



# AP1

## User Guide

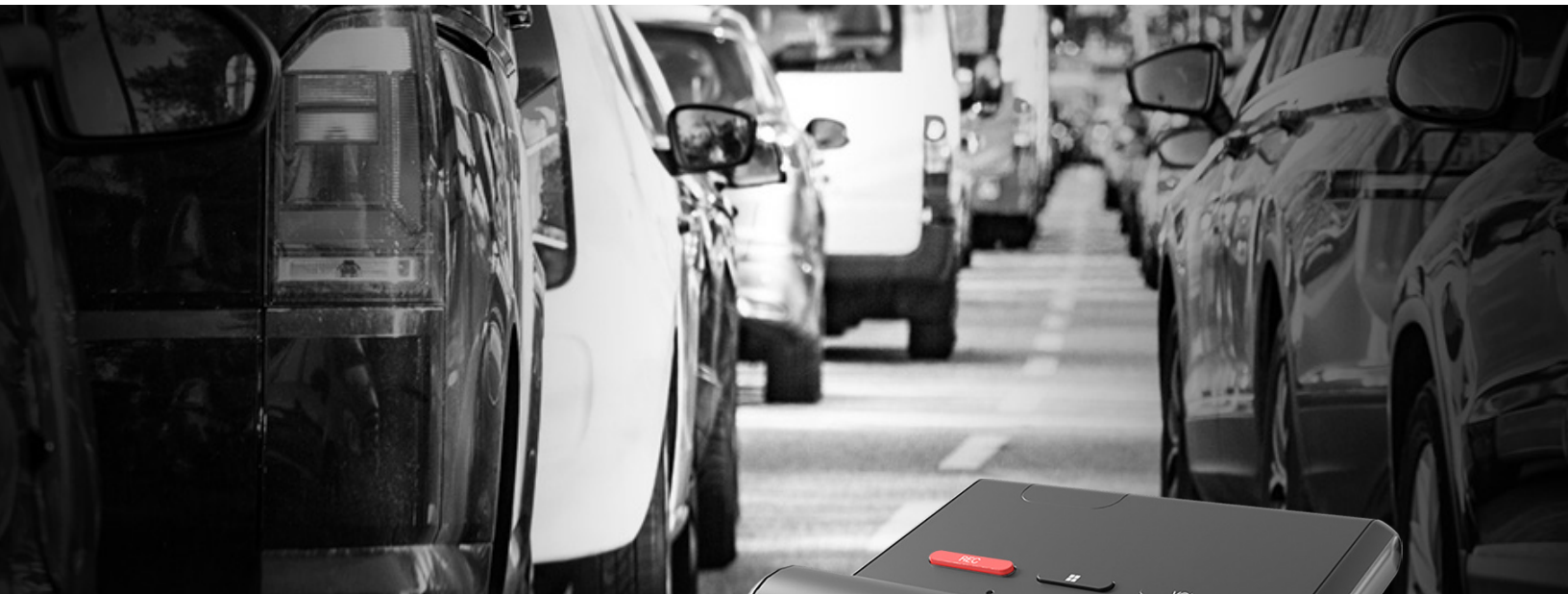
Please read this entire guide  
before installation and use.

