



**BLACKVUE™**

**DR650S-2CH**

**Manual**



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# Introduction

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Thank you for purchasing this BlackVue dashcam made by Pittasoft Co., Ltd.

This instruction manual contains information on how to operate your dashcam.

Before using your dashcam, we recommend that you read through this manual to ensure correct usage.

To improve the performance of the product, the contents of this manual are subject to change without prior notice.

## **Note**

- A formatted microSD card is provided in the BlackVue dashcam when you purchase the product. After turning on the power of the dashcam, the microSD card will be initialized and programs such as BlackVue Viewer will be installed.

## Important safety information

For user safety and to avoid property damage, read through this manual and follow these safety instructions to use the product correctly.



**DANGER**

Failure to observe the following directions could result in death or property damage:

- **Do not disassemble, repair, or modify the product yourself.**  
Doing so may cause fire, electric shock, or malfunction. For internal inspection and repair, contact the service center.
- **If any foreign matter gets inside the product, detach the power cord immediately.**  
Contact the service center for repair.
- **Do not 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 driver's field of vision.**  
Doing so may cause an accident.
- **Do not use a damaged or modified power cord. Only use the cords provided by the manufacturer.**  
Damaged or modified power cords may cause an explosion, fire, or malfunction.
- **Do not operate the product with wet hands.**  
Doing so may cause electric shock.
- **Do not install the product in an environment with high humidity, or combustible gases or liquids.**  
Doing so may cause an explosion and/or fire.



**WARNING** Failure to observe the following directions could result in death or serious injury:

- **Do not leave the product near infants, children, or pets.**

There is a risk of them swallowing small components, and/or their saliva may get into the product, causing an explosion due to a short circuit.

- **Do not spray water or wax directly onto the product while cleaning the inside of the car.**

Doing so may cause fire, electric shock, or malfunction.

- **If smoke or an unusual smell is emitted from the power cord, detach the power cord immediately.**

Contact the service center or your distributor.

- **Keep the terminals of the power cord clean.**

Failure to do so may cause excessive heat and fire.

- **Use the correct input voltage.**

Failure to do so may cause explosion, fire, or malfunction.

- **Plug in the power cord firmly so that it cannot easily be disconnected.**

Failure to do so may cause fire.

- **Do not cover the product with any material.**

Doing so may cause external deformation of the product or fire. Use the product and peripherals in a well-ventilated location.

**CAUTION**

Failure to observe the following directions could result in injury or property damage:

- **Do not spray cleaning products directly onto the product.**

Doing so may cause discoloration, cracks, or malfunction.

- **If the product is used outside the optimal temperature range (-20°C – 60°C / -4°F – 140°F), performance can decline or malfunctions may occur.**

- **Make sure that the product is installed properly.**

If installed incorrectly, vibrations may cause the product to fall, and may cause physical injury.

- **When entering or exiting a tunnel, when directly facing into bright sunlight, or when recording at night without lighting the quality of recorded video may deteriorate.**

- **If the product is damaged or the power supply is cut due to an accident, video may not be recorded.**

- **Excessively tinted windshield glass can distort the recorded video or cause recorded video to be indistinct.**

- **Prolonged use of the product can increase the interior temperature and cause burns.**

- **microSD cards are consumables, so replace microSD cards after prolonged use.**

microSD cards may not record video correctly after extended use, so check the microSD card's recording capability periodically and replace as necessary.

- **Clean the lens regularly.**

Foreign material attached to the lens can affect the recording quality.

- **Do not remove the microSD card while the microSD card is saving or reading data.**

The data can be damaged or malfunctions may occur.

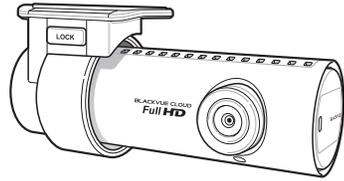
- **It is recommended that you install the software and firmware from the BlackVue download page. You can access the BlackVue download page on the BlackVue website ([www.blackvue.com](http://www.blackvue.com)).**

- **It is recommended that you remove the power cord if the product (BlackVue dashcam/Parking Mode Hardwiring Kit) is not used for an extended period of time.**

# Overview

## In the box

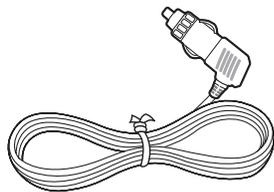
Check the box for each of the following items before installing the BlackVue dashcam.



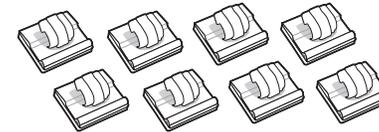
Front camera



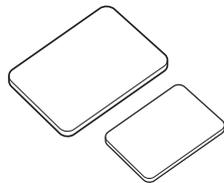
Quick start guide



Power cord



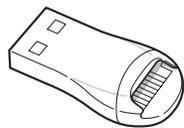
Cable clips (8 EA)



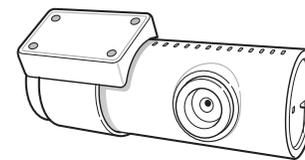
Double-sided tape for the  
Mounting Brackets



