

HARMAN

||



TABLE OF CONTENTS

Package Contents	3	Settings	20
Introduction	4	VISION settings	20
Notes about this manual.....	4	Audio Mute	20
Important	4	Recalibration.....	20
Warnings	4	Sentry Mode.....	20
FCC compliance statement	5	Volume.....	20
Disposal and recycling information	5	Brightness	20
EC Declaration of Conformity	5	Exposure Level	21
Warranty	5	White Balance	21
Caution	5	Wi-Fi Hotspot	21
Product Specifications	6	Bluetooth	21
At a glance	6	Language.....	22
Icons on VISION screen	7	Default settings.....	22
VISION Overview	8	Storage.....	22
Installation	9	About	23
Onboarding	11	Factory reset.....	23
The app	11	HARMAN Spark App for VISION	24
Download and install the App	11	Add and Remove Vehicle	
Register VISION to the User Profile.....	11	from User Profile.....	26
VISION Calibration	12	Settings	27
VISION Setup.....	12	Troubleshooting	29
Cabin Camera Calibration	12		
Forward Facing Camera Calibration	13		
Features & Functions	14		
VISION Modes	14		
Normal Mode.....	14		
Parked Mode.....	14		
Sentry Mode.....	14		
Vehicle Security	14		
Loop Recording.....	14		
4G/LTE Connectivity	14		
Live Streaming	14		
Cloud Storage and Downloading			
Videos from the Cloud	15		
Vehicle Health Monitoring	15		
Real time AI Engine	15		
Trips function	16		
Delete videos from the video footage	16		
Notifications.....	17		
Park mode function	17		
Warnings function	18		
Forward Collision Warning	18		
Driver Distraction.....	18		
Driver Drowsiness	18		
Memory Full	18		
Trip Tracking (Real-time Location)	19		
Social Media Sharing	19		
Disturbance Alert/Tow	19		
Curfew Alert	19		
Speed Alert	19		
Virtual Geo-Fencing	19		
Reset	19		
Bluetooth & JBL Click Control	19		
Product Firmware Updates (FOTA)	19		

Package Contents

Please check the contents of your Harman VISION.

- 1 Harman VISION
- 2 ODB II Vision Dongle
- 3 Suction mount
- 4 Mount support plate
- 5 Adhesive Pad
- 6 USB Power cable
- 7 Routing clips (6x)
- 8 Cable tucking guide
- 9 Anti-theft warning sticker
- 10 Wiping cloth
- 11 Quick Start Guide



Note

Please also confirm SIM and SD Cards are installed. Micro-SIM and micro-SD card (FAT32 Class 10 up to 128GB) are supported.

Introduction

Notes about this manual

This manual is intended to familiarize you with the functions of VISION and enable you to operate it safely and successfully.

Display conventions



Safety instructions are highlighted with a grey bar and the following symbol:



Helpful tips are highlighted with a grey bar and the following symbol:

Parts marked with an asterisk (*)

In this manual, functions that are not standard are marked with an asterisk. Please contact your dealer for information to the available accessories.

Important

This device was produced in accordance with current state-of-the-art technology and recognized safety rules. Nevertheless, hazards could arise if you do not observe the safety information in this manual.



Note

- Read this manual carefully and completely prior to commissioning.
- Store the manual where all users can always access it.

Warnings



Attention

Read the information in this manual carefully before starting.

- Familiarize yourself with the device before driving.
- Do not use or adjust the product while driving.
- Doing so may cause an accident. Stop or park your car in a safe place before installing and setting up the product.
- Do not install the product in a location where the product can interfere with the user's field of vision.
- Operate your device only if the traffic situation permits it. Stop at a suitable location before changing system settings.
- Don't use your mobile phone while driving.

Disposal and recycling information

Customer information on the disposal of electrical and electronic devices (private households)

In accordance with the self-imposed principles of Harman, the product has been developed and made from high-quality, recyclable materials and components.

This symbol on the product and/or accompanying documents means that at the end of their life electrical and electronic products must be disposed of separately from domestic waste. Please take these products to communal collecting points or recycling center for processing and salvage of materials. The units will be accepted there free of charge.

The proper disposal of this product helps protect the environment and prevents harmful effects on humans and the environment which could result from improper handling.

More detailed information on the nearest collecting point or the nearest recycling center can be obtained from your local council



EC Declaration of Conformity

Harman hereby declares that the Harman Vision device conforms with the basic requirements and the other relevant provisions of Directive 1999/5/EC.



If required, the full version of the EC Declaration of Conformity can be requested from Harman.

Warranty

The device warranty is one year from the date of purchase. Any abnormal or unauthorized usage of the product, damage due to contact with liquids or exposure to excessive heat can void the warranty.



Note

Device for in-vehicle use only.

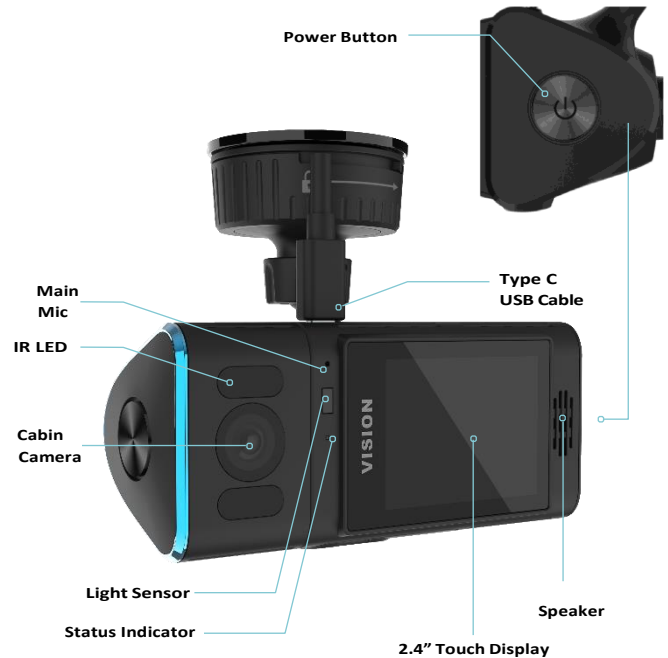
HARMAN
VISION

©2022 HARMAN International. All rights reserved.

