# AP1 CONFIGURATION TOOL GUIDE v4.0

A jumpstart to video telematics configuration







# **Table of Contents**

1.0	Welcome to your AP1 Configuration Guide	3
2.0	AP1 Configuration Tool Installation	
2.1	Downloading & Installing Your Configuration Tool	4
3.0	AP1 Configuration Tool Layout & Settings	5
3.1	ADAS Event Definitions	6
4.0	Configuring Your Device	8
4.1	How to Configure Device/Vehicle Tab	
4.2	How to Configure Record Tab	13
4.4	How to Configure Event Tab	17
4	.4.1 Event Table	18
4	.4.2 Event Settings	
4.5	How to Configure Connectivity Tab	25
4.6	How to Configure Server Tab	28
4.7	How to Configure Information Tab	31
4.8	How to Configure G-Sensor Tab	
5.0	Finishing Up/Support	38
5.1	Support Information	38

#### Introduction

## 1.0 Welcome to your AP1 Configuration Guide

This guide aims to inform end-users of the proper processes involved in setting up your SmartWitness AP1 device.

While the AP1 Configuration Guide gives you a step-by-step walkthrough of each function within the Configuration Tool, the preferred configuration method remains the AP1 Calibration Tool (available on iOS and Android).

This step-by-step walkthrough will act as your teacher as you learn our product's layout, functionality, and configuration settings.

You can find an overview of the configuration tool's layout in section 3.0.

The fastest way to find information in this document is through the Table of Contents.

We hope that this tutorial will be sufficient in removing common end-user pain points involved with the setup process. If you experience any issues with this guide, please lend us your feedback and/or contact our **support** teams.

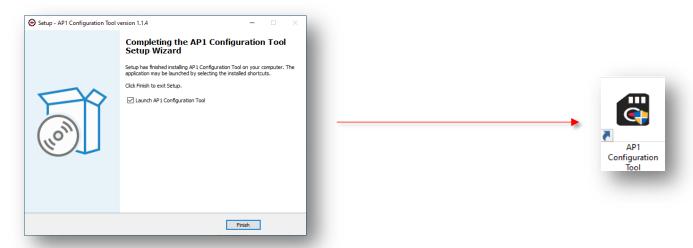
#### **AP1 Download & Installation**

# 2.0 AP1 Configuration Tool Installation

**Goal:** Locate and install your configuration wizard

2.1 Downloading & Installing Your Configuration Tool

Download configuration software **HERE**.



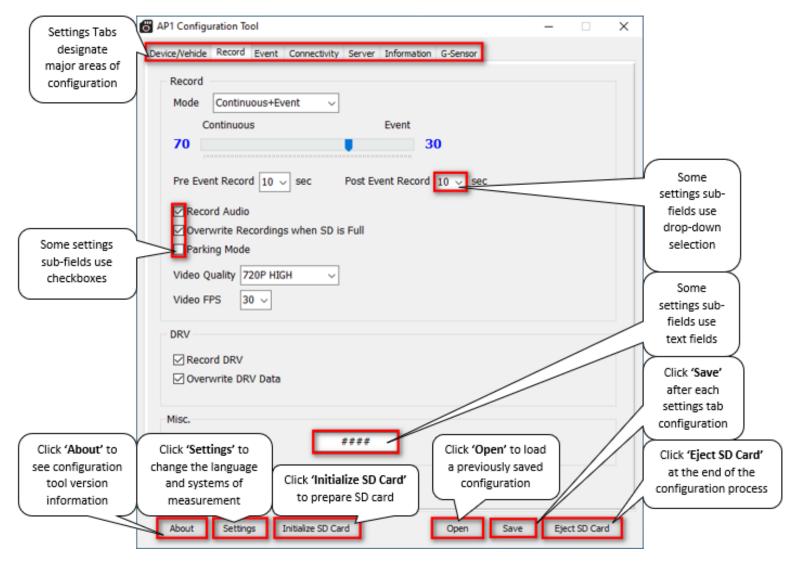
- 1. After download, continue to installation.
- 2. Open the configuration tool, and insert your SD Card.
- 3. Click Initialize SD Card.
- 4. Select **SD Card** from your preferred internet browser.
- 5. Click **Start** to initialize.