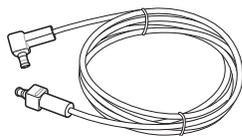
microSD card



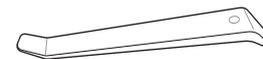
microSD card reader



Rear camera



Rear camera connection cable



Pry tool

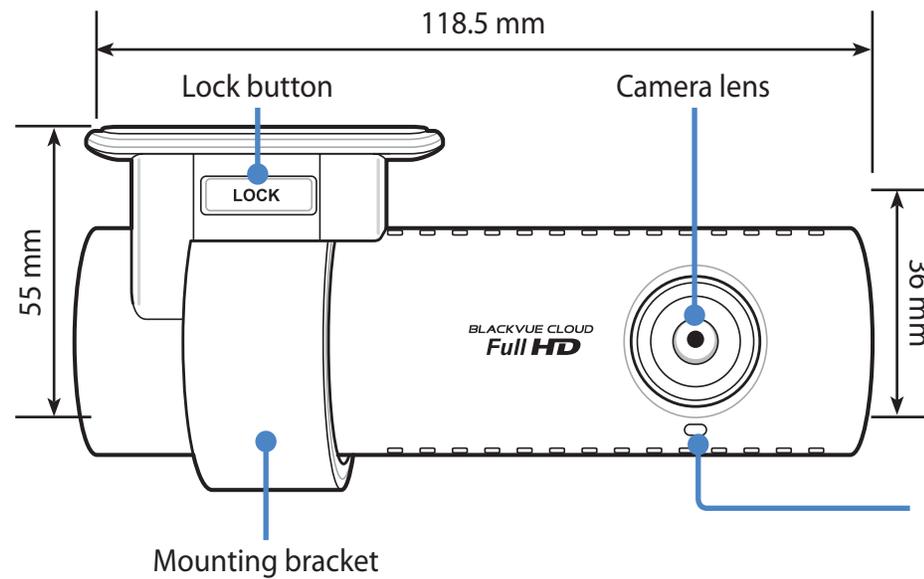
### Note

- The illustrations in this manual may differ from the product.
- To improve the performance of the product, the contents of this manual are subject to change without prior notice.
- For more information about the package components and accessories, visit the BlackVue website ([www.blackvue.com](http://www.blackvue.com)).
- You can find the microSD card in the BlackVue dashcam.

## ➤ At a glance

The following diagrams explain each part of the BlackVue dashcam.

### □ Front camera



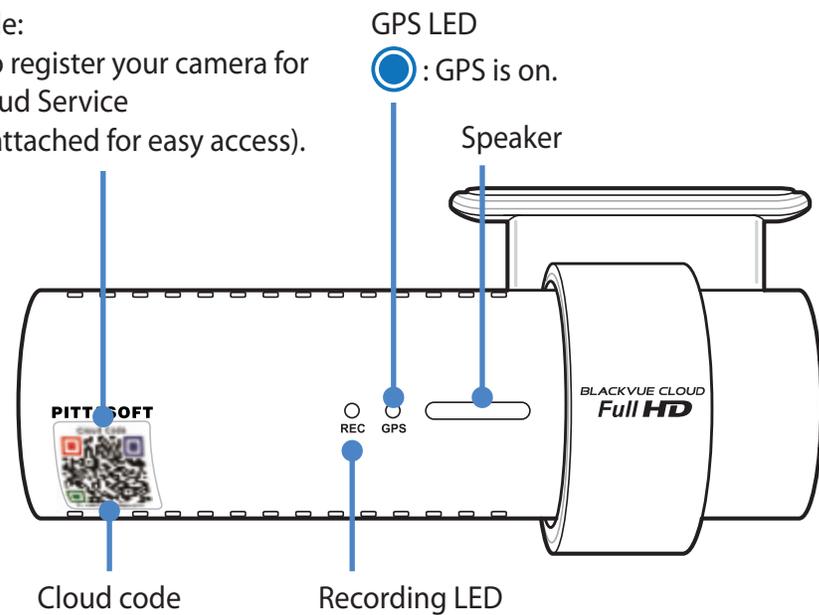
Front security LED

◻ : Blinks slowly in normal and parking

◻ : Blinks quickly when

- (i) an event is being recorded (impact detected),
- (ii) motion is detected in parking mode.

QR Code:  
Used to register your camera for  
the Cloud Service  
(leave attached for easy access).



Recording LED

● : Blinks orange in normal mode.

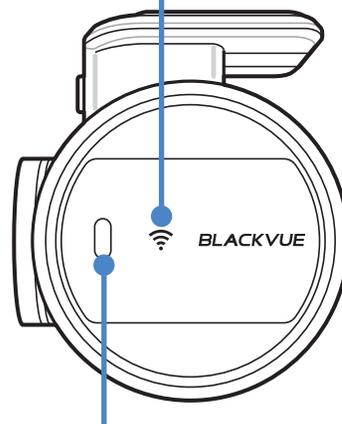
● : Blinks red when an event is being recorded (impact detected).

● : Blinks green when motion is detected in parking mode.