Version 3 | Last updated 1/1/2023



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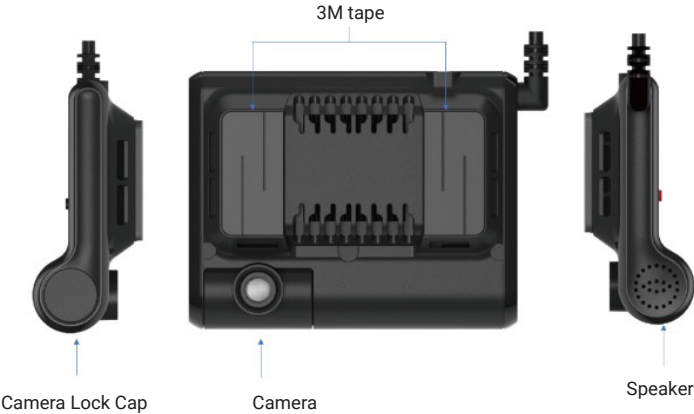
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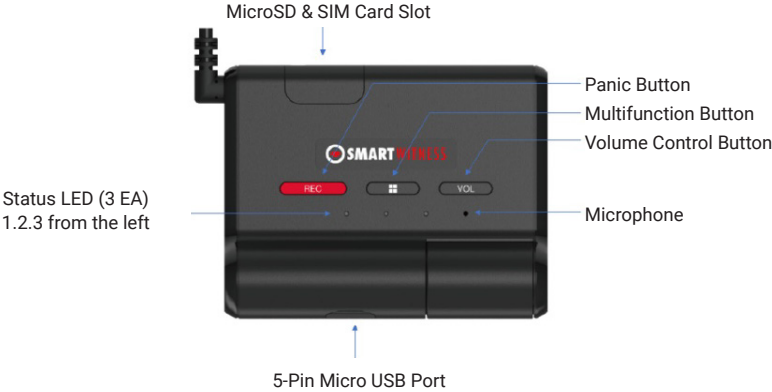
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# Package contents



**Power Specifications**  
Input: OBDII  
DC 10~32V, 2A  
Output: DC 5V, 3A



# Key functions

## Automatic Booting

**Once the AP1 has been wired to your OBDII port or vehicle power source, the AP1 will boot up automatically. It will take around 55 seconds for the unit to be ready to operate.**

## 1. Video recording

### Continuous record

This is the default mode for recording. Your AP1 begins recording after booting up and continues to record the entire time the device is on. In this mode, the microSD card storage may fill up quicker and overwrite your oldest recordings when it's full. The resolution and frame rates can be set as per your requirements.

### Event record

The unit will record when triggered by impact, various configurable driving events (e.g., speeding or forward collision) or events triggered by the "Panic" (Rec) button. You can set the record time during the calibration setting mode.

### Dual record, continuous + event

Continuous record files will be stored in the "Normal" folder, and event record files will be stored in the "Event" folder on the microSD card.

### Drive data

DRV data (drive data) will record driving information regardless of events. DRV files consist of GPS, G-sensor, ADAS and OBD data. DRV files overwrite your device's oldest data. DRV files upload to the server every 10 minutes by default but can increase to every minute.

### Time and date

This information will be provided by GPS satellites automatically.

## 2. Wi-Fi

To connect to the device via Wi-Fi, please press the "multifunction" button and hold for 5 seconds (long press), wait 3 seconds and then connect directly to the AP1 via Wi-Fi using your mobile device.

## 3. Volume control

Please press the volume button to control. The volume level is 1 to 5.

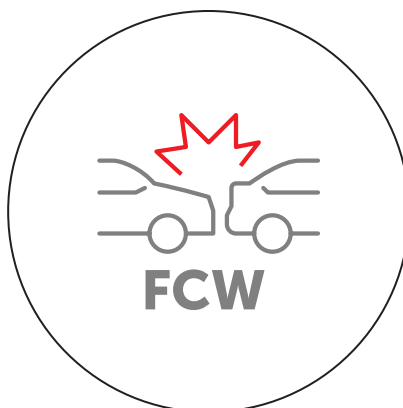
## ADAS functions

Your AP1's Advanced Driver Assistance Systems (ADAS) features allow drivers to receive in-cabin preventive audio alerts in cases of potential incidents.



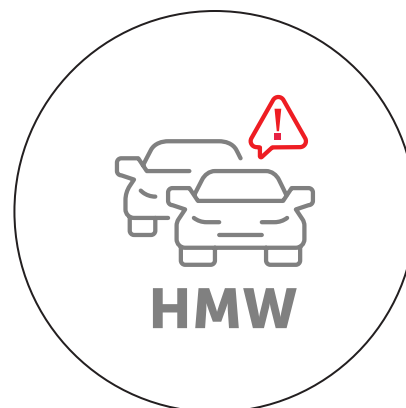
### Lane Departure Warning

Your vehicle crosses a solid lane line on either side of the road.



### Forward Collision Warning

Your vehicle is likely to collide with something in front of the vehicle.



### Headway Monitoring Warning

Your vehicle is not maintaining a safe distance with the vehicle in front of you (tailgating).