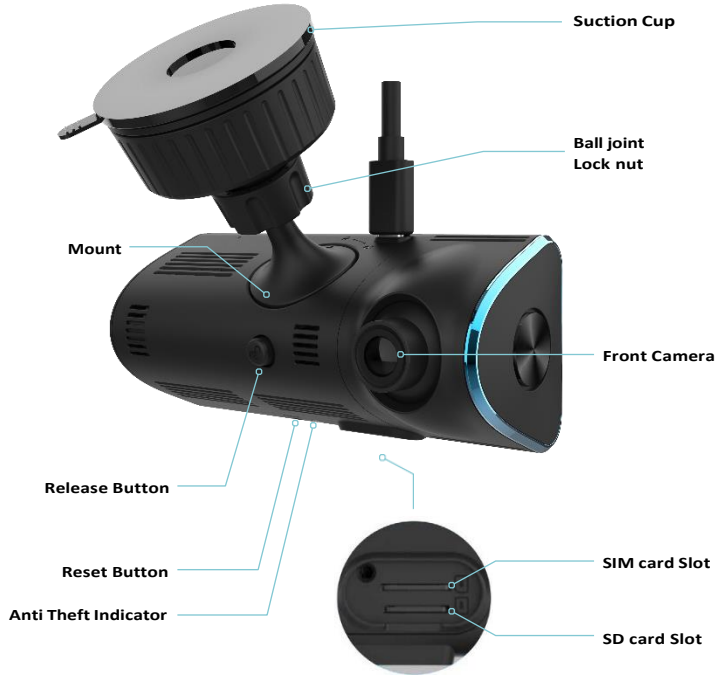
Product Specifications

Physical Dimensions	127 mm x 55.5 mm x 59 mm
Weight	215 g and 265 g with mount
Battery	150 mAh Li-ion Polymer
Camera Field of View	167° (Front); 141° (Cabin)
Camera Resolution	1080p (Front & Cabin)
Frame Rate	30 FPS
IMU	6-axis (Gyroscope, G-Sensor)
Lens	Anti-Reflection 6-element Glass
LCD Size	2.4"
LCD Display Resolution	320 x 240
Luminance	250 cd/m2
Microphone	2
Speaker	1
IR LED	Yes
Bluetooth	BLE 4.2 / EDR 3.0
Wi-Fi	802.11 a/b/g/n/c
GPS	Yes
Voltage range	9 - 30 V
USB Support	Type C
OBD-II Support Protocols	Yes (J1962 Standard) OBD-II, CAN, J1939

At a Glance



PRODUCT SPECIFICATIONS



Icons on VISION screen

	<ul style="list-style-type: none"> • Battery full • Battery charging • Battery empty
	<ul style="list-style-type: none"> • Calibration ongoing • Calibration successful
	<ul style="list-style-type: none"> • Bluetooth • Bluetooth disabled • Bluetooth connected
	<ul style="list-style-type: none"> • Network available • Network not available
	<ul style="list-style-type: none"> • Wi-Fi connected • Wi-Fi disabled
11:30 AM	<ul style="list-style-type: none"> • Actual time
	<ul style="list-style-type: none"> • Microphone on • Microphone off
	<ul style="list-style-type: none"> • No Sim card available
	<ul style="list-style-type: none"> • SD Storage card

SETTINGS

Power Button	<ul style="list-style-type: none"> • Long Press - Put VISION in stand-by mode • Short Press – Display ON/OFF
Back-up Battery	VISION is equipped with 150 mAh of back-up battery. VISION will switch to Back-up battery when the power source has been disconnected. Back-up battery will leave VISION in normal mode for up to three minutes after which VISION will go to sleep mode.
IR LED	Emits and produces infrared light to enable night vision for cabin facing camera.
Dual HD Camera with Night Vision	Forward and Cabin Facing Camera record FHD video in front & inside vehicle. Cabin camera supports Night vision.
Display	<ul style="list-style-type: none"> • Previews forward and cabin camera videos. • Touch screen and swipe left or right to scroll through available screens • Swipe up and down to scroll through settings menu and make changes • Long press anywhere on the home or preview screen once to enable saving favorite videos. VISION saves 15 seconds prior to button press and then 45 seconds after the long-press. • ADAS & CMS Alerts can also be seen on the Display.
Reset Button	Performs clean reboot VISION.
Release Button	Press and hold to lock/unlock VISION's mount
SD Card Slot	VISION supports up to 128 GB of external storage. Only micro-SD card storage is accepted (FAT 32 class 10).

Speaker	Outputs audio alerts of VISION.
Microphone	Enables audio recording of surrounding environment when VISION is ON.
USB Cable	Enables On Board Diagnosis (OBD) Communication and power between the vehicle and VISION.
Light Sensor	Detects the lighting conditions outside to adjust Dashcam's features such as enabling IR LED or adjusting brightness when they are auto-enabled.
Anti-Theft LED	To indicate that VISION works also as an anti-theft device VISION is equipped with an Anti-Theft LED that starts blinking when VISION goes to sleep after ignition of the car is switched off.
LED Status	<ul style="list-style-type: none"> • Solid Green - Power ON and Loop Recording/Sentry Mode • Blinking Green at 0.2 Hz - Device in Alert/Standby mode • Blinking Green at 1 Hz – Live streaming on • Blinking Blue anti-theft LED – Ignition off, device in sleep mode • Blinking Blue - Event Recording, goes back to Solid Green after event • Red - Error on the Network Connection or SIM Initialization or ADAS Calibration). • LEDs are OFF – VISION is not connected
Alerts colors and differentiation	<ul style="list-style-type: none"> • VISION comes with in-built ADAS and Cabin Monitoring System (CMS) features that alerts the user in case of violation (Please refer to Features & Functions for more information). • Yellow Warnings – The user has violated certain conditions but still in acceptable limit or zone. • Red Warnings – The user has violated conditions above acceptable limit or zone.
Incident Video Recording	<ul style="list-style-type: none"> • Incident videos of 30 / 60 / 90 / 120 seconds can be saved. Duration is configurable in mobile app.

