

# V790

## 2CH DASH CAM (Wi-Fi)

User Guide ver. 1

### LUKAS Dash Cam

- ※ Some functions in this user guide may not be available depending on the installed firmware version.
- ※ Wi-Fi connection may sometimes be unstable or be unavailable depending on surrounding environments and different types of smart phones(the make and model).
- ※ OS versions required for the Lukas App: Android 4.0 or higher, iOS 5.0 or higher.
- ※ The Lukas App is available on the Google Play Store and the App Store.
- ※ The manufacturer is not held liable for damages as a result of road accidents due to incorrect operation of ADAS features.
- ※ The level of accuracy of ADAS data can vary depending on the user's environment. It is recommended that you use the data for reference purposes only.
- ※ This device has Format-Free function. With this function, some of the memory card settings can be restricted. (e.g. length of a video file, image quality, etc.)
- ※ This device has Format-Free function. With this function, the memory card efficiency may be affected.

## Thank you for purchasing this LUKAS Dash Camera.

This user guide is for the users of V790.

There may be technical errors and/or omissions.

For the latest and updated user guide & firmware, visit our website [www.lukashd.com](http://www.lukashd.com).

### Read Carefully Before Using This Device

- ※ Before using your V790, please read through this user guide to ensure the correct use of the device.
- ※ Qrontech Co., Ltd. reserves all rights to this user guide in accordance with the copyright law.
- ※ The contents of this user guide are subject to change without prior notice to improve the performance of the device.
- ※ Some functions may not be available depending on the installed firmware version.
- ※ This device is designed to help safe driving. In the event of an accident, the driver must take full responsibility. Please use this device accordingly.

### Scope of Guarantee and Responsibility

- ※ This device records videos and sounds to provide visual proof of a vehicular accident. However, it does not guarantee video recording of all accidents.
- ※ Qrontech Co., Ltd. is not responsible for the loss of any files or data due to a malfunction of the device.
- ※ A memory card is a consumable item with a limited lifespan, and data can be lost due to external voltages and/or static electricity existing in the user's surrounding environment. For this reason, it is highly recommended that you back up important video files using other media devices.
- ※ Although this device has **Format-Free function**, a memory card may obtain corrupt video files (omissions & cuts in recording, changes in frame rates, etc.) due to a decrease in reading and writing speed as it reaches the end of its lifespan. Please use a genuine Lukas microSD card, and format it every month (for a 16GB memory card).
- ※ This is an auxiliary device that records audio and video footage. However, it does not guarantee video recording of all accidents as users' environments vary. Please use this device as reference purposes only.
- ※ We will not be responsible for any problems caused by using this device in Parking Mode Recording without an extra battery pack.
- ※ The level of accuracy of ADAS data can vary depending on the user's environment. It is recommended that you use the data only for reference purposes only.
- ※ The manufacturer is not held liable for damages as a result of road accidents due to incorrect operation of ADAS features.

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# 1. Instructions For Use

## 1-1. Precautions and Notices

- 1. Do not place the device under direct sunlight or in extremely cold conditions for an extended period of time.**

Direct exposures to extreme temperatures may damage the device. When the device is not in operation, make sure the temperature stays within the storage temperatures. The exterior of the device may change in color when exposed to direct sunlight for a prolonged period of time.
- 2. Do not disassemble, repair, or modify the device.**

Do not attempt to disassemble, modify, or repair the device. Warranty cover will be void if a repair has been attempted by the user or anyone unauthorized.
- 3. Do not modify and cut the power cable.**

Modifying or cutting the power cable can damage the device and the vehicle. We are not responsible for any damages as a result of such modifications.
- 4. Do not operate the device with wet hands.**

Do not expose the device to liquids or humid conditions. When cleaning the device, do not use water, chemicals or liquid detergent to clean the device. Please use a soft and dry cloth.
- 5. Avoid heavy impacts on the device. Doing so may damage the device.**
- 6. Do not insert foreign objects into the device. Doing so may damage the device.**
- 7. Only use genuine accessories provided by the manufacturer.**

We recommend using genuine accessories that are tested safe and compatible with Lukas Dash Cams. We are not responsible for any problems caused by using other accessories not supplied by the manufacturer.
- 8. We do not guarantee compatibility when using other devices and peripherals from other manufacturers with Lukas Dash Cams.**

The user must take full responsibility for any damages as a result of using such devices and peripherals.
- 9. Do not operate the device when the vehicle ignition is turned off for an extended period of time.**

Operating the device for an extended period of time with the ignition off can result in vehicle battery drainage.
- 10. Image quality might be affected when there are extreme changes in lighting conditions.**

The quality of the video can be affected when driving through extremely dark/light areas.  
(For example, entering and exiting a tunnel or parking garage, too much backlighting, pitch black darkness at night etc.)

11. An accident with light impact that is not enough to start Event Recording may not be recorded.  
Light impact may not be detected for Event Recording depending on the users settings and the level of impact. Also, if high impact disconnects power supply to the device, Event Recording may not be saved.
12. Disconnecting the power cable while the device is in operation or using an incorrect input voltage can damage the device or cause fire.
13. Some PCs may not support Lukas Viewer or there may be disconnections in audio/video footage depending on the PC's specifications.
14. The AE (Automatic Exposure) operation may not function properly if the vehicle's color reflects less light (black, red, etc.)
15. The AE operation, and dramatic changes in exposures may result in darker footage and loss of frame rate. The camera angle can also affect the AE operation.  
If the AE operation does not function properly, please adjust the camera angle.
16. Videos recorded in low-light conditions can have noise, and footage may shutter from car shakes when braking.
17. There might be loss of data when there is a sudden frame rate drop, or when switching between Parking & Driving Modes.
18. Motion Detections can sometimes result in incorrect operation depending on lighting, weather, and other surrounding conditions. In some cases, consecutive motions can be detected.
19. Motion Detections may not operate properly due to noises and reflections of Security LED if recording takes places in underground parking lots, and low-light conditions.
20. The device is equipped with a wide-angle lens, and the left and right side of video footage may differ in quality.
21. Traffic lights may appear to be flickering due to the lights' location and signal frequency.
22. The camera cannot be connected via Wi-Fi with more than one device at a time. Internet connection is disconnected when your smartphone is connected to the device.
23. Some functions of the Lukas App might be unavailable depending on the types of smartphones.
24. The range of Wi-Fi may vary depending on data transmission rates and other circumstances.
25. If the rear camera is not securely connected, rear videos are not saved on the memory card.
26. It is not recommended to record continuously in Parking Mode.  
If you wish to record continuously when the vehicle is parked, it is recommended to have an extra battery pack. We are not responsible for the vehicle's battery drainage as a result of continuous recording in Parking Mode without an extra battery pack.
27. If you suspect any malfunction of the device, stop using the device and contact your local distributor or Lukas CS center.