#### Caution

ADAS functionality is not a substitute for an alert, trained and engaged driver. ADAS functionality will be impaired by many things, including but not limited to device malfunction, obstruction of the device's image sensor, intense weather conditions that reduce the visibility afforded to the device's image sensor, and poor and/or faded road and lane striping/markings.



# Driver safety warnings

## Disclaimer

The AP1 is not a substitute for a safe, conscientious driver. The AP1 cannot compensate for a driver who is distracted, inattentive or impaired by fatigue, drugs or alcohol. Whether or not the AP1 is in use, it is always the driver's responsibility to take appropriate corrective action. It does not eliminate or decrease the need for a driver to stay alert and to obey all traffic laws while operating a vehicle. Never wait for the device to provide a warning before taking measures to avoid an accident. Failure to do so can result in serious personal injury or death or severe property damage.

Always, it is the driver's responsibility to:

- Use safe driving techniques
- Exercise proper judgment
- Maintain a safe speed and distance between vehicles
- Take measures to avoid an accident
- Comply with all applicable laws and regulations

The driver and front passenger must always be correctly seated with seat belts fastened when operating the vehicle to reduce the potential danger of injuries.

## Operational concerns

In certain conditions, including inclement weather, low visibility and certain road conditions (including poor lane markings, construction zones, dirt roads, heavy or complicated traffic, and curvy and winding roads), the AP1 may have limited to no functionality. The AP1 may not detect certain objects such as motorcyclists, bicyclists or pedestrians even in the most ideal conditions. Always keep the lens and view of the AP1 unobstructed and properly calibrated so as not to inhibit function. Driving in certain conditions or any interference with the AP1 can result in false, few or no warnings. The driver must always monitor traffic and surroundings and take measures to avoid an accident; failure to do so can result in serious personal injury or death or severe property damage.

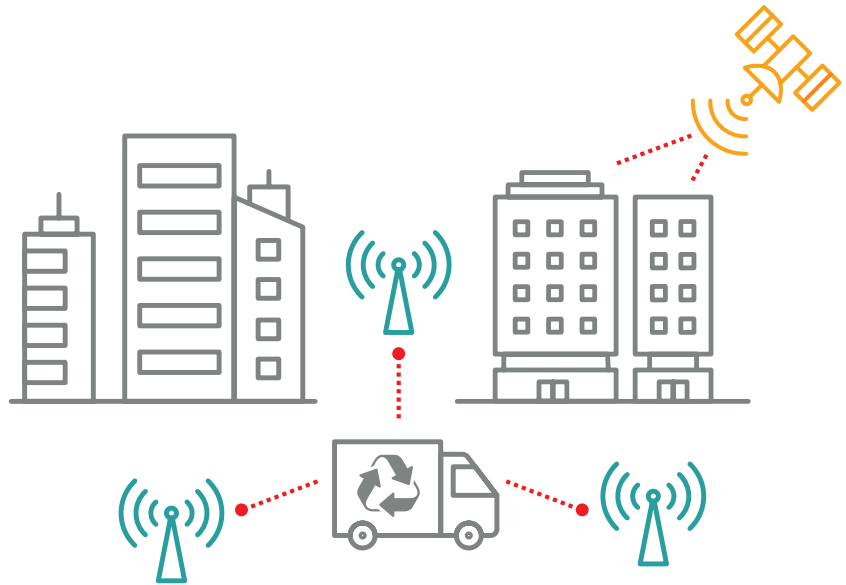
If the AP1 is not functioning properly at any time, please contact your distributor or visit [support.smartwitness.com](https://support.smartwitness.com) and have the device inspected immediately to correct the issue. Whether or not the AP1 is functioning, it is the driver's responsibility to maintain vehicle control; failure to do so can result in serious personal injury or death or severe property damage.

## Cleaning advisory

While cleaning the device or the vehicle cab, do not apply compressed air or cleaning solutions (such as Windex) to the AP1 device. Usage of these products may cause damage to the device.

## GPS reception

**When satellites don't have line of sight, cellular towers help triangulate a vehicle's location.**








### Improve your signal

1. Activate your AP1 in an area without large buildings.
2. The optimum operating temperature for your vehicle's GPS is -10°C~50°C
3. When first using your AP1 or turning it on after a period (>3 days), allow more time to recognize your current location.
4. This product supports Assisted GPS.