Installation



Before using VISION, the user shall:

- VISION is best installed when the ambient temperature is between 70°F (21°C) and 100°F (38°C). The suction cup may not adhere to the windshield if the temperature is outside the range.
- Place VISION so that it is not in your direct field of view and provides a clear and unobstructed view of the cabin.
- Route the cables so that you are not obstructed by the cable or tangled up in it.
- Turn the car off before you connect VISION

Example for windshield mount:

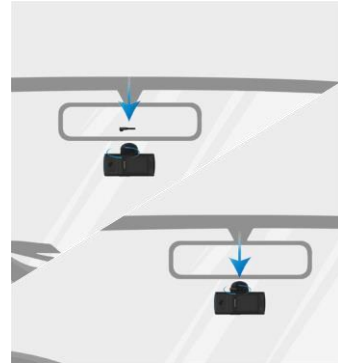
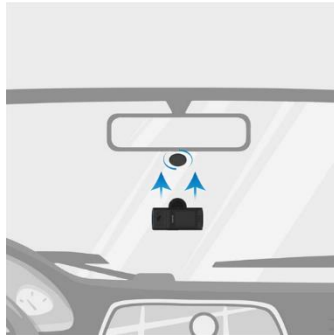


1. Unpack VISION
2. Clean and dry the surface where the suction cup should be mounted. The windshield must be free of oil, dust, dirt, or any coatings.
3. Before mounting VISION, verify VISION would have clear view of the interior. Avoid placing VISION in a location that would obstruct the view of the interior camera. Insert the mounting end of the suction cup into the mounting slot of VISION. Twist the mount “clockwise” to lock the mount. Attach assembled VISION and Suction cup to the windshield and turning the suction knob. Lock the ball nut post adjusting the cabin camera to the required position. Align the camera accordingly.



Note

The adhesive is intended for a long-term use. Therefore, it can be difficult to remove. Consider the mounting location carefully before you install.



4. Connect the cable to VISION

5. Peel off the protective films on the camera lens and the display
6. Rotate/pivot VISION to adjust the viewing angle as required
7. Route the cable as shown along the blue lines and tuck the cable under the cover. Leave enough slack of cable to allow the connection to the OBD-II port (ODB stands for On Board Diagnosis). Secure any extra cable using zip-ties

Onboarding

The app

An app on your mobile phone is required to control/operate VISION.

Download and install the App

Search for the “Harman Spark” app in the Google Play Store or Apple App Store and install it on your smartphone.

Launch the app and follow the on-screen prompt.

Sign-in (use an existing profile) or Sign-up for the account.



Register VISION to the User Profile

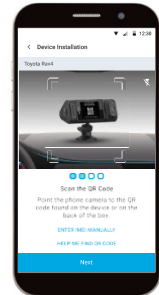
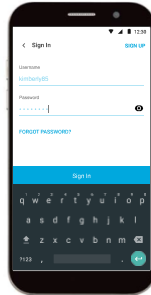
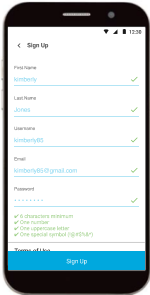
Select “HARMAN VISION” in the HARMAN Spark App. Follow on-screen prompts until the request to Scan the QR code on VISION. Turn on the Ignition and start the vehicle. VISION will turn on. Scan the QR code displayed on VISION screen using the mobile app and sync VISION with the profile.



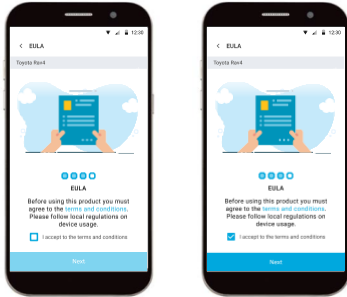
Note

When the QR code is not detected, enter the IMEI of the device manually. The IMEI can be found on the device or on the packaging.

When the app recognizes the QR code it will register VISION to the user account.



Read the EULA (End User License Agreement), check the box to accept the Terms and conditions. Press **Next** to complete the registration process. VISION is now paired and registered with the user account.



VISION Calibration

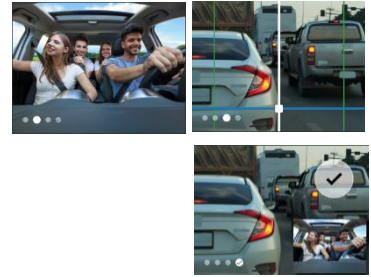


After the camera has been registered, begin the Calibration process.



VISION Setup

Confirm the camera is not tilted towards the sky. Doing so will reduce the exposure and make the forward vision appear darker. During the setup process, confirm the front camera is aligned with the top of the front hood and the road/lane is visible. If not, please align it accordingly. Similarly, a driver's head should be in driving position, looking ahead for the cabin camera calibration. If not, please align it accordingly. The user can switch between the screen views by tapping on the video inset for larger image.