Note: The maximum size supported for your SD card is 128 GB.

## **AP1 Configuration Tool Layout**

# 3.0 AP1 Configuration Tool Layout & Settings

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



#### **ADAS Event Definitions**

#### 3.1 ADAS Event Definitions

To better understand the settings and functions of **ADAS** (**A**dvanced **D**river **A**ssistance **S**ystems) events in the **Event** tab, please see the definitions below.

**Note:** Sensitivity settings are on a scale of 1-5, 1 being the lowest and 5 being the highest.

<b>Event Type</b>	<b>Event Definition</b>	Sensitivity Setting		
FCW	Forward Collision Warning - Detects an imminent collision with something ahead.	The <i>higher</i> the <b>sensitivity</b> , the <i>earlier</i> the alert arrives before a possible collision.		
FPW	Forward Proximity Warning - Something is in forward proximity, and an imminent collision with your vehicle is possible at low speeds.	The <i>higher</i> the <b>sensitivity</b> , the <i>greater</i> the distance is that you're alerted before a potential collision.		
HMW	Headway Monitoring & Warning - Monitors distance to the vehicle ahead at higher speeds. Also referred to as "Tailgating."	The higher the <b>sensitivity</b> , the <i>earlier</i> you're alerted for breaching an unsafe distance to the vehicle ahead.		
FVSA	Forward Vehicle Start Alert - Vehicles in front of you begin to move while your vehicle remains stopped.	The <i>higher</i> the <b>sensitivity</b> , the <i>more</i> time you have before you're alerted that the vehicle in front of you moved.		
LDW	Lane Departure Warning - Your vehicle crosses a solid lane line on either side of the road.	The <i>higher</i> the <b>sensitivity</b> , the <i>greater</i> the distance is before you're alerted that you may cross over the driving lane.		
		Example: Sensitivity = 1, Distance to driving lane = + 20cm (Over the lane) Sensitivity = 5, Distance to driving lane = - 20cm (Before the lane)		

# **ADAS Event Definitions**

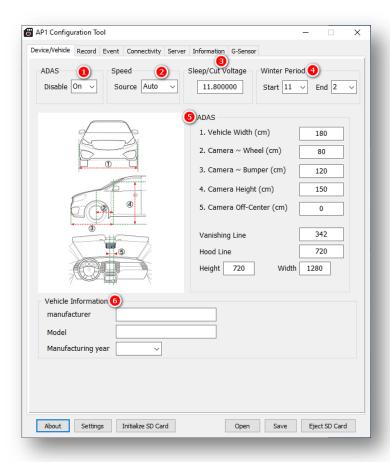
FCW2	Forward Collision Warning #2 - Detects another vehicle abruptly crossing into your vehicle's lane, causing the potential for collision.	Change the alert <b>sound</b> intensity.  Generates a TTC (Time to Collision) measurement in the same fashion as FCW.
RLC	Rapid Lane Change - Your vehicle quickly changes lanes and crossing lane lines.	Measured by velocity (cm/sec = horizontal distance changed in a period of time) and length of vehicle to lane line.
FLC	Frequent Lane Change - Your vehicle is crossing many lanes in a specified window of time (weaving).	Uses the same algorithm as LDW.  Measured by the number of lanes changed in a period (sec).  Uses the same algorithm as LDW.
RD	Rapid Deceleration - Your vehicle quickly decelerates to a specified speed in a window of time.	Measured by a vehicle is decreasing over km/h from current speed within seconds.  Measured using speed data. This reduces extra data from G-Sensor events to the Smart API server, saving cellular data.  First, consult with SmartWitness before enabling this event. Our platform already identifies these instances, so there could be duplicates if you activate this event without prior discussion with the integration team.

