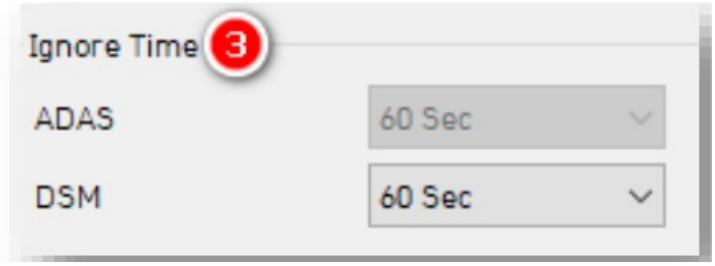

**Server > Triggered Event**

**Ignore Time**

- Ignore Time sets the length of time repeated events are ignored for event uploads to the server. This is referred to as the “1-minute server rule.”

**For ADAS and DSM, select either of the following:**

- **Off:** Disables the feature.
- **60 Sec:** Enables the feature.




## Complete Your Configuration

**Finishing Up/Support**

**Goal:** Completing your Configuration

1. Click Save to set your finalized settings configuration.
2. Select FHDRM SD drive when prompted. Your configuration saves to your card.
3. Wait for confirmation that the software applied your settings configuration.
4. Click Eject SD Card, insert it into KP2, and power on your device.
5. You have completed your configuration.

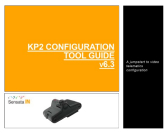
**Note**: Apply device configurations over the air from the SmartAPI Workstation. See the instructions here. While KP2 is not mentioned, the same process applies.

**Support Information**

- If you need additional support or an expert to walk you through this process, please register and submit a ticket, or email us at **support@smartwitness.com**. If you are enrolled in SWAT, reach out to the integration team via Teams with any device configuration questions.

  **Feel free to call our support team:**
- **• North America, South America, APAC**
- **+1 (312) 981 8774**
- **• EMEA**
- **+44 (0) 1483 397005**

## Documents / Resources

| | |
|---|---|
|  | **Sensata KP2 Jumpstart to Video Telematics Configuration Tool** [pdf] User Guide<br>KP2, Jumpstart to Video Telematics Configuration Tool, KP2 Jumpstart to Video Telematics Configuration Tool, Video Telematics Configuration Tool, Telematics Configuration Tool, Configuration Tool |