Cabin Camera Calibration (where available)

Once the setup is complete, the automatic calibration process begins. An audio chime will let the user know when the cabin calibration begins. For this step the user should look straight ahead, and the car should be parked. A chime and a voice command will let the user know when the cabin calibration is completed. Once the cabin calibration has been completed and successful, the user can start driving to begin the forward calibration process. If the user was distracted during the process, calibration might not complete, or calibrate incorrectly leading to wrong warnings. In this case, the user can re-calibrate. During calibration process (takes 1 minute) car should be parked.

Forward Facing Camera Calibration

Optimal conditions for front calibration to work:

- Lanes are visible clearly
- The rear bumper of the vehicle in front is clearly visible
- Lighting conditions do matter. If the lanes are not visible, calibration will not succeed. Calibration would take longer if the lighting conditions are not good or lanes are not visible clearly.

Once the front camera calibration is completed (after the above conditions are met), a chime and a voice command can be heard.

The user will also be informed about the running calibration process on the HARMAN Spark application.



Note

VISION screen shows in the upper left corner calibration icons representing different status of calibration.



Calibration in progress



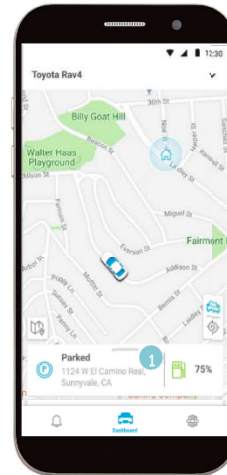
Calibration successful



Note

When the calibration is not successful, an on-screen notification will prompt the user to re-calibrate. In this case, confirm the pre-conditions for both the forward and cabin calibration and then begin. User can also check the status of calibration by going in Vehicle Summary on the mobile app.

After a completed Calibration the home screen is shown in the app.



By scroll up **1** you can open all available functions and information.

Features & Functions

Here you find all the available VISION features and functions.

VISION Modes

Normal Mode

When the vehicle is in running state, VISION has all its features enabled including Wi-Fi hotspot if the service is activated.

Parked Mode

VISION operates partially in a low power mode when the vehicle is parked. VISION will record and be operational on detection of unexpected vehicle movements like disturbance or tow. The device will return to normal mode only when the Ignition is turned back ON.

Sentry Mode

VISION will continue to operate in normal mode on a timer basis when the Sentry mode is enabled. The user has options to enable or disable “Sentry Mode” both on the device or from Mobile App, operation is applicable when vehicle is (or comes) in normal mode.



Note

The Sentry Mode consumes the power from the vehicle battery. When the Sentry Mode has been activated, it can cause to drain the vehicle battery.

Vehicle Security

Get notified of unexpected vehicle movements such as a bump or tow when in parked mode. During a drive, get complete video coverage for the trip.

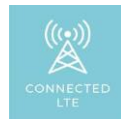


Loop recording

There is a continuous recording of videos to the SD card (storage capacity up to 128 GB). Older videos will be overridden and replaced when the SD card memory is full.

4G/LTE Connectivity

4G/LTE connects the unconnected vehicles as well as providing an upgrade path for those connected with 3G network.



Live Streaming

Remotely view live video stream from front facing and cabin facing cameras using smartphone companion app. Quickly toggle the video for front facing stream or cabin facing stream. Live streaming resolution can be adjusted via the mobile application to enable faster streaming.



Data Saving	640 x 360
Low	854 x 480
Medium	1280 x 720
High	1920 x 1080

Cloud Storage and Downloading videos from the Cloud

Stores event & incident generated videos automatically on a secured cloud. Important incidents like accidents or break-ins can be accessed offline.

Download and play video recording for trip events like harsh braking, rapid acceleration, and ADAS (Advanced Driver Assistance Systems) events like forward collision warning and user drowsiness warning using the smartphone companion app.



Vehicle Health Monitoring

Connects to the OBD-II Port of vehicle and monitor vehicle's health remotely, help detect problems soon saving customers higher costs. Also receive DTC and vehicle health alerts on the app.



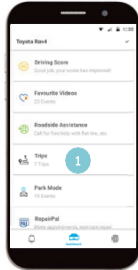
Real time AI Engine

Built-in AI engine provides driving assistance alerts for Forward Collision, Driver Distraction, and Driver Drowsiness

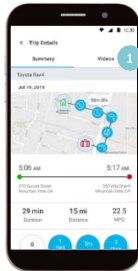
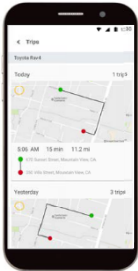


Trips function

Select in the App dashboard Trips. 1



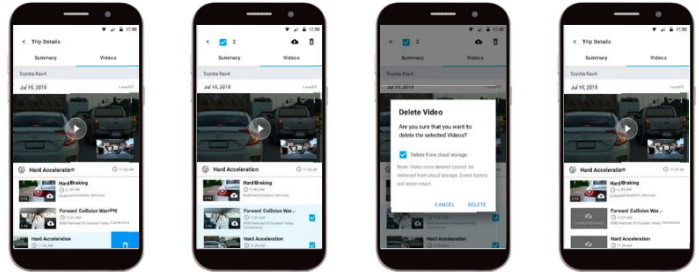
A list of trips is shown by day.



Tapping on a trip will display its respective detail screen. By pressing Video 1 you see the video footage that was captured for various incidents that occurred during the trip.

All videos captured for the trip are displayed. Press the “Play” soft key to review them. The full screen mode will be activated when the user taps on the full screen icon on the screen.

Delete videos from the video footage



Select the videos that should be removed. Press “Trash Can” icon and confirm video deletion. The videos will then be removed.

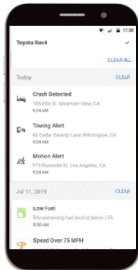
Notifications

Notifications will be sent in case of ADAS, driving mode events, parked mode events, and favorite video captures. Video instances will be uploaded to the cloud and available for the user. Tapping on Notifications gives the user the option to launch live view or go to Trip/Parked/Favorite videos based on the notification's category. Applicable when vehicle is (or comes) in normal mode.