# 4.0 Configuring Your Device

**Goal:** Personalize and optimize your device's settings.

# 4.1 How to Configure Device/Vehicle Tab

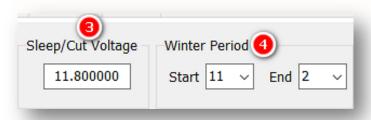
Device/Vehicle Tab Layout: At a Glance



- 1. Select from **Disable** options to turn your AP1's ADAS features on or off.
- 2. Select how your device gauges its speed.
  - Auto: Your device will automatically detect a speed source (OBD port or GPS)
  - OBD II: Monitor speed from your vehicle's OBD port only.
  - GPS: Speed comes from your AP1's GPS chip only. This will deactivate ADAS functions.



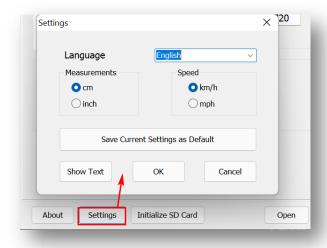
- 3. To set a threshold when your device automatically goes offline due to low power input, enter a **Sleep/Cut Voltage** value. The recommended voltage range is 11.5~12v.
- 4. Determine a **Winter Period** for your device.
  - Example: 1 = November, 2 = February.



#### **ADAS**

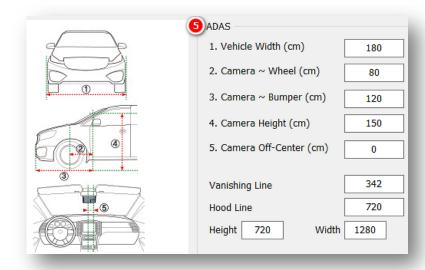
5. Follow the diagrams and enter your vehicle's measurements. You can select cm or inch in the tool's settings.

**Note:** Your vehicle's manual may supply some of these measurements. You can select cm or inch in the tool's settings.



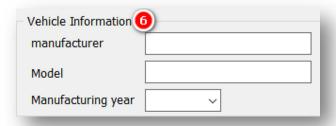
- **Vehicle Width:** Distance from the outside of the left tire to the outside of the right tire.
- Camera ~ Wheel: Distance from the camera lens to the front wheel's axle.
- Camera ~ Bumper: Distance from the camera lens to the bumper.
- Camera Height: Height from the ground to the camera lens.
- Camera Off-Center: Ensure your camera is within 12 in of the center of the windshield (center of device to the center of the windshield).
  - If your camera is on the left side, enter a negative number, like -5.
  - If the lens is in the center, enter **0**.
  - If the lens is on the right side, enter a positive number, like **5**.

- Vanishing Line: Horizontal line on your camera's image where objects disappear due to distance (the horizon). Value is the pixel number from the top of the image.
- Hood Line: The front edge of the vehicle's hood/bonnet. Value is the pixel number from the top of the image.



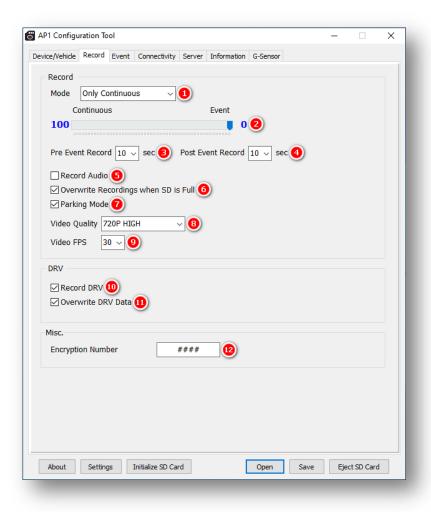
#### **Vehicle Information**

6. Locate your vehicle's manufacturer, model, and year. Please enter the information into the following fields.



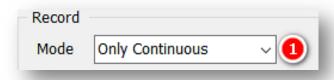
# 4.2 How to Configure Record Tab

**Record Tab Layout:** At a Glance



#### Record

- 1. Select your preferred Record Mode:
  - Continuous+Event: Video continuously records at 1 FPS.
     Specify the FPS for events.
  - Only Continuous (Recommended):
     Video continuously records, with no events documented (Events are uploaded over-the-air to SmartAPI if configured on the <u>Server</u> tab)
  - Only Event: Only records events. The pre & post-event setting.
  - **Do not record:** Disable device video recording.