## ■ 1-2. Installation ■

1. Keep the surrounding of the device clear.

Please ensure the surrounding area is clutter-free. Unnecessary objects on the dashboard can reflect off the windshield and may reduce the audio/video quality.

2. Keep the camera lens clean at all times.
3. Do not install or operate the device while driving.

For your safety, do not install and/or operate the device while driving. It can cause an accident.

4. Keep the device securely mounted at all times.

The device can fall and be damaged if it is not securely mounted as instructed in this user guide.

5. Video footage can be indistinct and/or distorted if the windshield is excessively tinted.
6. When installing the device, pick a spot where it does not interfere with GPS reception. (Radio, CD/MP3 players etc.)

## ■ 1-3. GPS ■

1. A typical GPS receiver achieves an accuracy of 15 meters. There may be conditions where GPS signals cannot be received depending on the driving environments such as tunnels, underpasses, skyscrapers, and street light which affect the accuracy level.
2. It may take some time to receive GPS signal for the first time after power is turned on depending on weather and other conditions.
3. Excessive tinting and other electronic devices can interfere with GPS signal.
4. When the vehicle is at a stop, driving speed may show between the 1~30km/h range depending on the GPS reception status.
5. GPS data can be lost if the device is not turned on.
6. Time on the device may not be accurate if the device does not have GPS.

## ■ 1-4. Memory Card ■

1. Do not remove the memory card while the device is recording.

Make sure you completely turn off the device before removing the memory card. Removing the card when the power is on can damage the card and video files, as well as the device.

2. It is recommended that you format the memory card at least once a month (for a 16GB memory card.)

Since a dash cam continuously writes and deletes files on the memory card, the card and the saved files can be damaged. Formatting your memory card on a regular basis can prevent such damages. Also, a memory card is a consumable item which can only last for about 6 months on average. We are not responsible for any loss of data or recording problems as a result of using a memory card after prolonged use.

3. Only use memory cards supplied by the manufacturer.

We are not responsible for any problems caused as a result of using memory cards from other manufacturers.

4. Handle with care when inserting and removing the memory card to avoid burns.

A memory card operates at very high temperatures. Be careful when handling the card.

5. The range of operating temperatures may vary depending on the performance of a memory card.

6. Back up videos on the memory card to another storage device (e.g. PC, External Hard Drive) to prevent loss of important data.

7. Format your memory card before changing the device's settings.

8. No firmware updates or configuration settings is needed after formatting the memory card.

The user's latest settings is saved on the device. So no configuration settings is required after the format is complete.

9. Please format the memory card on the device itself for convenience.

Memory card can be formatted on the device itself. So you do not need to remove the memory card to format it on a PC.

10. Make sure you insert a memory card into the device. Without it, the device does not start recording.

11. The device has Format-Free function. With this function, malfunctions may occur if unsupported files are copied to, moved or deleted from the memory card.

12. When formatting a memory card on a PC, it is recommended that you opt for the full format option rather than the quick format option.

## ■ 1–5. ADAS (Advanced Driver Assistance System) ■

1. ADAS is available only on a GPS-enabled device.
2. LDWS (Lane Departure Warning System) may not function as designed when driving in the rain at night, in the snow and in extreme road conditions.
3. ADAS may not function properly when driving through an area that has weak GPS signal.
4. It is recommended that you use ADAS data for reference purposes only. We are not responsible for any road accidents as a result of incorrect operation of ADAS.
  - ※ The level of accuracy of ADAS data can vary depending on the user's environment. It is recommended that you use the data for reference purposes only.
  - ※ Using a T/S cable from other manufactures does not guarantee the correct operation of the device. The device can also be damaged.
  - ※ If you wish to use a T/S cable, it is recommended that you get a professional hardwiring service. The vehicle and the device might be damaged by heat if a T/S cable is hardwired directly to the turn signals under the car bonnet. It is safer to hardwire the cable to the fuse box or to the ETACS.



## 2. Features

### ▶ High-Clarity Video Quality

Front Camera: 2.1M Effective Pixel (1/2.9"), **Sony Full HD Sensor**

Rear : HD dedicated CMOS Sensor

### ▶ Distortion-Free Recording with Wide-Angle Lens

Front Camera : **1920X1080p Full HD Recording at 30fps** / 16:9 Wide View /

Viewing Angle: Diagonal (approx. 135°), Horizontal (approx. 107°), Vertical (approx. 55°)

Rear : 1280X720p HD Recording at max 30fps / (Diagonal approx. 120° / Effective angle : Horizontal approx. 95°, Vertical approx. 52°)

### ▶ Support FHD Rear Camera (Option)

### ▶ Supports ADAS (Advanced Driver Assistance System)

– LDWS (Lane Departure Warning System) / FCWS (Front Collision Warning System)

### ▶ Wi-Fi Connectivity (802.11b/g/n (2.4~2.4835GHz))

– Wi-Fi can be connected in Driving Mode

– View live screen, Playback, Download Recorded Footage, Configure Settings

– Wi-Fi switch on the front camera

– Recording stops when Wi-Fi is connected

### ▶ Format-Free Function

### ▶ Various Recording Modes

– Continuous Recording : Continuously records 3-minute videos.