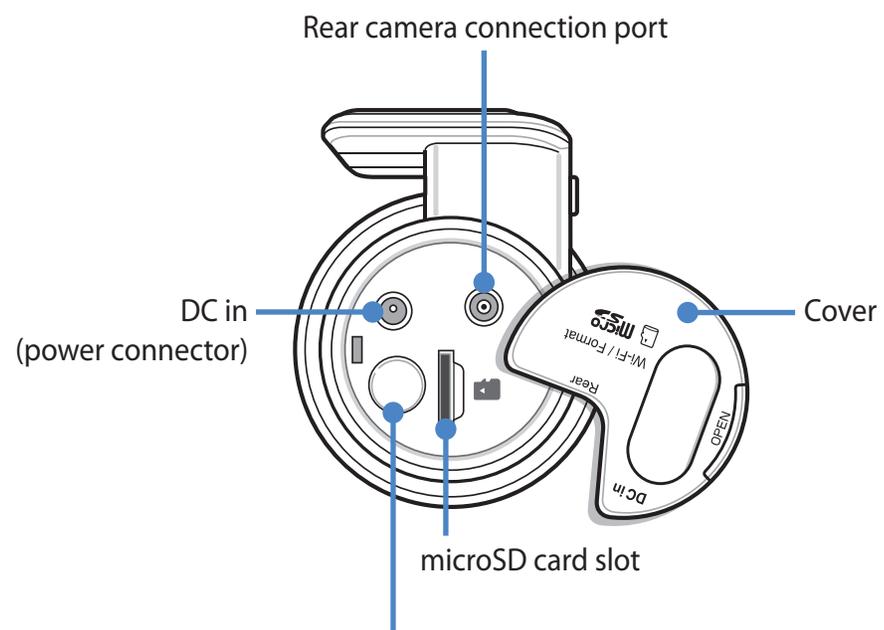
Wi-Fi/Internet LED

 : Direct Wi-Fi is on.

 : Blinks when connected to the internet (Cloud connected).



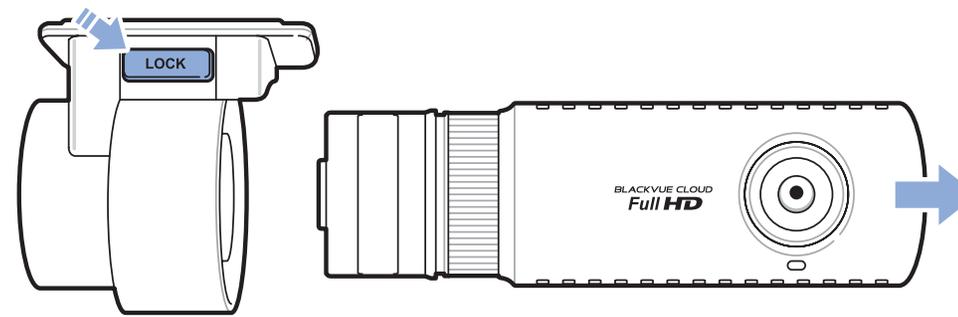
Voice recording proximity sensor:  
Touch or wave a finger within 20mm of the sensor to turn  
the voice recording function on or off.



Wi-Fi / Format button

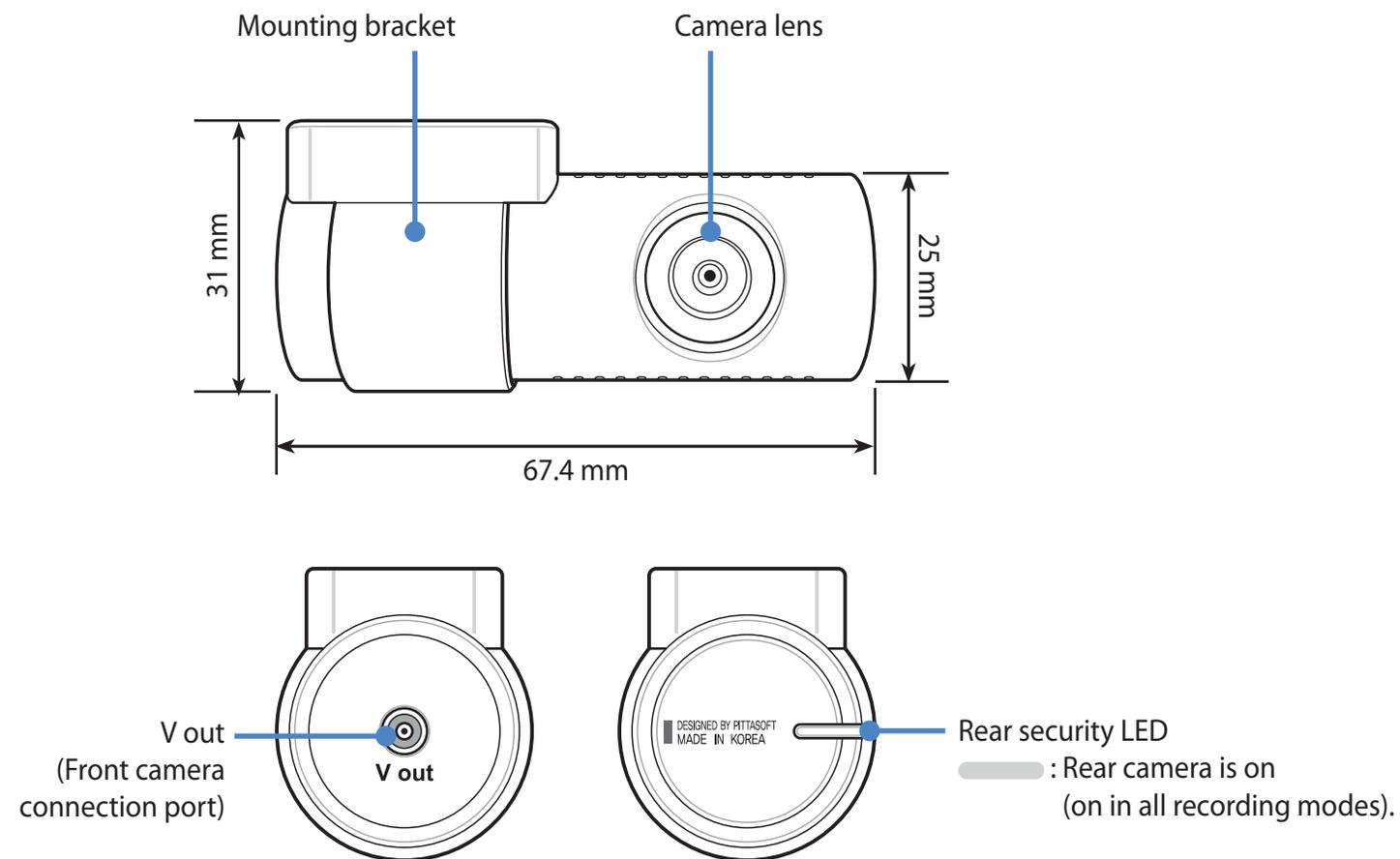
\* Self-format function: To format the microSD card press  
the button for 10 seconds until the dashcam beeps.