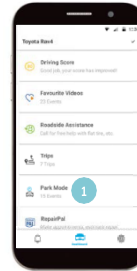
Note

Videos will not be immediately available and uploading them to the cloud will take time depending upon network availability.

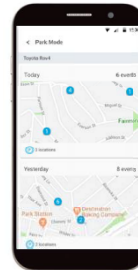


Park mode function

Select in the App dashboard Park Mode. 1



Parking events are displayed and sorted by date.



Tapping on an event will play the video captured in the Parking mode.

Warnings function

Forward Collision Warning

Warns users in the event of an imminent frontal collision with a vehicle or motorcycle ahead, both on highways and in urban areas.



Driver Distraction (where available)

The driver will get an alert when VISION detects a distraction by the driver. The distraction triggers when head or eyes are not looking in the right direction.



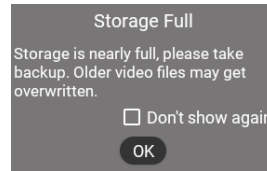
Driver Drowsiness (where available)

The driver receives this alert when VISION detects drowsiness of the driver.



Memory Full

You get an Info when VISION storage is nearly full. Press then **OK** to confirm the message. The message goes away automatically after 10 seconds. When the memory is full it will be cleared automatically.



Trip Tracking (Real-time Location)

Track live location of vehicle along with mobile device current location.

Social Media Sharing

VISION gives you the ability to download and save videos to your phone to use for insurance purposes or just to share memories with friends and family.

Disturbance Alert / Tow

VISION G-Sensor detects if the vehicle is being towed or gets bumped, even while parked. In this case a notification is sent to the app and a video can be watched.

Curfew Alert

User can set the time period and weekday of a curfew. Multiple curfews can be set and managed. Repeatable on weekly basis. Generate notification when vehicle is operated outside of the curfew (curfew violation).

Speed Alert

User can specify a speed threshold and be notified when the vehicle exceeds that speed.

Virtual Geo-Fencing

User can set regions of interest as virtual fences for the vehicle. There will be automatically generated notification's when vehicle enters/exits the assigned region.

Reset

Should there be a malfunction in the unit, you can try to fix this by pressing the reset button. Please see "At a glance" on page 7 to locate the reset button.

Bluetooth & JBL Click Control

A JBL Click can be used to control VISION or scroll through its settings. The JBL Click can be paired with VISION using Bluetooth. Follow the Bluetooth pairing settings in VISION, search for "JBL Click" under the list of the Available Devices and Tap on Connect (Please refer to JBL Click manual for enabling pairing on the device).

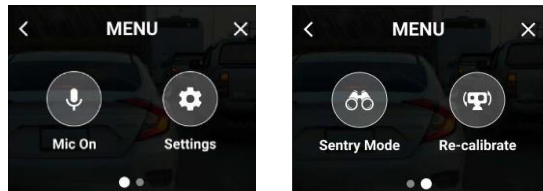
Product Firmware Updates (FOTA)

If there is a new Firmware available, you will get a notification and as soon as possible the Firmware update is installed over the FOTA function of the app and VISION. A good network condition is a must requirement for successful FOTA update. An ignition cycle is needed for FOTA update. After successful installation you will also get a notification.

Settings

Vision Settings

To access Settings screen, swipe right through camera views on the display to go to the home screen. Tap once on the home screen for the Menu screen. Tap the screen of VISION to show the Main menu. You have the options **Mic on / Mic off**, **Sentry Mode**, **Re-calibrate** and **Settings** to open more VISION settings.



Audio Mute

Mute/unmute the microphone of VISION by tapping the microphone icon. Tap the microphone with **Mic on** to mute VISION microphone. Tap the microphone with **Mic off** to unmute VISION microphone.

Recalibration

VISION can also be recalibrated if/when VISION has been moved or changed position. Tap the screen of VISION to show the Main menu. Tap **Re-calibrate** to start the re-calibration of VISION.

Sentry Mode

Tap the screen of VISION to show the Main menu. Tap in the menu on **Sentry Mode** to switch the mode on or off.

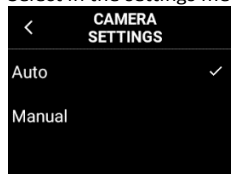
Volume

Adjust the volume by tapping “+” to increase or “-” to decrease the volume. VISION will be muted when the user taps **Mute**. Set volume levels from 0 to 9.

Camera Settings

VISION’s Camera Settings functionality can be used to adjust the screen Brightness, Exposure Level and White Balance. You can either change the settings manually or automatically.

Select in the settings menu the entry **Camera Settings**.



Select the entry **Auto** to adjust the brightness, exposure level and white balance automatically.

Select the entry **Manual** to adjust the brightness, exposure level and white balance manually.

Brightness

To adjust screen brightness, select **Brightness** inside the Manual menu. You can change the setting by tapping “+” to increase brightness or “-” to decrease it. Tapping on **Auto** will adjust the brightness automatically. Set brightness level from 0 to 9.

Exposure Level

Adjust the exposure by selecting **Exposure Level** inside the Manual menu. Increase exposure by tapping “+” or decrease the exposure level by tapping“-”. Tapping on **Auto** will adjust the exposure level automatically. Set exposure levels between -3 and 3.

White Balance

White balance adjusts the color balance of the camera. To adjust it, select **White Balance** inside the Manual menu. Increase it by tapping “+” or decrease it by tapping “-”. Adjust white balance level from 0 to 9.

Video Resolution

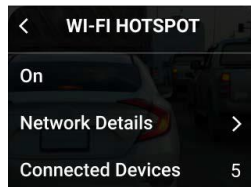
The Video Resolution feature allows to control the resolution for the loop recording video. To change video resolution, select **Video Resolution** in the Settings menu. For High resolution videos select **1080p (High Res)** else select **720p (Low Res)** for Low resolution.