### Reception may be impaired:

1. If your vehicle has metallic elements on the windshields.
2. If you install equipment generating electromagnetic waves that interfere with the GPS signal in the vehicle (ex: Other GPS devices like certain wireless activated alarms, MP3 and CD players and camera alarms use GPS.)
3. On heavily overcast or cloudy days if the vehicle is:
  - In a covered place such as under a bridge or raised roadway
  - In a tunnel
  - In an underground roadway or a parking area
  - Inside a building or garage
  - Surrounded by high-rise buildings
4. If GPS signal reception is poor. It may take longer to locate your current position when the vehicle is moving than when it's stationary.

## LEDs & buzzer specifications

Status/step			LED			Sound
			1	2	3	
			3 colors	Green	Blue	
			  			
Startup & power off	Bootling step 1	Before troubleshooting	Flashing (orange)	Off	Off	
	Bootling step 2	Troubleshooting	Flashing (orange)	Flashing	Off	
	Bootling step 3	Initializing modem	Flashing (orange)	Flashing	Flashing	
	Bootling finished		On	On	On	
	Power on		Normal: On (green)	Off	Off	
	Power off/finished		Off	Off	Off	
Record	Continuous record	Recording	-	On	-	
	Event record	G-sensor recording	-	On	-	
		FCW recording	-	On	-	
		User recording	-	On	-	
	Record error	SD error, no SD, write fail	-	3 times fast flashing every 10 secs.	-	
	No record	Recording off	-	Off	-	
	SD format		-	Fast flashing until the process finished	-	
ADAS	Forward Collision Warning (FCW)		-	-	-	Warning sounds or voice
	Headway Monitoring Warning (HMW)		-	-	-	
	Lane Departure Warning (LDW)		-	-	-	
Communication	3G/4G network device connected		-	-	On	
	3G/4G network device error, SIM error		-	-	3 times fast flashing every 10 secs.	
	Data network connection error		-	-	3 times slow flashing every 10 secs.	
Status	Setting mode (ADAS, recording, etc.)		Red/green LED cross-flashing until the setting mode finished	-	-	Setting sounds
	Firmware upgrade		Fast flashing until the firmware update finished (green)	-	-	
	GPS error		3 times fast flashing every 10 secs. (orange)	-	-	
	Camera error		On (red)	-	-	
	CAN error		3 times fast flashing every 10 secs. (green)	-	-	
	Wi-Fi mode		1 color is flashing (orange)	On	On	



# Technical specifications

## Mechanical

Size	122 x 95.5 x 15.5 mm
Weight	212 g
Image Sensor	1/2.9 Inch CMOS Image Sensor
Angle of View	FOV(D) 128°

## Electrical

Input	OBDII DC 10V-32V, 2A
Output	DC 5V, 3A
Power Consumption	Max. 750mA/12V (9.0W)
Supercapacitor	2.7V/7F
Video Resolution	Up to 1080p
Recording Speed	Up to 30 FPS (Max 15 FPS@1080p)
Recording Mode	Continuous, Event, Dual Mode
Memory	8GB eMMC+1GB LPDDR3 SDRAM, Up to 128GB MicroSD
AP	ARM Cortex A7 Quad-Core@1.1GHz (MSM8909)
GPU	Adreno 304

## Environmental

Operational Temperature	-20 °C-65 °C
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## Communications

Antenna	LTE Main, LTE DRX, GNSS, Wi-Fi/BT	
Wireless	<b>US</b>	LTE CAT4: B2, B4, B5, B7, B12, B13, B25, B26 3G Bands: B1, B2, B5, B8
	<b>EMEA</b>	LTE CAT4: B1, B2, B3, B5, B7, B8, B20, B28A 3G Bands: B1, B2, B5, B8
	<b>Wi-Fi:</b> IEEE 802.11a/b/g/n	
	<b>Bluetooth:</b> BT4.2 (BR/EDR+BLE)	
SIM	Nano SIM (4FF)	
Micro USB	Yes	
Speaker	23 pi, 8 ohm, 88dB	
Audio Amp	D-Class, 879mW, 4.2V/8 ohm	
Mic	MEMS, -42dBV, 59dBA SNR	
ADAS Event Types	Headway Monitoring Warning (Tailgating) Forward Collision Warning Lane Departure Warning	