## □ Removing and inserting the front camera

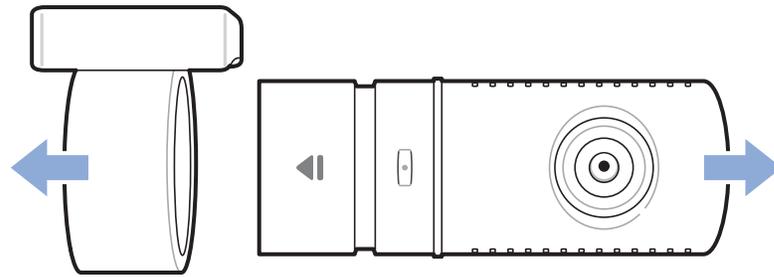


- To remove the dashcam from its bracket, press the LOCK button and pull the dashcam out of the mounting bracket.
- To insert the dashcam into its bracket, push the dashcam into the mounting bracket until it "clicks" in.

## □ Rear camera



Removing and inserting the rear camera

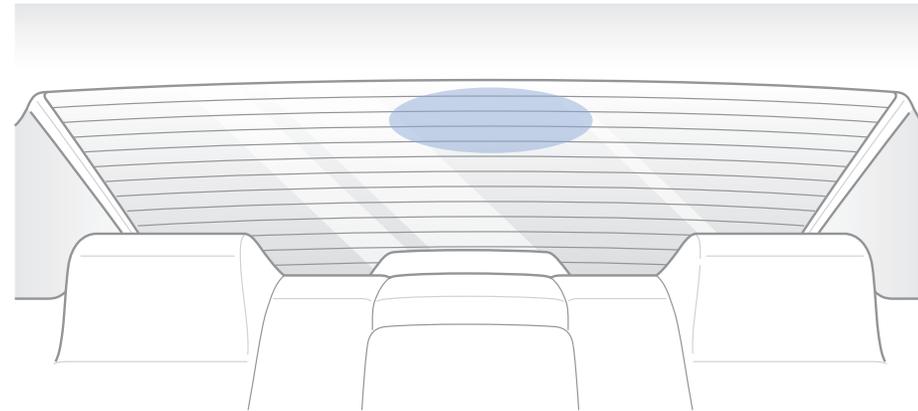
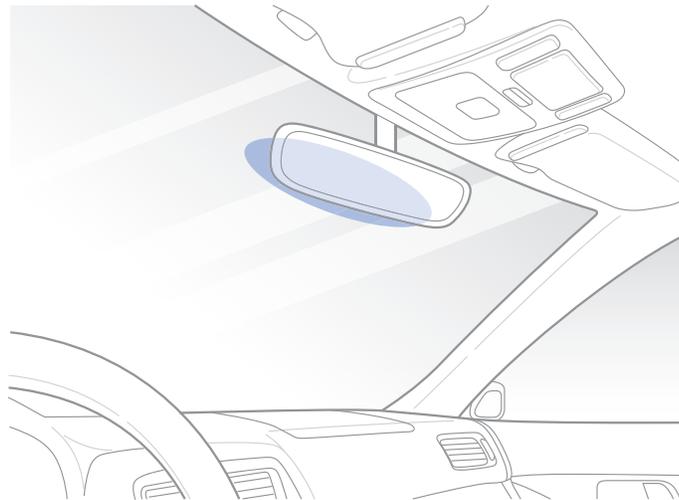


- To remove the rear camera from its bracket, hold the mounting bracket and pull the rear camera out.
- To insert the rear camera into its bracket, push the rear camera into the mounting bracket until it "clicks" in.