– Event Recording : Records before & after impact detected for 30 seconds in total. (10 seconds prior and 20 seconds after impact)

– Manual Recording : Records when 'M' button is pressed / 30-second video both Front & Rear

– Motion Detection Recording : Records when motion is detected during parking / 30-second video both Front & Rear

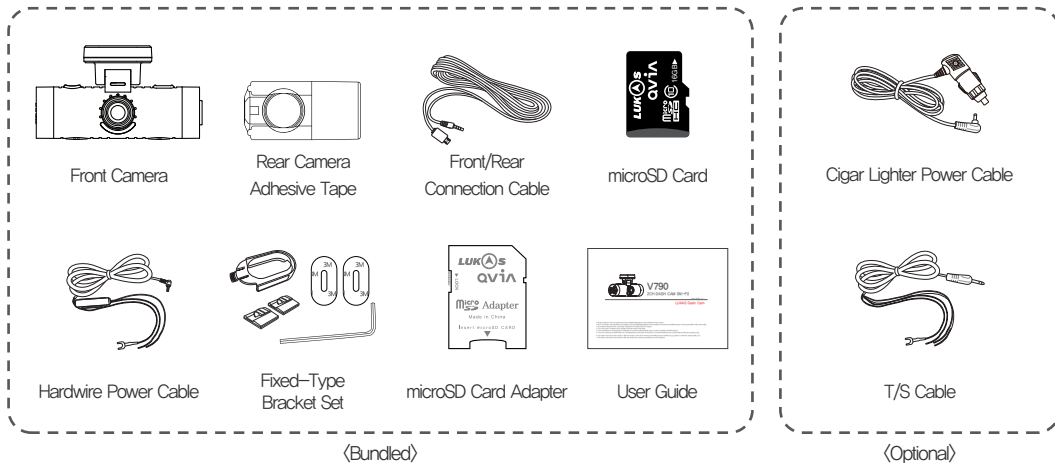
### ▶ microSD Card up to 128GB

### ▶ Built in Dual Band (GPS+GLONASS) (Option)

- ▶ **Dual Security LEDs / Separate LEDs for GPS, Wi-Fi, and ADAS**
- ▶ **Low-Voltage Cut-Off Function**
  - Supports Multi Booting System (ON / ACC / OFF power switches on the Front Camera) / Leakage Current less than 1mA
- ▶ **Supports Multiple Languages (Korean, English, Japanese)**
- ▶ **Operating Temperatures : -30°C~80°C (-22°F ~ 176°F)**
- ▶ **Direct Format on the Front Camera**
  1. Press 'E' and 'M' buttons at the same time.
  2. After voice guidance, press 'E' again to start the format.
  3. After format is complete, the device reboots.
- ▶ **Built-in Microphone**
  - Records image and audio simultaneously
  - Records audible ADAS warnings
  - Turn On/Off audio recording with 'M' button
- ▶ **Fixed-type Mount**
- ▶ **No interruption with rear window sunshade by minimizing the height of the rear camera.**
- ▶ **Built-in Super Capacitor**
  - An internal battery replacement is not necessary due to a built-in semi-permanent super capacitor which will write all files onto the microSD card when the power is cut off.
- ▶ **Video Playback**
  - Recorded videos can be viewed both on the Lukas App and on Lukas Viewer, as well as other media players (Windows & Mac.)
- ▶ **Firmware Upgrade**
  - Firmware will be upgraded to enhance performance and to correct errors.
- ▶ **Configuration Settings**
  - Users can customize the device settings and a variety of functions including recording settings.

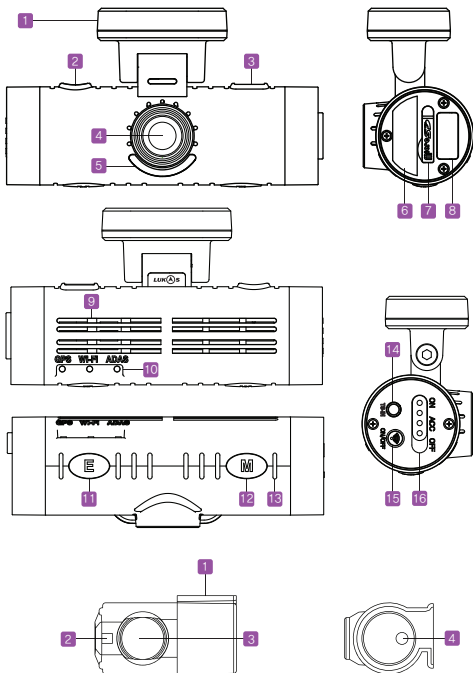
# 3. Device Overview

## 3-1. In the Package



- ※ Make sure you have all the components listed above.
- ※ Be sure to use genuine accessories provided by the manufacturer.