## Positioning

GNSS	GPS, GLONASS, BeiDou
G-Sensor	Digital, Tri-Axial Acceleration Sensor

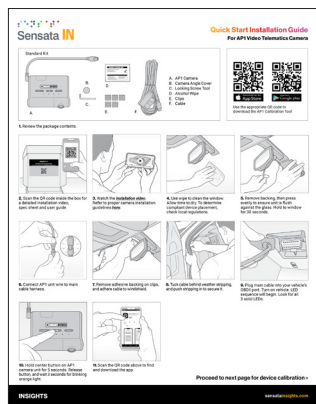
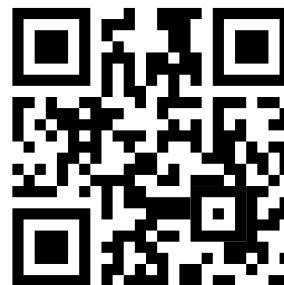
## Compliance

Warranty	Lifetime; Current Customers with an Active Subscription to SmartWitness Web Services
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## Installation resources

The AP1 is a self-install device for a vehicle's OBDII connection. Please reference the AP1 install material and find access to the AP1 Mobile App on <https://smartwitness.com/ap1-setup>.

If you need to schedule a fee-based professional installation service, please contact [smartwitness.com/request-install](https://smartwitness.com/request-install) and submit the online form.



**Download**  
**Quick Start Guide**



**Watch**  
**AP1 Installation Video**



**Download the Calibration Tool**

# Mobile application user guide

The AP1 Calibration Tool allows customization of AP1 settings on either Apple or Android devices. If you have installed AP1s, are familiar with its settings or require specific changes, use **Advanced Setup**. Adhere to the **Guided Setup** in any other case.

The following features the AP1 Tool Advanced Setup. Find Guided Setup instructions in the **Quick Start Guide**.



## STEP 1

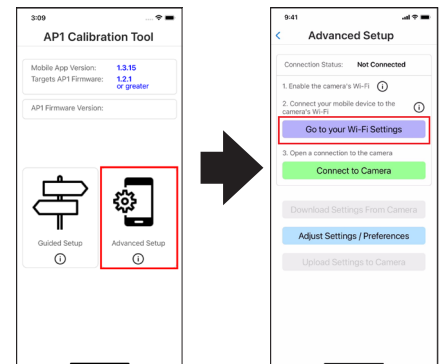
Turn on your vehicle. Wait for the AP1 to boot up. You will see the following LED sequence:  
Blinking red; red and green; green; green and blue.  
All 3 LEDs solid = ready.

**Note:** A blinking blue light means your device is attempting to establish a network connection. If the issue persists, contact your service provider.



## STEP 2

Press the **middle** button for 5 seconds. Wait 3 seconds. The orange LED light will start blinking. Now, open the Calibration Tool.

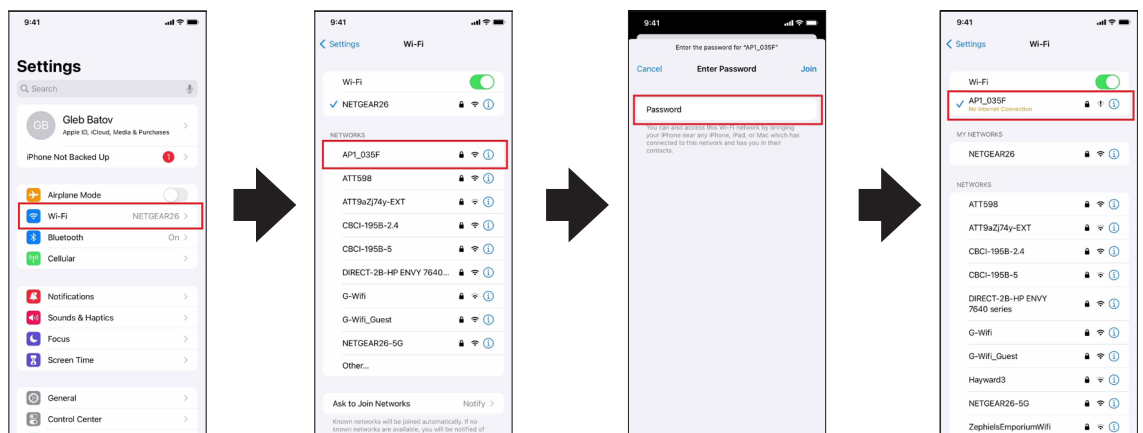


## STEP 3

Choose **Advanced Setup**. Notice the ⓘ buttons — these offer clarification and supplemental process details. To connect the app to your AP1, select **Go to your Wi-Fi Settings**.