# Installation

## ▶ Installing the BlackVue dashcam

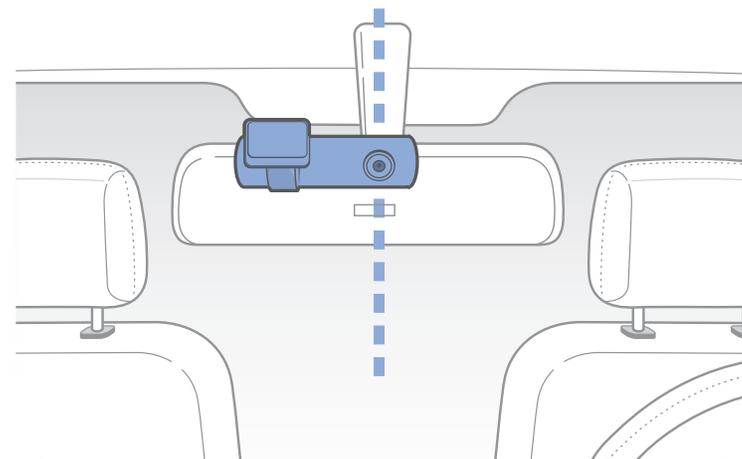
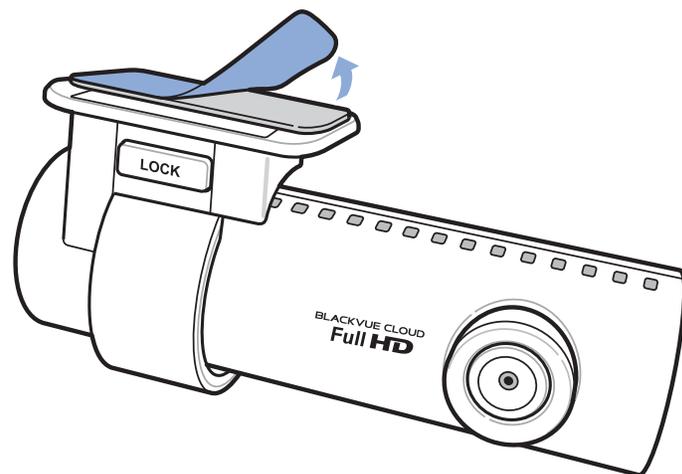
Install the BlackVue dashcam behind the rear view mirror. Remove any foreign matter and clean and dry the windshield before installation.



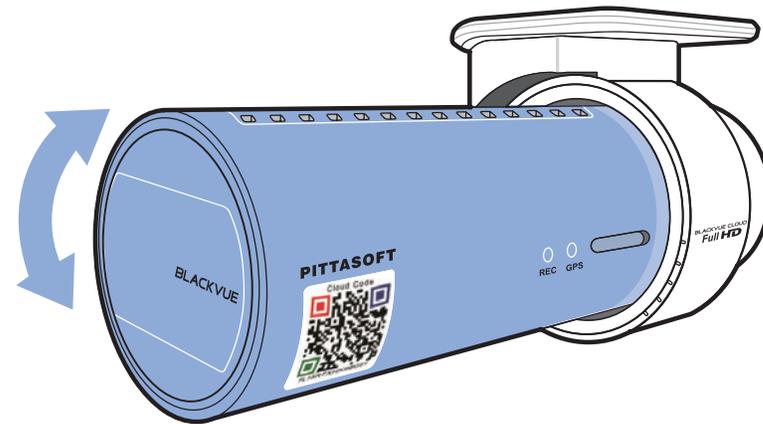
### ⚠ Warning

- Do not install the product in a location where it can obstruct the driver's field of vision.

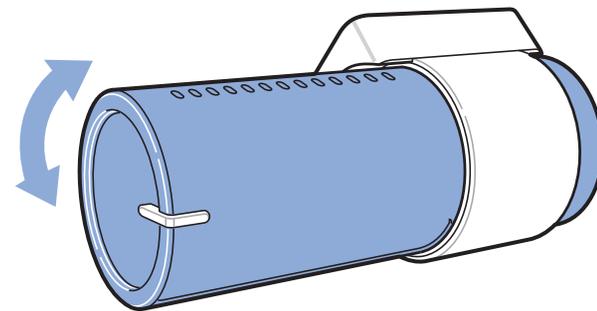
- 1 Turn off the engine.
- 2 Peel off the protective film from the double-sided tape and attach the dashcam to the windshield behind the rear-view mirror.



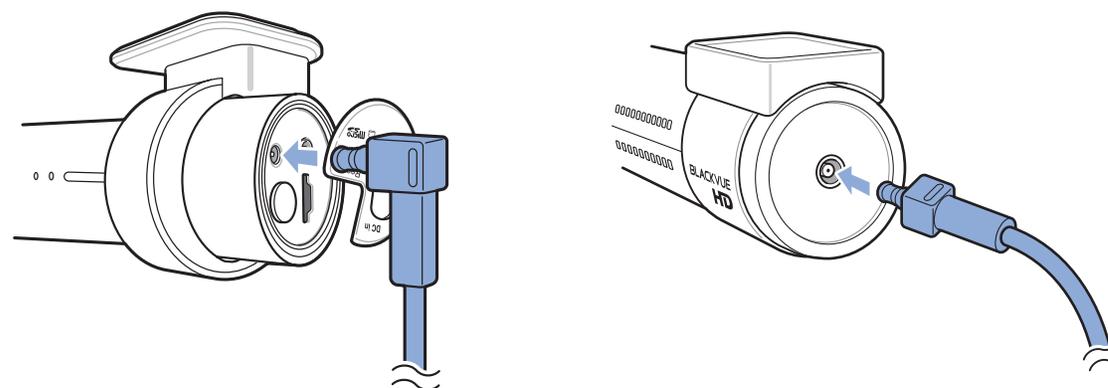
- 3** Adjust the angle of the lens by rotating the body of the dashcam. We recommend pointing the lens slightly downwards ( $\approx 10^\circ$  below horizontal), so as to record video with a 6:4 road to background ratio.