User Type

This feature allows the user to customize level of ADAS alerts (reduce / increase) based on user driving preference.

Wi-Fi Hotspot

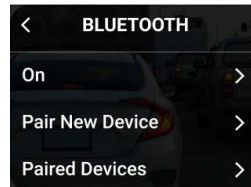
VISION can provide Hotspot to up to 8 users. In order to use this feature, Select **Wi-Fi Hotspot** in the settings menu. The menu will provide information whether the Hotspot has been turned On or Off.



You can select between **On** and **Off** to switch the Hotspot on and off. Under **Network Details** you will find the Hotspot name and a unique password that is needed to connect to the hotspot.

Bluetooth

VISION’s Bluetooth functionality can be used to connect, and pair Bluetooth enabled devices. You can switch here Bluetooth on and off, pair new devices, connect an already paired device or delete paired devices. Select in the settings menu the entry **Bluetooth**.



You can select between **On** and **Off** to switch Bluetooth on and off.

New device pairing

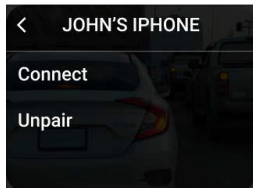
Select **Pair New Device** to search for a new device. A search for new devices is initiated and a list of found devices is displayed.



Select the device you want connect to and the pairing process is initiated. After a successful pairing VISION gives a confirmation.

Paired devices list

Select **Paired Devices** to show a list of already paired devices. After you selected one device you can connect with this device or delete it from the list.



Select **Connect** to connect to the selected device. Select **Unpair** to delete this device from the paired devices list. Confirm the deleting in the next step.

Language

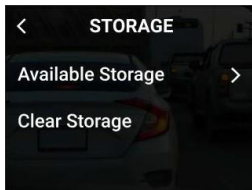
Change the operating language of VISION by selecting **Language** in the settings menu. Select the desired language from the available list.

Default Settings

You can set VISION to the factory settings. Select in the settings menu the entry **Default Settings**. Tap on **Reset** to set all settings to the default value.

Storage

The storage sub-menu provides access to the internal and external (SD card) memory. The internal storage can also be deleted under this point. Select in the settings menu the entry **Storage**.



Select the entry **Available Storage** to see the storage allocation for the internal and external storages.

Select the entry **Clear Storage** to delete the internal storage. Tap on **Confirm** to start the deletion process.

Inserting a micro-SD Card in VISION

Use only a micro-SD Card (Class 10 FAT32) as external storage.

VISION supports up to 128 GB of external storage space.

To insert micro-SD Card, open the rubberflap at the bottom of VISION. Insert the SD card in the slot as shown alongside by pushing the SD card into the slot. Close the rubber flap after SD card has been insert.



Factory reset

Factory reset allows the user to set VISION to the factory settings. To do so, select **Factory Reset** in the settings menu. Tap on **Reset** to delete the storage of VISION and set all settings to the default value.

About

You can readout information of VISION. Select in the settings menu the entry About. A list with the following information is shown:

- Model
- Device ID
- Battery Status
- IMEI
- Wi-Fi Mac address
- Firmware version
- MCU version

HARMAN Spark App for VISION

Dashboard: The below image shows the Dashboard once VISION has been activated.



- 1 Receive notifications for any activities or events from VISION



- 2 Dashboard shows an overview of vehicle location and access to a list of numerous features.



- 3 VISION Settings Menu
To view a list of available features and to modify them, pull up the menu on the dashboard screen and review them.

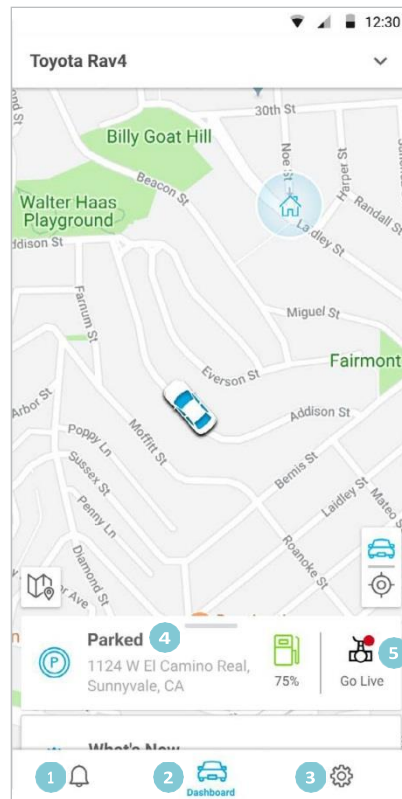
4 Vehicle Location

This shows the vehicle current status and Address

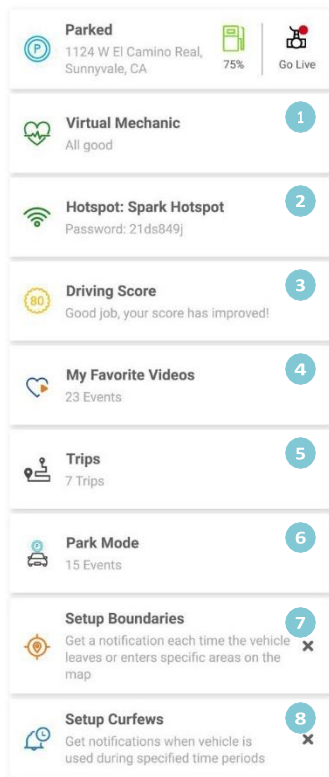


- 5 Go Live

Tapping on “Go Live” connects the user to VISION using LTE connectivity and gives access to live streaming of vehicle’s interior and exterior environment.