## 3-2. Names & Functions of Each Part



	Name	Function
1	Stand & GPS(Built-in)	Attach this part on the windshield & Receives GPS info
2	DC-IN	Supplies power to dash cam through power connection.
3	CAM-IN	Rear camera input connection
4	Camera Lens	Video signal input (CMOS Digital Sensor)
5	Security LED	Displays device operational status. Visually indicates that the vehicle is equipped with dash cam.
6	S/N Label	Device model name & serial number
7	microSD Slot	For inserting & removing a microSD card
8	Wi-Fi	Wi-Fi Dongle
9	Speaker	Audio output
10	LED	LED lights for GPS, Wi-Fi, ADAS
11	Emergency Recording (E) Button	Emergency Recording upon pressing the button. (Press for 3 seconds to turn on Wi-Fi)
12	Audio Recording (M) Button	Press shorter than 2 sec : Voice Recording ON/OFF
13	MIC	Voice signal input
14	TS-IN	Connects T/S cable
15	Wi-Fi Button	Wi-Fi ON/OFF button (Wi-Fi can be connected in Driving Mode)
16	Power Switch	Device power supply switch (ON/ACC/OFF)

	Name	Function
1	Stand	Attach this part on the rear window
2	Security LED	Displays device operational status. Visually indicates that the vehicle is equipped with dash cam.
3	Camera Lens	Video signal input
4	Cable Connection	Front/Rear connection cable terminal

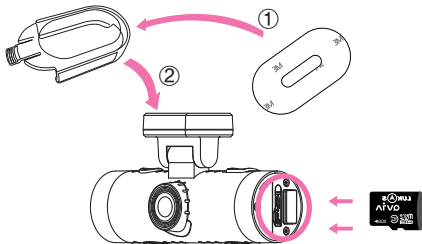
## 4. Installation

### 4-1. Before Installation

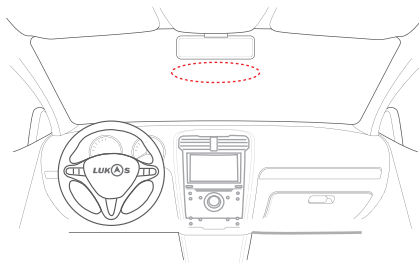
- ※ Before installation, please park the vehicle on a level surface and bright area. Turn off the engine and remove the key.  
(Be sure parking break is ON)
- ※ Pick a spot for the device behind or near the rear view mirror not blocking the driver's vision.
- ※ Do not install the device with the lens facing upwards. Some functions may not work properly. (Weak GPS signal, continuous event recording)
- ※ Keep the lens clean for optimal video quality.
- ※ Make sure the device does not interfere with the driver's vision.
- ※ Adjust the angle of the camera lens, so that it shows approximately 40% of the car bonnet on the bottom of footage.
  - If the lens is installed excessively facing downwards, traffic signs may be indistinct. If the lens is installed too high, footage may look dark overall due to the bright sky.

### 4-2. Step-by-Step Installation Guide

- 1 Apply double-sided adhesive tape on the fixed-type mount. Slide the device into the mount.
  - ※ Check if a microSD card is inserted. The device does not start recording without a microSD card.
  - ※ Make sure Wi-Fi dongle is inserted into the front cam.

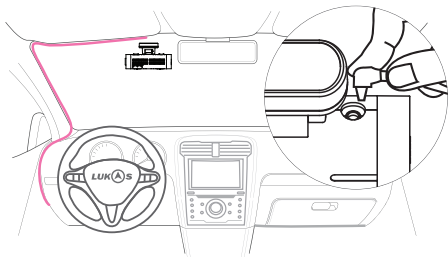


- 2 Attach the device behind or near the rear view mirror not blocking the driver's vision. Do the same for the rear cam.
  - ※ Detaching and reattaching the adhesive tape causes the tape to lose its stickiness.

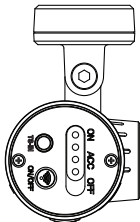


## 4-2. Step-by-Step Installation Guide

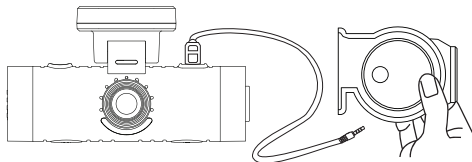
- 3 After connecting the front/rear connection cable to the device, run the cable along the windshield headliner all the way to the driver side A-pillar trim, (as shown in the picture colored pink.)



- 5 After installation, turn the engine on and select the power option, (ACC or ON)



- 4 Connect the cable to the rear cam.



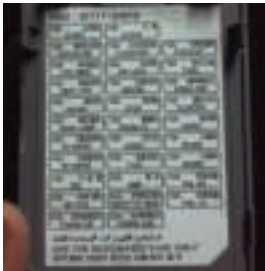
- ※ The device reboots when the Front/Rear connection cable is connected/disconnected.
- ※ The device does not work properly if the Front/Rear connection cable is not firmly connected to the rear cam.
- ※ Disconnecting the Front/Rear connection cable when the device power is ON can damage the device. Turn off the device before disconnecting the cable.

- 6 Using the Lukas App, view the live-stream video to adjust the camera lens. Approximately 40% of the car bonnet should be shown on the bottom of footage.



## 4-3. How to Hardwire Continuous Power Cable

1

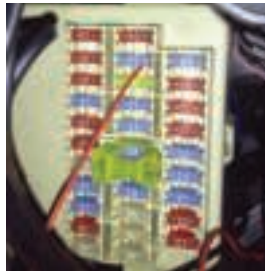


Locate the fuse box and the chart that shows you what each fuse is for. Choose where to hardwire the B+ and ACC wires.

※ Use fuse tongs to easily insert and remove individual fuses.



2



Identify a fuse (e.g. cigar lighter, audio etc.) to connect with the red ACC wire and insert it back to the fuse box.

※ Location of ACC power supply may differ depending on the vehicle.

※ Please connect the ACC wire to the output terminal. If wired incorrectly; there is a risk of a fire.

3



Identify a fuse (e.g. emergency lamp, indoor lamp etc.) to connect with the yellow B+ wire and insert it back to the fuse box.

※ Location of B+ power supply may differ depending on the vehicle.

※ Please connect the ACC wire to the output terminal. If wired incorrectly; there is a risk of a fire.