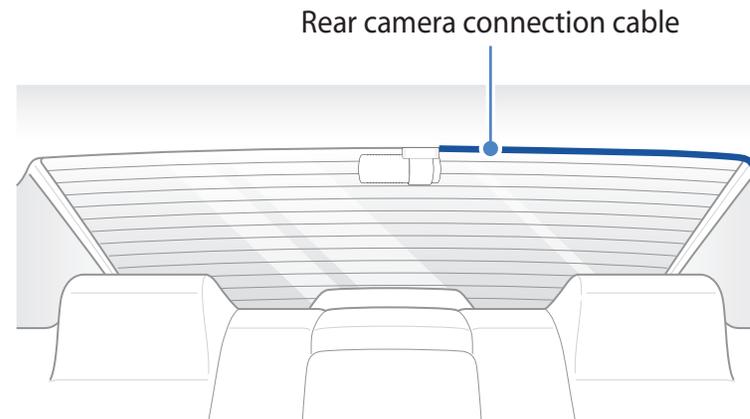
- 4** Peel off the protective film from the double-sided tape and attach the rear camera to the rear windshield. Adjust the angle of the lens by rotating the body of the rear camera.



- 5** Connect the front camera ('Rear' port) and the rear camera ('V out') using the rear camera connection cable.

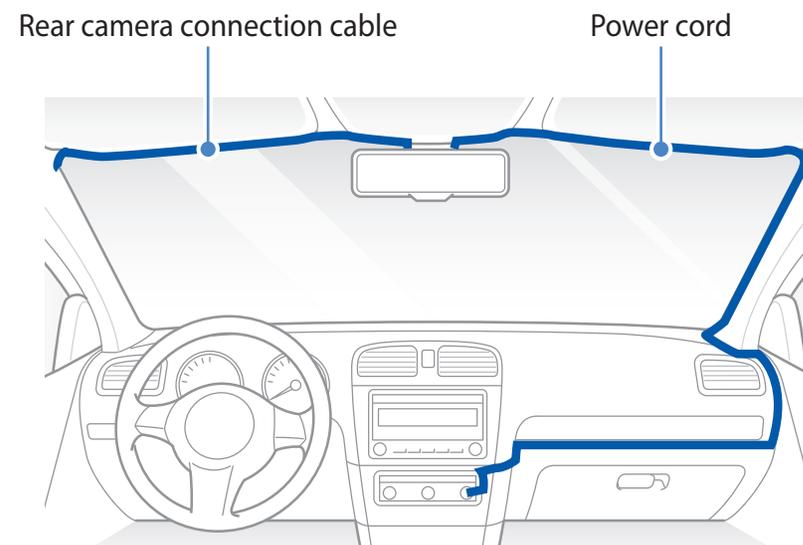


- 6 Use the pry tool to lift the edges of the rubber window sealing and molding and tuck in the rear camera connection cable.



- 7 Plug the power cord into the cigarette lighter socket and the front camera.

- 8 Use the pry tool to lift the edges of the windshield trim/molding and tuck in the power cord.



- 9 Turn on the engine. The BlackVue dashcam will power up and start recording. Video files are stored on the microSD card. When the microSD card fills up, the newest video files will start to replace the oldest video files (called **loop recording**) – so you will always have the most recent video files.

 **Note**

- The recording LED blinks while recording (default setting) and the GPS LED is on when a GPS signal is received. There are 3 recording modes: Normal, Event and Parking. The dashcam starts recording in normal mode, switches to event mode when an impact is detected, and switches to parking mode if the vehicle is stationary for 5 minutes.
- When you run the dashcam for the first time the firmware is automatically loaded onto the microSD card. After the firmware has been loaded onto the microSD card you can customize settings using BlackVue Viewer on a computer.

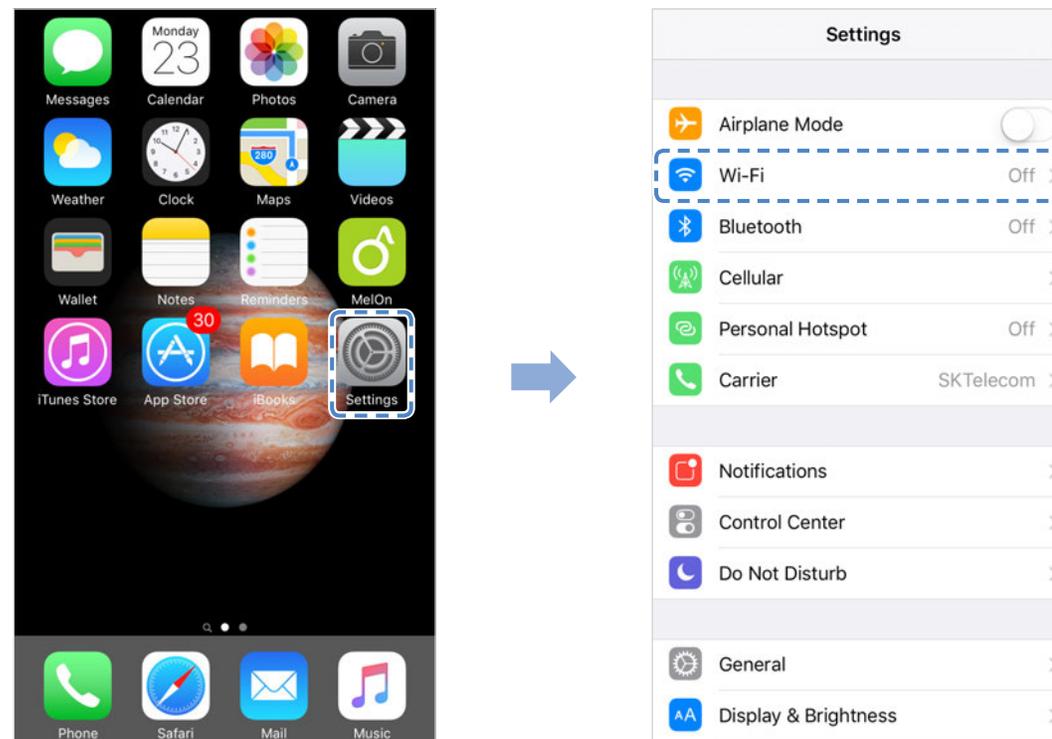
**10** Turn off the engine. The dashcam will automatically stop recording and power down. To record in parking mode while the engine is off please install a **Power Magic Battery Pack** (sold separately) or a **Power Magic Pro** (sold separately). A **Power Magic Pro** powers your dashcam when the engine is off by hardwiring it to the automotive battery. A low voltage power cut-off function and a parking mode timer protect the automotive battery from discharge.