- 2. To adjust your device's Continuous to Event recording ratio, move the slider to your preferred setting (applicable only to Continuous + Event mode)
- Choose how long your device records before an event by selecting a Pre-Event Record time.
- Set how long your device records after an event by selecting a **Post-Event Record** time (applicable only to Event and Continuous + Event modes).



- 5. Turn on the audio recording feature by checking **Record Audio.**
- 6. Allow your device to rewrite the SD card's video and telematics data automatically by clicking **Overwrite**Recordings when SD is Full.
- 7. To reduce device recording to 1 FPS when your vehicle is idle for 5 minutes or more, click **Parking Mode.**



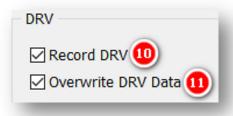
- 8. Determine your event recording **Video Quality**.
  - Quality and Bitrate
    - i. Standard = most compressed/lossy
    - ii. Super = no
       compression/lossless
- 9. To set your video's frame rate, choose from **Video FPS**.

**Note:** Selecting different video recording options may affect your on-device storage capacity.



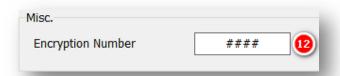
#### **DRV**

- 10. Record driver telematics data to your AP1 by clicking **Record DRV**.
- 11. Allow your device to automatically overwrite DRV data when the SD is full by checking **Overwrite DRV Data**.



#### Misc.

12. Protect SD card data from being easily viewable by entering a 4-digit **Encryption No.** 



# 4.4 How to Configure Event Tab

Event Tab Layout: At a Glance



#### 4.4.1 Event Table

The table featured below is a breakdown of how the different setting values impact event measurement.

#### HMW

HMW setting value	1	2	3	4	5
TTC (time to collision)	0.6sec	0.9sec	1.2sec	1.5sec	2.0sec

(HMW buffer for repeat events is fixed at 3.5 sec)

#### **FCW**

FCW setting value	1	2	3	4	5
TTC (time to collision)	2.2sec	2.4sec	2.6sec	2.8sec	3.0sec

#### **FPW**

FPW setting value	1	2	3
Distance to	1.2m	J.m.	2 m
front vehicle	1.2111	2111	5111

#### **LDW**

LDW setting value	1	2	3	4	5
Status	Over the lane	Over the lane	On the lane	Before the lane	Before the lane
Distance to the lane	+20cm	+10cm	0	-10cm	-20cm

#### **FVSA**

FVSA setting value	1	2	3	4	5
Time of departure	2sec	3sec	4sec	5sec	6sec
of front vehicle	2580	3360	4380	2360	USEC

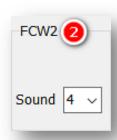
#### 4.4.2 Event Settings

- 1. Forward Collision Warning (**FCW**) –To set FCW event preferences, click **Enable**.
  - Deliver multiple FCW alerts in cases of potential collision by checking Repeat.
  - To allow FCW recordings, click
     Record.
  - Select your FCW sensor **Sensitivity.**
  - Choose the type of FCW event notification by selecting Sound.
    - i. Sound 0: Silence
    - ii. Sound 1: Beep Type 1Sound 2: Beep Type 2
    - iii. Sound 3: Beep Type 3
    - iv. Sound 4: Human voice (male)
    - v. Sound 5: Human voice (female)

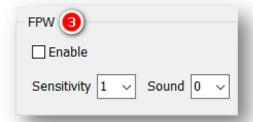


2. Forward Collision Warning 2 (**FCW2**) – To set FCW2 event settings, click **Enable**.

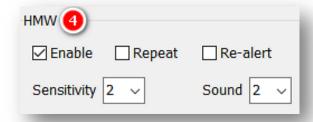
**Note:** FCW #2 has the same sound selection options as FCW.