- 1 **Virtual Mechanic** - Gives updated data information on certain attributes of vehicle such as fuel level, battery condition, engine coolant temperature. The user is also able to receive information on DTC codes detected on the vehicle by VISION. Only supported DTC code will be shown.
- 2 **Hotspot** - The user can turn VISION's Hotspot On and Off. The feature also provides VISION's Hotspot SSID and Password in case if the user does not have access to it.
- 3 **Driving Score** - View user's driving score (between 0 and 100). VISION uses data from the vehicle such as acceleration, harsh braking, sharp turns to quantify Driver's behavior.
- 4 **My Favorite Videos** - When a user long-presses on VISION display, the resulted video stored is marked as Favorite. This video is stored in IGNITE Cloud. This setting provides access to the favorite videos.
- 5 **Trips** - A history of the most recent trips and places visited including important events like warnings, alerts, harsh acceleration and braking that occurred during the length of the trips.
- 6 **Park Mode** - Access any events occurred and captured by VISION when the vehicle was parked. View recorded and saved videos of the Parked events.
- 7 **Setup Boundaries** - Set boundary alerts and receive notifications each time the vehicle leaves or enters specific areas on the map.
- 8 **Setup Curfews** - Receive notifications when vehicle is used during specified time periods and be alerted if there has been a violation.



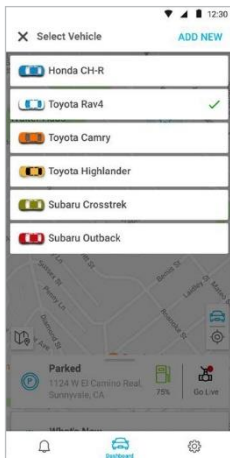
Add and Remove Vehicle from User Profile

Adding Vehicle

The user also has the ability to select or add new vehicle for every VISION purchased.

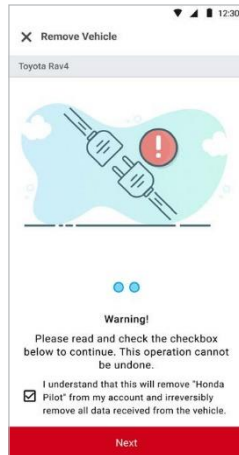
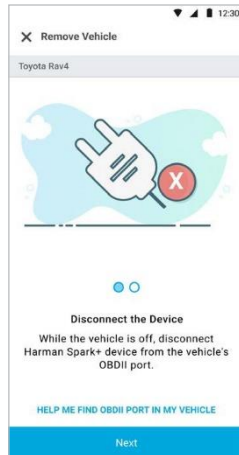
To add a new vehicle, tap on the drop-down arrow by the name of the vehicle and Select **Add New**. Follow the onboard process as described above.

To view information about any other vehicle from the available list, tap on the drop-down arrow by the name of the vehicle, and select the vehicle from the list.




Removing a vehicle

To remove vehicle from the user profile, go to **Settings - Vehicle Profile**. In the sub-menu, select **Remove Vehicle**. The user will be asked to confirm the action.



Settings

To access Settings for the App and configure features, tap on the gear icon  in the mobile app.

Vehicle Profile

Review history and current status of the device added to your vehicle. Personalize car name and view firmware and IMEI number of the device. The user is also able to remove the vehicle from the account through this setting.

Dashcam

Setup and configure multiple VISION attributes via the HARMAN Spark mobile application. This feature provides user seamless access to configure VISION's settings without having the need to be near the device.

Dashcam Details - View device information and firmware version

Home page - Configure the attributes to be shown on the home page of VISION through the mobile app. Attributes like Speed, Directions, and Time can be configured through this setting.

Sentry Mode - Turn the Sentry Mode On/Off through this setting. If/when Sentry mode has been activated, VISION will continue using vehicle's battery.

Time Format - Select either 12-Hour or 24-Hour time format for VISION through this setting.

Auto-Shutdown Time - Select a sleep timer for VISION to go into sleep after vehicle's ignition has been turned off. Choose from 1-minute, 3-minutes, or 5-minutes timer.

Sensitivity Level - Adjust VISION's sensitivity to wake-up from sensing vibration. Choose from Low, Medium, or High setting.

Hotspot - Turn VISION's Hotspot on or off through this setting. This setting also provides specific VISION's SSID and Wi-Fi password. May require carrier specific subscription plan.

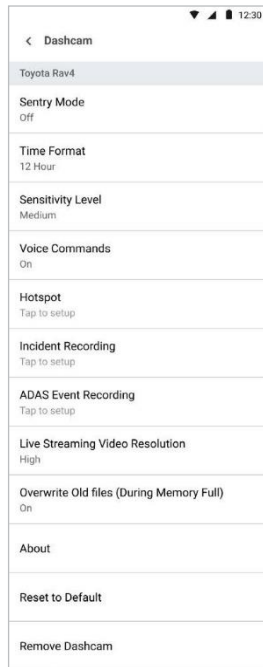
Live Stream Notification - Control whether to enable or disable notifications received during live streaming of VISION environment.

Vehicle Event Alert Recording - Choose how to configure Incident recording, enable or disable it, or configure the duration of incident recording (30, 60, 90, or 120 seconds). A fixed 30 seconds of prerecording will be available for any of the mentioned duration. This means that VISION will store 30 second prerecorded videos and an additional 30, 60, 90, or 120 seconds video

ADAS Event Recording - Choose whether to enable or disable ADAS related events recording

Recording on Mobile - Select where the Recorded Videos should be saved. Choose from On Mobile, On Cloud or turn this feature off.

Overwrite Old Files - Configure whether to overwrite on the old files in case the memory storage is full.



Wi-Fi Hotspot

Turn VISION's Hotspot on or off through this setting. This setting also provides specific VISION's SSID and Wi-Fi password. May require carrier specific subscription plan.