## Playing and Managing Videos

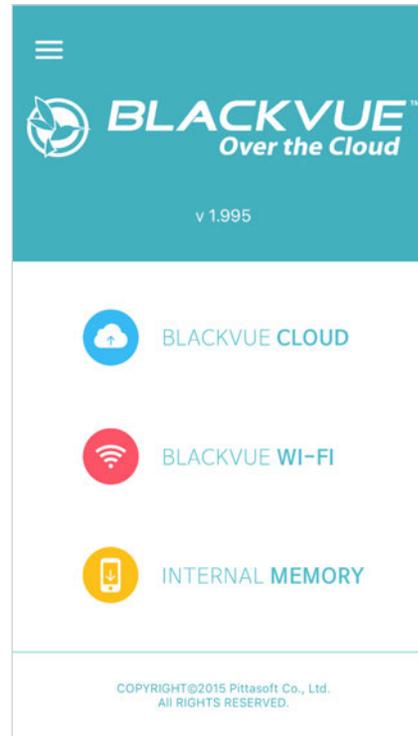
### ▶ Playing and managing video files using your smartphone (Android/iOS)

#### ▶ Opening video files

- 1 Search for the BlackVue C app in the Google Play Store or Apple App Store and install it on your smartphone.
- 2 Pair your smartphone with the BlackVue dashcam via direct Wi-Fi:
  - a. Go to your smartphone's **Settings** then select **Wi-Fi**, and make sure Wi-Fi is turned on.



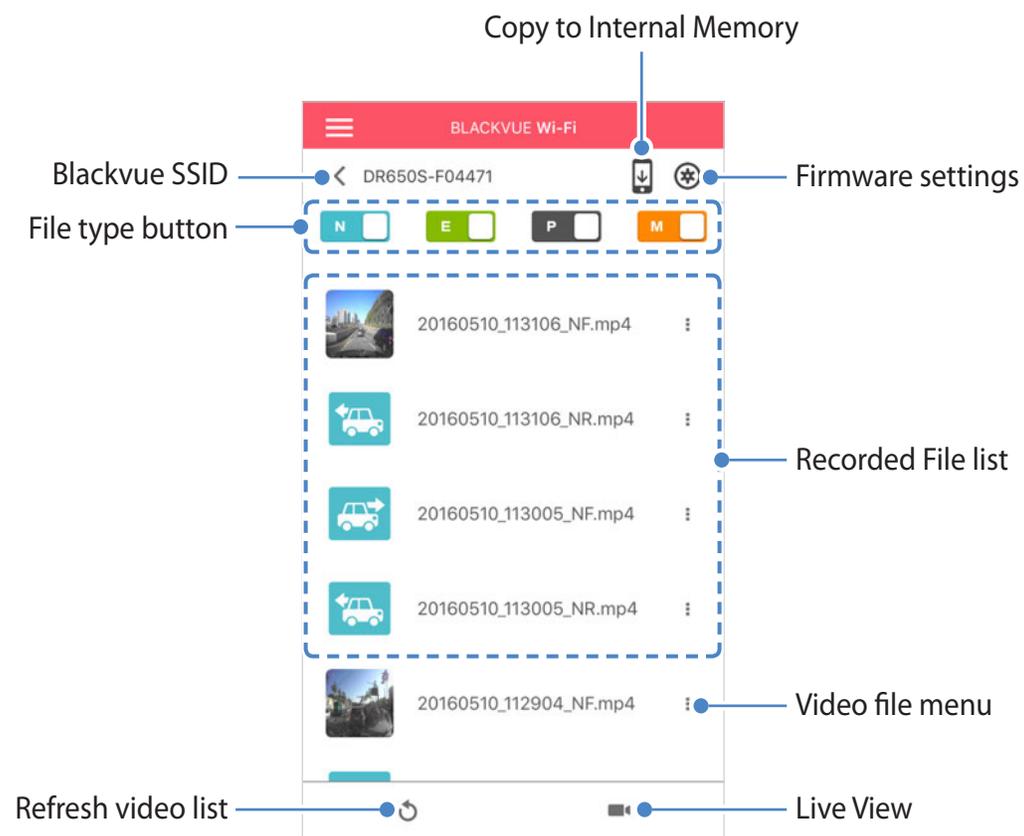
- b. Choose your BlackVue dashcam from the network list. The dashcam's default SSID begins with its model number (e.g. DR650S-\*\*\*\*\*).
- c. Enter the default password '**blackvue**' and tap **Join**.
- d. Open the BlackVue C app and select BLACKVUE WI-FI.