## STEP 4

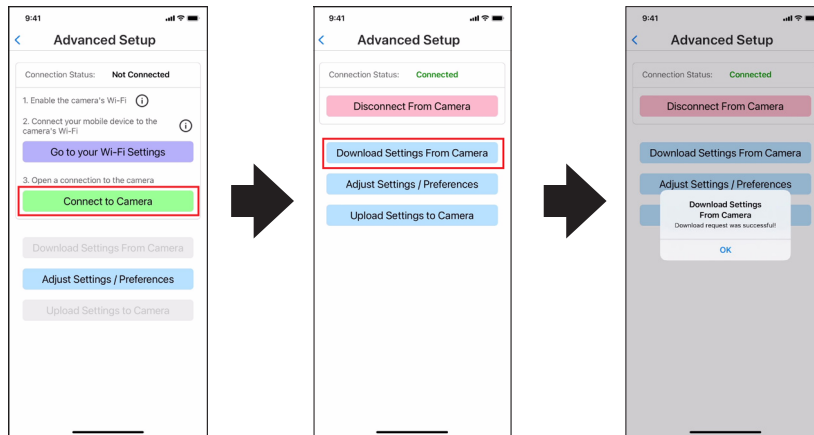
In your settings, tap the **AP1 Wi-Fi name (AP1\*\*\*\*)**. The Wi-Fi password is the last 8 digits of your IMEI #, found either on the camera or the box label.



# Mobile application user guide

## STEP 5

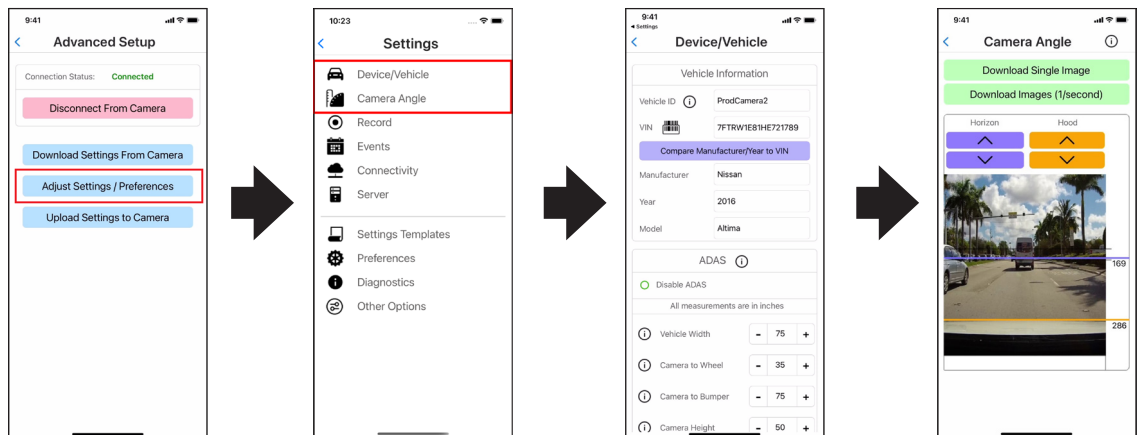
Tap **Connect to Camera**. If you've established a Wi-Fi connection with the camera, "Connection Status: Connected" will appear at the top of the screen. Before adjusting settings, select **Download Settings From Camera**. After receiving confirmation, tap **OK**.



## STEP 6

Tap **Adjust Settings/ Preferences** to open the Settings page. Make setting adjustments in each section as needed.