- 3. Forward Proximity Warning (**FPW**) To set FPW event preferences, click **Enable.** 
  - Select your general FPW sensor
     Sensitivity.
  - Select your preferred audible notifications for FPW events by choosing **Sound**.
    - i. Sound 0: Silence
    - ii. Sound 1: Beep
    - iii. Sound 2: Human voice (male)
    - iv. Sound 3: Human voice (female)



- 4. Headway Monitoring Warning "Tailgating" (**HMW**) –To set HMW event preferences, check **Enable**.
  - Deliver multiple HMW in-cabin alerts by checking **Repeat.**
  - To send numerous alerts in cases of potential incidents, click **Re-alert**.
  - To allow HMW recordings, click Record.
  - Select your HMW **Sensitivity.**
  - Choose the Sound alert.
    - i. Sound 0: Silence
    - ii. Sound 1: Beep Type 1
    - iii. Sound 2: Beep Type 2
    - iv. Sound 3: Beep Type 3
    - v. Sound 4: Human voice (male)
    - vi. Sound 5: Human voice (female)



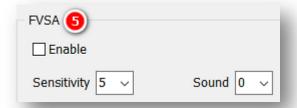
- Forward Vehicle Start Alert (FVSA) –
   Set FVSA event preferences by checking Enable.
  - Select your general FVSA sensor
     Sensitivity.
  - Turn on audible notifications for FVSA by selecting Sound.

i. Sound 0: Silence

ii. Sound 1: Beep

iii. Sound 2: Human voice (male)

iv. Sound 3: Human voice (female)



- 6. Lane Departure Warning (**LDW**) –
  To set LDW event preferences, check **Enable.** 
  - Establish your vehicle's threshold for activating LDW features by entering an Activation Speed.
  - Select the sensor's Left Sensitivity for your vehicle's left side.
  - Select a **Right Sensitivity** for your vehicle's right side.
  - Choose your sound alerts by selecting from **Sound.**

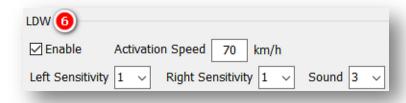
i. Sound 0: Silence

ii. Sound 1: Beep Type 1

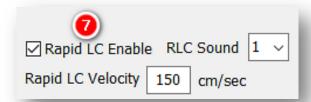
iii. Sound 2: Beep Type 2

iv. Sound 3: Human voice (male)

v. Sound 4: Human voice (female)



- 7. Rapid Lane Change (**RLC**) To set RLC event preferences, check **Enable**.
  - Establish the velocity your vehicle must exceed to activate the RLC event. Enter a value in cm/sec (recommended between 150 ~200).
  - Choose your **Sound** alerts (options are the same as LDW).



- 8. Frequent Lane Change (**FLC**) To set FLC event preferences, check **Enable**.
  - Establish the number of lane changes by entering a value in Freq LC Count (recommended between 3 ~ 6).
  - Select a time window in which lane changes occur by entering a value in seconds (recommended between 30 ~ 60).
  - Choose your sound alerts by selecting from **Sound** (options are the same as LDW).



- 9. Rapid Deceleration (**RD**) Identifies an event based on a reduction of speed over a number of seconds.
  - It is not recommended without first consulting SmartWitness.
  - Choose your sound alerts by selecting from **Sound.**

i. Sound 0: Silence

ii. Sound 1: Beep Type 1

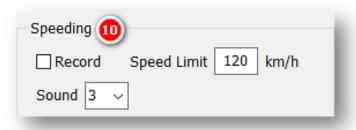


- 10. Turn on Speeding event recordings by clicking **Record**.
  - Set a Speed Limit threshold your vehicle must exceed for Speeding events.
  - Turn on audible notifications for Speeding events by selecting Sound.

i. Sound 0: Silence

ii. Sound 1: Beep Type 1Sound 2: Beep Type 2

iii. Sound 3: Beep Type 3



- 11. Turn on Panic Button event recordings by clicking **Record.** 
  - Turn on audible notifications for Panic Button events by selecting Sound.