4



Connect the black GND wire to a grounding source, (e.g. metal component)

※

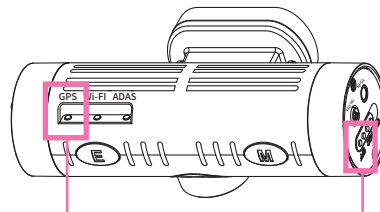


If the power cable is improperly hardwired, the device will not function properly.

We recommend using a dual fuse holder as seen in the adjacent photo to make the process easier.

## 4-4. Check Installation of Continuous Power Cable


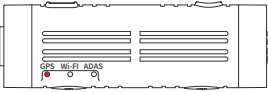

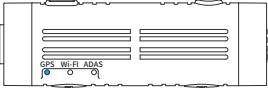

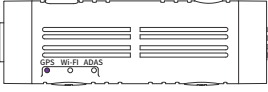
- ※ To check if continuous power cable is correctly hardwired, the device has to be turned off.
- ※ Check GPS LED light to see if continuous power cable is correctly hardwired.
- ※ The GND wire (black) must be connected to a grounding source (e.g. metal component) in order to check correct hardwiring.
- ※ There might be leakage current less than 1mA as LED operates.



Examining GPS LED lights (red, blue, purple) can determine if Continuous Power Cable is hardwired correctly.

Power Switch has to be at OFF

- ※ GPS LED Operations

	Wire	LED Operations
Only ACC Wire Connected		 Red LED lights stays on
Only B+ Wire Connected		 Blue LED light stays on
Both ACC Wire & B+ Connected		 Purple LED light stays on



## ■ 4-5. Memory Card Recording Time ■

- Video is recorded at 3-minute interval for continuous recording, 30-second interval for motion and event recording.
- Below table is based the microSD card setting which is set to the following proportional storage assignment for each recording mode : continuous 70%, motion detection 20%, event/emergency 10%.

### 1. Continuous/Parking/Event/Emergency Mode Recording

	Continuous Recording (3-minute File)		Motion Detection Recording (30-second File)		Event/Emergency Recording (30-second File)	
	Files	Total Recording Time	Files	Total Recording Time	Files	Total Recording Time
8G	16	48min	29	14min 30sec	14	7min
16G	34	1h 42min	60	30min	30	15min
32G	68	3h 24min	121	1h 30sec	60	30min
64G	138	6h 54min	244	2h 2min	122	1h 1min
128G	276	13h 48min	487	4h 3min 30sec	243	2h 1min 30sec

※ The table above is an approximation, There may be some variation with actual recording time and the number of files that can be saved onto a microSD card depending on user settings.

※ Front and rear video are compiled together into one file.

# 5. Device Operations

## 5-1. Basic Operations

### 1. How to Start and Stop Recording

You can easily enable/disable Parking Mode by using the power switch on the device.



- ON : Supports recording during driving/parking (In Parking Mode Recording, the device records during pre-set voltage or time before shutdown)
  - ACC : Supports recording during driving (the device operates while the engine is on and stops operating when the engine is off)
  - OFF : Power not supplied to the device
- ※ Check if a microSD card is inserted into the device before turning it on.  
※ After the device has successfully started, it will start recording after the voice message "drive safely."

### 2. Recording Modes

	Continuous Recording	Motion Detection Recording	Event Recording	Emergency Recording
Folder	AlwaysMovie	MotionMovie	EventMovie	EventMovie
File Length	3 minutes	30 seconds	30 seconds	30 seconds
Video	Always	Parking	Event	Event
Characteristics	Records continuously while driving	<ul style="list-style-type: none"><li>– Records when the vehicle is parked</li><li>– User settings available to set the level of motion detection sensitivity.</li></ul>	<ul style="list-style-type: none"><li>– Records when impact is detected during driving or parking</li><li>– User settings available to set the level of G-sensor sensitivity.</li></ul>	Records when the emergency recording button is pressed.

### 3. Video Playback

- Check real-time video : APP – When you touch 'Lukas View' icon on the Lukas App and select Front or Rear icon on the top right corner, you can check video being recorded(When Wi-Fi is connected).
- Check recorded video : APP – When you touch 'Lukas View' icon on the Lukas App and select a video from the list, you can watch the selected video.  
PC – You can play back recorded videos using Lukas Viewer or other media players by inserting the microSD card to a PC (Use a microSD card adapter).

#### 4. Security LED

	During Continuous Recording	During Parking Mode Recording	Event/Motion is Detected
Front Cam LED	Blue LED light stays on continuously	Blue LED light blinks slowly	Red LED light blinks fast
Rear Cam LED	Blue LED light blinks slowly		

※ Front Security LED can be turned ON and OFF in settings either on the Lukas App or Lukas Viewer. (Settings > Basic)

#### 5. LED for GPS

When Device Turns On	No GPS Signal	GPS Signal Received	Event(Impact) Detected	Switching to Parking Mode
Red LED light turns on	Red LED light stays on continuously	Blue LED light stays on continuously	LED light blinks fast	LED light turns off

※ When impact is detected or switching to Parking Mode, the LED light will blink but the color of the light stays the same.

※ GPS can be turned off in settings when recording in Parking Mode.

#### 6. LED for Wi-Fi

When Device Turns On	Wi-Fi Off	Wi-Fi Turning On	Wi-Fi Ready for Connection	Wi-Fi Connected
LED light does not turn on	LED light turns off	Red LED light blinks fast	Red LED light stays on continuously	Blue LED light stays on continuously

※ Wi-Fi is turned off by default when turning on the device. Change Wi-Fi settings to turn on Wi-Fi when the device turns on.

※ Wi-Fi turns off when switching to Parking Mode.

#### 7. LED for ADAS

※ ADAS operates when GPS is ready

- When GPS signal is received LED for ADAS is blue.
- When GPS signal is not received LED for ADS is red.