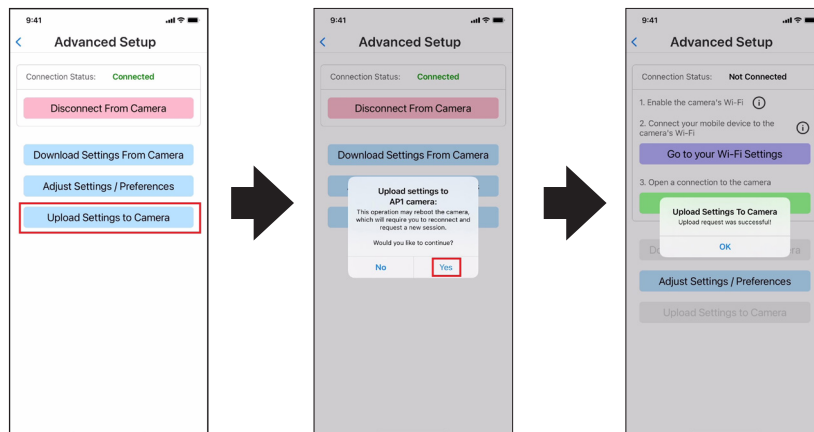
**Important:** Ensure you use precise vehicle measurements in ADAS settings, as exact values are crucial to its function. Similarly, mark "Horizon" and "Hood" lines properly.



## STEP 7

After adjusting settings, navigate back to the Main Menu and tap **Upload Settings to Camera**. When prompted, tap **Yes** to continue. If the upload is successful, you'll see a confirmation message. Tap **OK**. You have completed calibration. Your AP1 will reboot and incorporate your new settings.

**Important:** Please ensure you maintain regular updates with your AP1 to ensure it runs on the most recently released firmware.



## Technical support & warranty

### Technical support

For technical support, please contact your local distributor or visit our [Support Portal](#) and submit a support ticket.

You can also email us at [support@smartwitness.com](mailto:support@smartwitness.com) or call our support team:

### North America, South America, APAC

+1 (312) 981-8774

### EMEA

+44 (0) 1483 397005

### Limited warranty

This product is supplied separately with a 2-year limited hardware warranty.

The warranty excludes products that have been misused (including accidental damage) and damage caused by normal wear and tear. In the unlikely event that you encounter a problem with this product, it should be returned to the place of purchase.

## Safety advice & FCC regulations

### FCC Part 15.19

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### FCC Part 15.21

Any changes or modifications (including the antennas) to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

### FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

#### Caution

To reduce the risk of electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.



**Please make sure you follow the safety advice/instructions given in the user guide.**

#### Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions. Battery for real-time clock (RTC) inside.



#### Caution

Install the product where it does not block driver's visibility and where there is no air bag installed. This could cause an accident or might injure passengers in case of accident.



#### WARNING:

To prevent fire or electric shock hazard, do not expose this appliance to rain or moisture.



#### Caution

Damages due to production malfunction, loss of data or other damages occurring while using this product shall not be the responsibility of the manufacturer. Although the product is a device used for recording videos, the product may not save all videos in the case of a malfunction. In the case of an accident, the sensor may not recognize the shock when the impact is light, and as a result, it may not begin recording automatically.



#### Caution

Please make sure you follow the safety advice/instructions given in AP1 instruction materials.



## AP1 ADAS disclaimer

To properly activate and utilize AP1's ADAS features, Sensata INSIGHTS **recommends** installation using OBDII data or JBUS connection. Vehicle-sourced speed data retrieval through these means is integral to accessing vehicle speed for precise ADAS notifications.

For installations (ex: 3-Wire) without vehicle data retrieval or in instances where speed is unobtainable from the vehicle, AP1 defaults to GPS speed measurement in the operation of ADAS features. In this case, vehicles must surpass a speed threshold to trigger ADAS functions. This threshold is distinct from other speed thresholds used to configure ADAS events. Please contact your Sensata INSIGHTS integration team to learn about specific values for different event types. Below these thresholds, and in cases where vehicles without vehicle-sourced speed data encounter GPS signal "dead zones" like parking garages and highway tunnels, loss of ADAS function is expected.

If you enable ADAS features on an AP1, you assume full responsibility and indemnify Sensata INSIGHTS for any incidents directly correlated with ADAS efficacy, malfunction or delays.