i. Sound 0: Silence

ii. Sound 1: Beep Type 1

iii. Sound 2: Beep Type 2

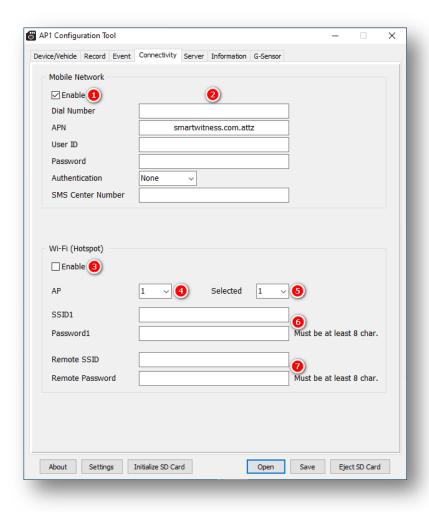
iv. Sound 3: Beep Type 3



# Connectivity

# 4.5 How to Configure Connectivity Tab

# Connectivity Tab Layout: At a Glance

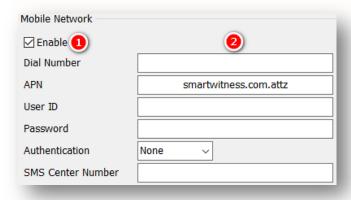


## Connectivity

Choose either **Mobile Network** or **Wi-Fi** (**Hotspot**) for network connection.

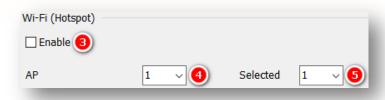
#### **Mobile Network**

- 1. Access a compatible mobile network by clicking **Enable.**
- 2. Enter your mobile network settings.
  - Dial Number
  - APN
  - User ID
  - Password
  - Authentication
  - SMS Center Number (for troubleshooting and recovery)



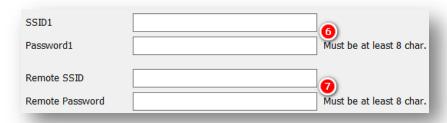
## Wi-Fi (Hotspot)

- 3. To create a Wi-Fi hotspot with your device, click **Enable.**
- Select your AP from the options provided. Your AP must be secure, accompanied by WPA/WPA2 encryption.
- 5. Choose the **Selected** AP to connect with your device.



# Connectivity

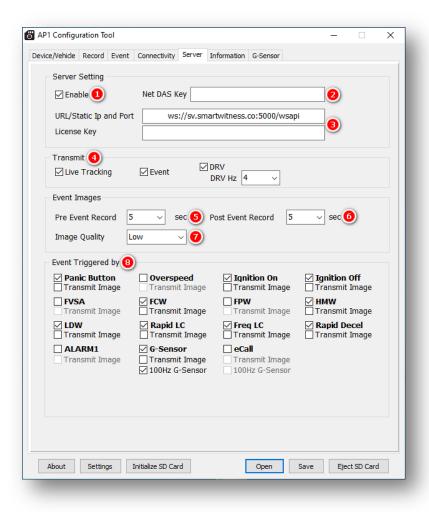
- 6. Set up your **SSID1**, the name of the wireless network you wish to connect with your AP1.
  - Enter your SSD1 **Password1**.
- 7. Enter the name of your AP1 hotspot in **Remote SSID.** 
  - Add your **Remote Password.**



## Server

# 4.6 How to Configure Server Tab

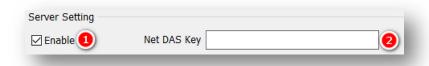
Server Tab Layout: At a Glance



#### Server

#### **Server Setting**

- 1. To set up your preferred server settings, click **Enable.**
- 2. Access Direct-attached server storage by entering a **Net DAS Key**.

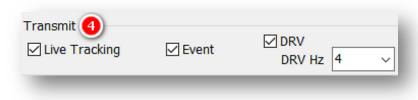


3. SmartWitness, or your service provider, will give you the **URL/Static IP and Port** and the License Key (If necessary) to enter here.