ADAS Ready	LDWS_Left	LDWS_Right	FCWS
Blue LED light stays on continuously	Blue LED light blinks fast	Red LED light blinks fast	LED light blinks fast

## 8. Recording During Driving

- Continuous Recording : Continuously records and saves 3-minute videos in AlwaysMovie folder. 'Always' is displayed on the bottom of footage.
- Event Recording : Records and saves a 30-second video in EventMovie folder when impact is detected (10 seconds prior and 20 seconds after impact)
- Emergency Recording : Records and saves a 30-second video in EventMovie folder upon pressing the emergency button for one second. (10 seconds prior and 20 seconds after impact)
  - ※ Emergency recording does not operate during Event recording and vice versa.

## 9. Recording During Parking

- Parking Mode is activated when the power switch is at ON.
  - ※ Note that the recording stops and the device turns off when the vehicle's battery drops below a pre-set voltage level.
- How to Switch to Parking Mode : You can set time for 'Auto-Conversion to Parking Mode' option. With this option enabled, the device will switch to Parking Mode after a pre-set time when the car ignition is turned off.  
When switched to Parking Mode, you will hear the voice message 'Switched to Parking Mode.'
  - ※ 'Auto-Conversion to Parking Mode' can be set up in settings using Lukas Viewer or the Lukas App. (Settings > Basic)
  - ※ As recording stops and converts to Parking Mode or Driving Mode, less than 5 seconds of video may be lost.
- Videos recorded in Parking Mode will have 'Parking' stamp on the bottom of footage.
  - ※ When converting from Continuous, Event, or Emergency Recording to Parking Mode, recording stops before the conversion. For this reason, video loss may occur.
- When Motion Detection Recording is enabled in user settings, a 30-second video is recorded and saved in MotionMovie folder (10 seconds prior and 20 seconds after motion is detected)
  - ※ Settings for Motion Detection Recording can be changed on Lukas Viewer or the Lukas App. (Settings > Additional)
  - ※ Motion Detection Recording only records when motion is detected. When motion is detected red Security LED light will blink fast. (Front Cam)
  - ※ Motion Detection may fail when the surrounding of the vehicle is too dark.
  - ※ The total recording time of Parking Mode Recording may vary depending the vehicle's battery status.
  - ※ Depending on the user's parking environment, motion may not be detected or there might be frame rate drop.
  - ※ Motion can constantly be detected according to changes in the surrounding of the vehicle. The level of motion detection sensitivity must be set in accordance with the user's parking environment.  
(e.g. If the vehicle is parked on a street or an underground parking lot, frequent movements may interfere with Motion Detection Recording.)

## 10. ADAS (Advanced Driver Assistance System)

### – LDWS (Lane Departure Warning System)

- ※ Based on the real-time video, an audible warning goes off and the blue LED light blinks fast when the vehicle departs its lane to the left, and red LED light blinks fast when the vehicle departs its lane to the right.
- ※ Warnings go off in accordance with the speed and sensitivity settings.  
(e.g. If the speed is set at 50km/h in settings, LDWS warnings go off when the vehicle is traveling above 50km/h and departs its lane.)
- ※ Depending on the vehicle's speed and the sensitivity setting, ADAS LED and warnings may not function in a consistent manner.

### – FCWS (Front Collision Warning System)

- ※ Based on the real-time video, an audible warning goes off and the LED light blinks fast to avoid possible rear-end collision.
- ※ Warnings go off in accordance with the speed and sensitivity settings.  
(e.g. If the speed is set at 50km/h in settings, FCWS warnings go off with LED light blinking when the vehicle is traveling above 50km/h and detects possible rear-end collision.)
- ※ Depending on the vehicle's speed and the sensitivity setting, ADAS LED and warnings may not function in a consistent manner.

## ■ 5-2. Getting Started with Lukas App ■

- ※ Download the Lukas application on your smartphone. The Lukas App can be found on the Google Play Store and the App Store.
  - The Lukas App can be used with Android 4.0 or higher, iOS 5.0 or higher.
  - The Lukas App may not be supported depending on the types of smartphones.
- ※ Wi-Fi reception and data transfer rates may vary and affect playback of recorded videos.
- ※ The range of Wi-Fi may vary.
- ※ The storage path of downloaded videos may vary depending on the user's smartphone.

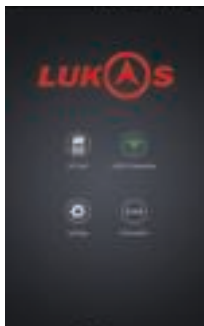


[Download the Lukas App  
on Google Play]



[Download the Lukas APP  
on Apple App Store]

## ■ 5-3. Connecting to Lukas App ■



[Lukas App Main Screen]



[Connect Smartphone  
via Wi-Fi]

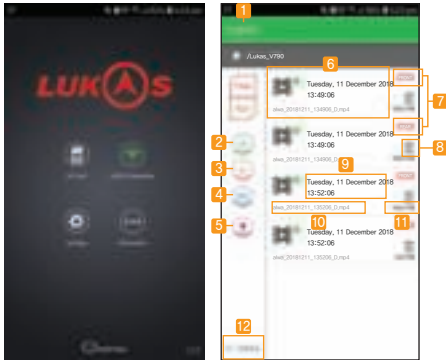


[Enter Password]

1. Select 'LUKAS Connection' icon on the main screen.
  - ※ When the device is connected to a smartphone, the icon will turn green.
2. Select 'Lukas' on the Wi-Fi list.
3. Enter the default password: '11111111'
  - ※ For a stable connection, please remain within close proximity to your dash cam.
  - ※ Change your password to prevent others from accessing your dash cam data.
  - ※ Device name and password can also be changed on Lukas Viewer.

## 5-4-1. How to Use Lukas App – SD Card

※ Click on 'SD Card' icon to watch downloaded videos on your smartphone.