Notifications

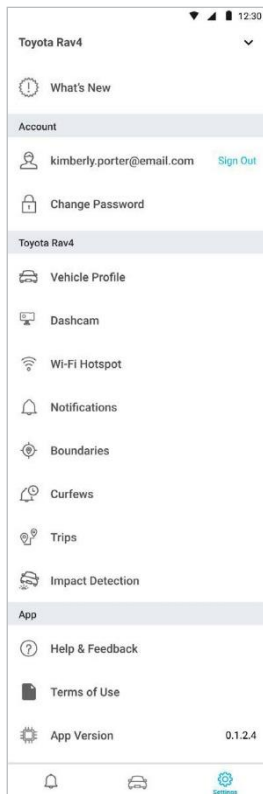
Manage and change the way notifications are received and configure the settings. Receive notifications when VISION has been removed from the vehicle. Set speed alerts, low fuel, tow, idle, or disturbance notifications.

Boundaries

Add, delete, or modify boundaries or "geo-fencing" for vehicle. Receive notifications when vehicle leaves the specified boundary on the map.

Curfew

Set the time period and weekday of a curfew. Multiple curfews can be set and managed. Repeatable on weekly basis. Generate notification when vehicle is operated outside of the curfew (curfew violation).



Trips

Change settings of the minimum distance required to be driven to capture recording. Configure time between engine shutoff for a recording to be considered as a new trip. For example, if a vehicle is stopped more than the configured time, the trip will be recorded as a new trip.

Maintenance Reminders

Receive reminders for maintenance based on set number of miles. Also set reminders for tire rotations and oil change.

Impact Detection

Set notification alerts when a vehicle impact is detected.

Troubleshooting

VISION is not turning ON

Ensure USB Cable is connected to VISION. Ensure USB Cable is connected to VISION Dongle and the Dongle is securely connected to the OBD-II port. Ensure the vehicle's Ignition is on. In case if the Ignition is not on, VISION should turn on upon ignition detection. In case if it is not powered on upon ignition, VISION can still be powered on by pressing and holding the power button on the side for 3-5 seconds.

VISION cannot be registered or there is an error during registration process

Confirm the user has signed-up for the correct device in the HARMAN Spark application. Ensure the application has scanned the QR code when VISION was powered on for the first time. If QR Code cannot be scanned, enter the device IMEI manually that is located on the packaging box. Ensure the vehicle is in an area with good network connectivity.

VISION feels warm when it is operating

It is a normal behavior for VISION to be warm when it is operating.

Memory card (micro-SD Card) is not storing the recorded videos from VISION

VISION only supports micro-SD Card (class 10 FAT32 up to 128 GB). Ensure the micro-SD card is not corrupt or worn out. Memory cards wear out over a period especially when they have been used multiple times. To ensure proper storing of recorded videos in the memory card, use a video that is either new or has been formatted. In addition, ensure the micro-SD Card is inserted into the correct slot. Please review "Inserting a micro-SD Card in VISION" on page 24 for more information.

Audio alerts cannot be heard

Ensure VISION is not muted. To unmute VISION, short press on the LCD screen when VISION is powered on. Go to settings (gear icon) and select Volume. If the volume is muted, tap on "MUTE" to unmute it. The other option is to increase the volume to desired level. The user shall hear an increasing tapping audio upon increasing the volume level.

VISION recordings did not record audio

Microphone may have been turned off. To turn microphone on, short press on the LCD screen when VISION is powered on. Tap on the microphone icon to turn it back on (if it is off).

Camera views are not aligned

The Calibration setup steps assists the user to align the camera accordingly. Please ensure proper guidance has been followed while setting up initial camera. The front camera can pivot vertically. Set the front camera by pivoting it (if desired) to ensure the calibration setup guidance have been met.

VISION is not connecting to a Bluetooth capable device

Ensure that Bluetooth capability is turned to on in VISION as well as the device to be paired with. To turn Bluetooth ON, please review the “Bluetooth” sub-menu under settings. Ensure correct device is selected and that the pin matches both on the device and VISION.

For JBL Click, ensure “JBL Click” is seen under the devices list. Click pair and wait for an audio alert from JBL Click to confirm connection. VISION's Bluetooth menu screen will show JBL Click as connected.

Hotspot is not available

Ensure the enrollment in the required subscription plan from the network carrier. Confirm the Hotspot capability is turned to on. To turn on Hotspot, please review “Wi-Fi Hotspot” sub-menu under settings. Confirm VISION's SSID and password are correctly entered in the Wi-Fi settings of the device that is being connected to VISION's Hotspot.

VISION cannot be connected to Wi-Fi

Ensure Wi-Fi has been turned on in VISION. To turn on Wi-Fi, please review “Wi-Fi Hotspot” sub-menu under settings. Ensure the correct network name is selected from the list of available wireless networks. (The user can also add the SSID and password if needed. Please also ensure it is entered in correctly).

Live Streaming takes longer, or the video quality appears blurry

In certain situations when good network coverage is not available, live streaming of good quality video footage from VISION may not be possible. Please go to the settings menu in the application to change the live streaming resolution quality to adapt for the reduced signal strength of the network.

Warnings and Statements

FCC Statements

HARMAN VISION device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- (1) The device may not cause harmful interference, and
- (2) The device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void warranty and the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Body Operation Statement:

This device was tested for typical body- operations. To comply with RF exposure requirements, a minimum separation distance of 10 mm must be maintained between the user's body and the device, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body- accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

Safety Warning:

Please use a battery specified by the device manufacturer. Otherwise, all warranty services are invalid.

The device manufacturer will not provide a warranty for damage caused by non-OEM accessories.

- Do NOT put the device into water or fire.
- Do NOT bend or open the battery.
- Do NOT disassemble the device. Improper handling might damage the device permanently

WARNING: This product can expose you to chemicals including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

HARMAN

 VISION