#### **Transmit**

- 4. To send specific types of data to the server, check your desired data types.
  - To allow HTTP posts from the AP1 to the server, check Live Tracking. LiveTrack 2 has GPS coordinates. LiveTrack3 does not.
  - Send event notifications and images to the server by checking Event.
  - To send DRV data to the server, click DRV. 4 Hz is the default setting, as this is an ideal frequency for AIDE.



#### Server

#### **Event Images**

- Set the time your device records before an event by selecting a Pre-Event Record time. Your device will then send event images to the server.
- Set the time your device records after an event by selecting a **Post-Event Record** time. Your device will then send event images to the server.

Determine your preferred event **Image Quality.** 



#### **Event Triggered By**

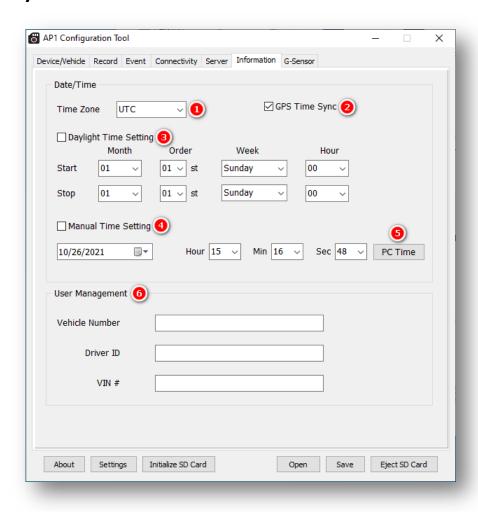
- 3. Decide what events your device will upload to SmartAPI by selecting options like **G-Sensor** and **eCall**.
  - Events will send instantly, even if the device is in "Continuous" record mode.

Event Triggered by (8)			
✓ Panic Button ☐ Transmit Image	Overspeed Transmit Image	✓ Ignition On □ Transmit Image	✓ <b>Ignition Off</b> ☐ Transmit Image
☐ <b>FVSA</b> ☐ Transmit Image	<b>✓ FCW</b> ☐ Transmit Image	<b>□ FPW</b> □ Transmit Image	✓ HMW Transmit Image
<b>☑ LDW</b> ☐ Transmit Image	✓ Rapid LC □ Transmit Image	✓ Freq LC □ Transmit Image	✓ Rapid Decel  Transmit Image
ALARM1 Transmit Image	<ul><li>✓ G-Sensor</li><li>☐ Transmit Image</li><li>✓ 100Hz G-Sensor</li></ul>	☐ eCall ☐ Transmit Image ☐ 100Hz G-Sensor	

## Information

# 4.7 How to Configure Information Tab

# Information Tab Layout: At a Glance



#### **Information**

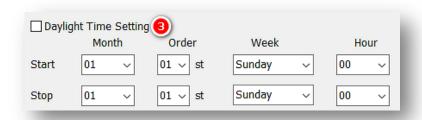
## Date/Time

Setting time preferences on your AP1 is **not recommended**. PC Viewer software and Smart API automatically adjust UTC to your local time zone.

- 1. Ensure you set **Time Zone** to **UTC.**
- 2. To allow your device's GPS to establish your local time, check **GPS Time Sync.**



3. Do not set DST start/stop times in **Daylight Time Setting.** 



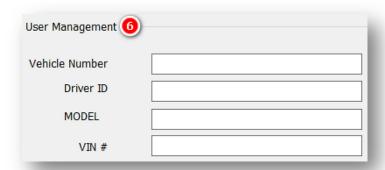
- 4. To override automated time settings, click **Manual Time Setting** and select customized time settings. This is <u>not recommended</u>; time automatically syncs via GPS.
- 5. Do not set **PC Time.**