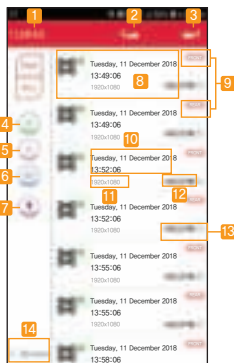
1. Back : Go back to the main screen.
2. Always Video : Only shows Always(Continuous) videos on the list.
3. Event Video : Only shows Event videos on the list.
4. Motion Detection Video : Only shows motion detection videos on the list.
5. Ascending/Descending : Arrange the order of video files by time sequence.
6. Play : Play selected video.
7. Front/Rear Video : Indicates video files from front or rear camera.
8. Delete icon : Delete selected file.
9. Recorded date and time
10. File name
11. File size
12. Lukas Connection : Go to 'LUKAS Connection'.

## 5-4-2. How to Use Lukas App – Lukas Connection

- ※ Connect with your Lukas device to view captured footage.
- ※ Green indicates a successful connection with the Lukas dash cam.



[ Disconnect Wi-Fi ]



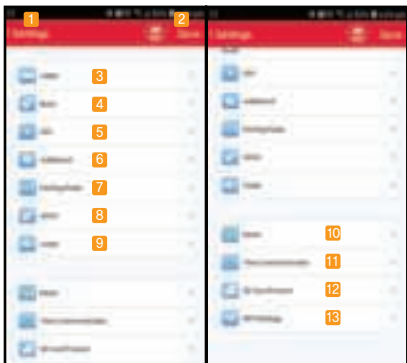
[ Wi-Fi Connection ]

- 1, Back : Go back to the main screen.
- 2, Front Live Stream Button : Watch Real-time video of front camera.
- 3, Rear Live Stream Button : Watch Real-time video of rear camera.
- 4, Always Video : Only shows Always(Continuous) videos on the list.
- 5, Event Video : Only shows Event videos on the list.
- 6, Motion Detection Video : Only shows motion detection videos on the list.
- 7, Ascending/Descending : Arrange the order of video files by time sequence.
- 8, Play : Play selected video.
- 9, Front/Rear Video : Indicates video files from front or rear camera.
- 10, Recorded date and time
- 11, Video Resolution
- 12, File Size
- 13, Download Button : Download the selected video to internal storage of the smartphone  
※ Storage path of downloaded videos may be different by smartphone models.
- 14, SD Card Button : Move to 'SD Card' page.



## 5-4-3. How to Use Lukas App – Settings

- ※ Settings only available when the device is connected to a smartphone.
- ※ Some of the menu items may be different depending on the model of the smartphone.
- ※ Keep the dash cam turned on while saving the changed settings.



- 1, Back : Go back to the Main Screen.
- 2, Save : Changes will be saved and applied.
- 3, Video : Configure video settings.
- 4, Basic : Configure basic settings & functions.
- 5, GPS : Configure GPS settings.
- 6, Additional : Additional settings and functions.
- 7, Parking Mode : Set Motion Detection sensitivity for the front and rear cam.
- 8, ADAS : Change ADAS settings. (LDWS, FCWS sensitivity and speed)
- 9, Audio : Configure microphone, speaker and language settings.
- 10, Reset : Reset your device to factory settings.
- 11, Time Synchronization : Synchronize time on the device with your smartphone.
- 12, SD Card Format : Format microSD card.
- 13, WiFi Settings : Change WIFI SSID and password.

## 5-4-4. How to Use Lukas App – Information



1. Back : Go back to the main screen
2. Version : Application version
3. Firmware : Firmware version
4. Call Service Center : Call Customer Support (Korea HQ)
5. Lukas Homepage : Visit Lukas website for more information
6. Choice Model : Choose between Lukas and Qvia logo for the main page of the application
7. Selecting Media : Use a third-party media player on your smartphone for live view and playback.
8. Cell phone Media Player : Use default media player on your smart phone for live view and playback.

## 5-5. Lukas Viewer

### 1. How to Install Lukas Viewer



#### Recommended PC specifications for using Qvia Viewer

OS : WIN7, 8, 10(32/64bit)

H/W: Quad core 2.8Ghz/ 4G RAM or higher

Web browser: Microsoft internet explorer 7.0 or higher

Direct X version: Direct X9.0 (JUNE2010) or higher

Others: Windows.NET Framework 4 or higher

※ Lukas V790 records Full HD videos, and playing back the videos on a PC with low specifications may not be smooth. There might be occasional video and sound cuts, changes in play speed, and other minor errors.

## 2. Lukas Viewer Overview

Set Time

Settings

Capture Video on Play

File Open

File List

GPS Information

Screen for Front Footage

G-Sensor(Acceleration) Graph

File List & Event Info

Screen for Rear Footage

Rewind video 10 seconds

Pause

Forward video 10 seconds

Double the speed of playback

Zoom in & out

Adjust Sound Volume

View Full Screen

Switch between Main & Sub videos

Type	Date	Time	Filename
Always	2018-12-21	09:22:00	Alwa_20181221_092200_D.JPG4
Always	2018-12-21	09:25:00	Alwa_20181221_092500_D.JPG4
Always	2018-12-21	09:28:00	Alwa_20181221_092800_D.JPG4
Always	2018-12-21	09:31:00	Alwa_20181221_093100_D.JPG4
Always	2018-12-21	09:33:00	Alwa_20181221_093300_D.JPG4
Always	2018-12-21	09:35:00	Alwa_20181221_093500_D.JPG4
Always	2018-12-21	09:38:00	Alwa_20181221_093800_D.JPG4
Always	2018-12-21	09:41:00	Alwa_20181221_094100_D.JPG4
Always	2018-12-21	09:44:00	Alwa_20181221_094400_D.JPG4
Always	2018-12-21	09:47:00	Alwa_20181221_094700_D.JPG4
Always	2018-12-21	09:50:00	Alwa_20181221_095000_D.JPG4
Always	2018-12-21	09:53:00	Alwa_20181221_095300_D.JPG4
Always	2018-12-21	09:56:00	Alwa_20181221_095600_D.JPG4
Always	2018-12-21	09:59:00	Alwa_20181221_095900_D.JPG4