## Information

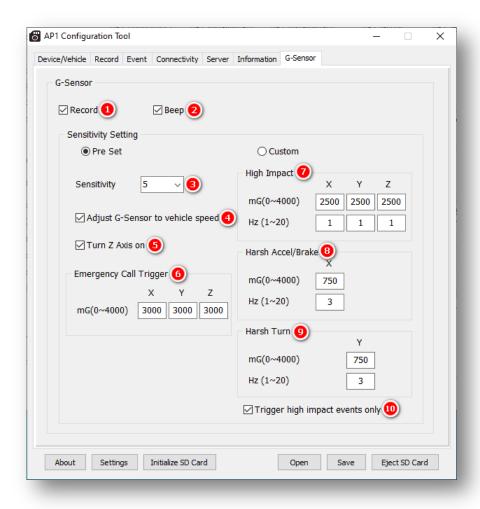
## **User Management**

- 6. Provide unique IDs for different drivers and vehicles in your fleet. You can display these values on MP4 converted video. They can be updated remotely in SmartAPI or by API requests.
  - Enter a value for Vehicle Number.
  - Enter a unique key for **Driver ID.**
  - Enter a value for Model.
  - Enter a numerical value for VIN #.



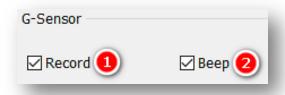
# 4.8 How to Configure G-Sensor Tab

# **G-Sensor Tab Layout:** At a Glance



#### **G-Sensor**

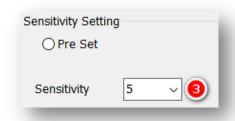
- 1. To turn on G-Sensor event recordings, click **Record.**
- 2. Allow for audible alerts of G-Sensor events by checking **Beep.**



#### **Sensitivity Setting**

Determine your G-Sensor sensitivity settings, either with **Pre-Set** options or by setting event-specific values using **Custom** options.

3. To set an overall G-Sensor sensitivity, select from **Sensitivity** options.



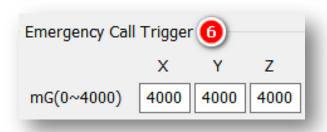
4. Calibrate the G-Sensor speed threshold by clicking **Auto adjust G-Sensor to vehicle speed.** 

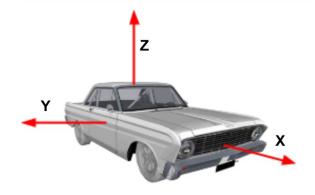
**Note:** This increases the G-Sensor event threshold on each axis by 300mcg when the vehicle speed is greater than 20/kmh.

5. Activate G-Sensor readings on the z-axis (up/down) by checking **Turn Z-axis on.** 

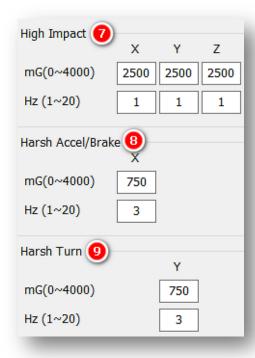


6. Set the threshold for **Emergency Call Trigger** (aka Severe Shock) G-Sensor values.





- 7. Set the **High Impact** event shock range for the X and Y axis.
- 8. Set the **Harsh Accel/Brake** event shock range for the X axis.
- 9. Set the **Harsh Turn** event shock range for the Y axis.



- 10. To limit alerts to high-impact events, check **Trigger high impact events only.** 
  - ☑ Trigger high impact events only 🐽



## 5.0 Finishing Up/Support

**Goal:** Complete Your Configuration and Access Support

- 1. Click **Save** to establish your finalized settings configuration.
- 2. Select **FHDRM** SD drive when prompted. Your configuration saves to your card.
- 3. Wait until the software confirms the application of your settings configuration.
- 4. Click **Eject SD Card**, insert it into your AP1 and power on the device.
- 5. You have completed your configuration.

**Note:** You can apply device configurations from the Smart API Workstation over the air. Read instructions here.

## 5.1 Support Information

If you need additional support or an expert to walk you through this process, please <u>register</u> and submit a ticket, or email us at support@smartwitness.com.

Feel free to call our support team:

- North America, South America, APAC
  - +1 (312) 981 8774
- EMEA
  - +44 (0) 1483 397005