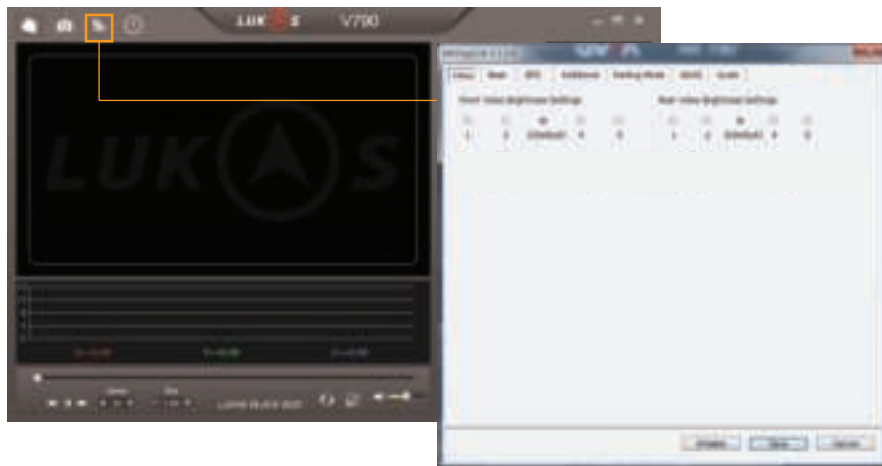
Front and rear video compiled together into one file :  
Alwa\_20181221\_092200\_D.JPG4

Front video only (no rear cam connected) :  
Alwa\_20181221\_092200\_F.JPG4

※ GPS map information may not be displayed if a PC is not connected to the Internet or GPS reception was unstable at the time of recording.  
 ※ Map synchronization is supported only with Internet Explorer 7.0 or higher.  
 ※ To watch footage in Full HD, play the video in full screen.

### 3. Device Settings on Lukas Viewer

- Users can change device settings including recording and/or time as desired on Lukas Viewer.



#### 4. Video Playback Screen



1 2 3 4 5 6 7 8 9 10 11

- 1 Date & Time
- 2 Driving Speed
- 3 GPS Status
  - ※ A: GPS Signal stable
  - ※ V: GPS Signal NOT received
  - ※ F: GPS power NOT supplied
- 4 Mileage
- 5 Dash Cam Voltage
- 6 Recording Mode
- 7 Vehicle Plate Number (Enter up to 8 digits)
- 8 Mic On/Off
- 9 Firmware Version
- 10 Model Name
- 11 Image brightness (Indicates brightness setting 1~5)
  - F3 : Front Brightness 3
  - R3 : Rear Brightness 3

## 6. Specifications

Item	Specifications	Remark
Camera	Front Cam: Full HD Dedicated 2.1M Effective Pixel SONY Sensor, 1/2.9(inch) Rear : HD CMOS Sensor	Support FHD Rear Camera (Option)
Viewing Angle	Front Cam: Diagonally – Approx. 135° / Effective Angle : Horizontally – Approx.107°, Vertically – Approx. 55° Rear Cam: Diagonally – Approx. 120° / Effective Angle : Horizontally – Approx. 95°, Vertically – Approx. 52°	
Recording Resolution & Frame	Front Cam: 1920 X 1080p (Full HD), 30fps Rear : 1280 X 720p (HD), 30fps	
Wi-Fi	802.11b/g/n (2.4~2.4835 GHz)	
Video File Format	MP4(MPEG)	
Gravity Sensor	Built-in 3-axis Impact Sensor (Impact, Sudden braking, Sudden starting)	
GPS	Dual Band(GPS+Glonass)	Option
Storage Media	microSD : microSDHC / microSDXC (Standard 16GB, Max. 128GB)	
Viewer Program	Lukas Viewer / Other Media Players	
Audio	Built-in Speaker and Microphone	
Power & Current Consumption	Power : DC 10V ~ 24V Current Consumption: 270mA (13.4V), Within 3.6W	GPS ON, Wi-Fi OFF
Low-Voltage Cut-Off	Set time and voltage level for device shutdown, Supports Multi-Booting System (ON/ACC/OFF)	
Operating & Storage Temperature	Operating Temperatures: -30°C ~80°C (-22°F~176°F) Storage Temperatures: -40°C ~90°C (-40°F~194°F)	
Size/Weight	Front Cam:109.9 X 61.85 X 38.3mm , 82g / Rear : 51.2 X 29.7 X 25.6 (mm), 22g	



## Quality Assurance

Model Name		Product S/N	
Customer Name		Date of Purchase	MM / DD / YY
Customer Phone No.		Place of Purchase	

1. A one-year warranty for the device is provided from the date of purchase. For accessories including memory card, six-month warranty is provided.
2. The device has undergone strict quality control and inspection procedures.
3. This note is a proof of purchase and warranty, and cannot be re-issued. Keep this note for a warranty request.
4. Out-of-warranty fees may be charged depending on the type of service.
5. If the device malfunctions under normal use conditions, there will be no repair costs during one-year warranty.
6. Be sure to keep this note for a warranty request.

### ■ Certified Company Info. ■



1. Certified Company : Qrontech Co., Ltd.
  2. Device Name(Model Name) : Lukas Dash Cam(V790)
  3. Certificate No. : R-R-QRN-FTVI
  4. Manufacturer/Country of Origin : Qrontech Co., Ltd. / Korea
- Seller and user must note that this device has electromagnetic wave compatibility certificate, and is designed for use outside home.



Conformity European Marking  
ES Joint Specification Certificate



U.S Federal Communications  
Commission / Electromagnetic  
Wave Compatibility Certificate