 **Note**

- Direct Wi-Fi will turn on automatically when the dashcam turn on.
- Direct Wi-Fi lets you directly connect your smartphone to your dashcam via Wi-Fi within a range of 10m.
- The BlackVue C app is available for devices running Android 4.4.2 and up, or iOS 8.0 or later.

## ▶ BLACKVUE WI-FI screen composition



## **Playing video**

### **Playing back videos**

Select the video file you want to play from the video list.

Press the refresh button  to refresh the video list.

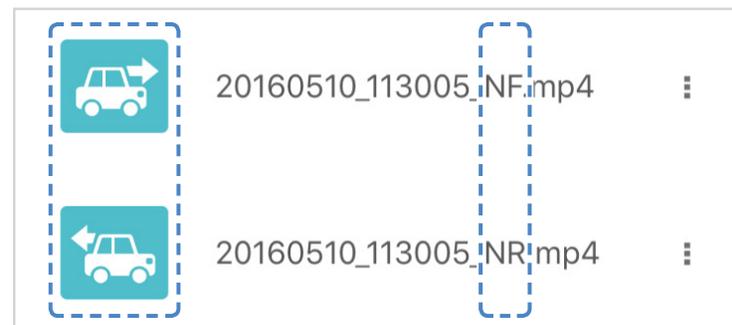
### **Identify video files by recording type**

	<b>Normal</b>	The dashcam records in normal mode by default.
	<b>Event</b>	When the dashcam detects an impact while in normal or parking mode, it switches to event mode and saves an event recording beginning 5 seconds before the event trigger.
	<b>Parking</b>	In parking mode the dashcam continuously buffers video. When motion is detected in the dashcam's field of view, it saves a parking recording beginning 5 seconds before the motion detection.

Thumbnails are automatically shown for event recording files. For normal and parking mode recordings, tap the car icon to load a thumbnail.

The car icon with an arrow pointing to the right indicates a front dashcam recording.

The car icon with an arrow pointing to the left indicates a rear dashcam recording.



Recording file names include the date, time, recording mode and camera direction.

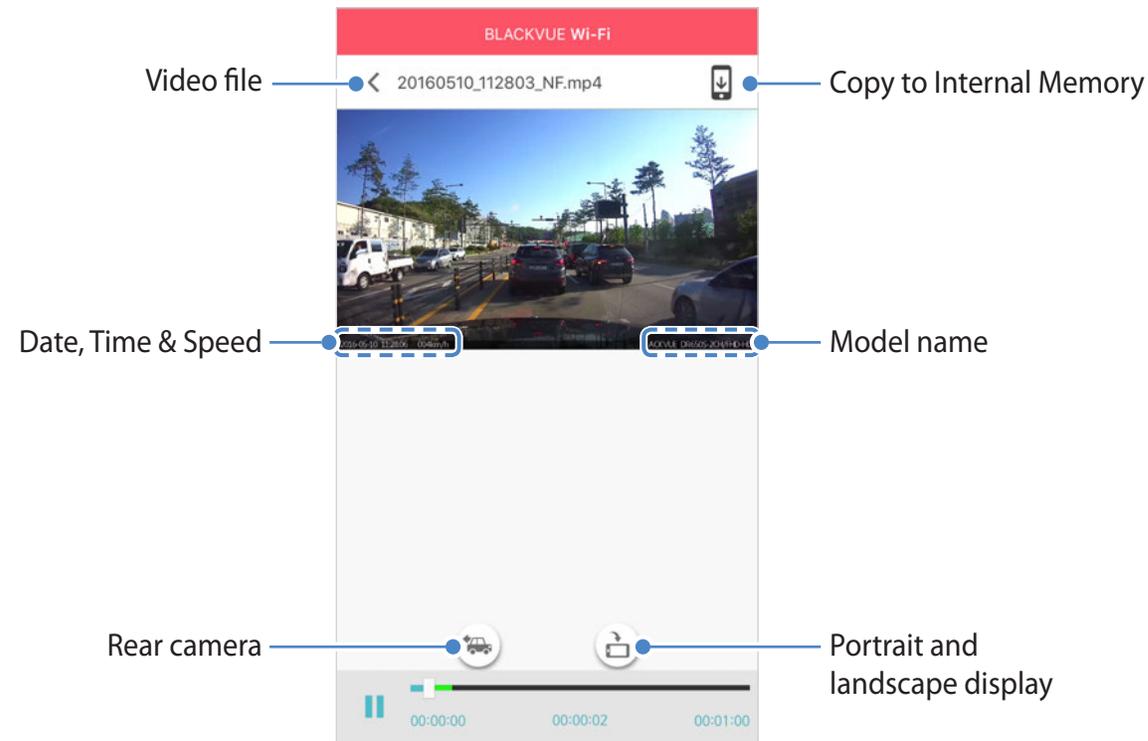
- **Example file name:** 20160510\_113207\_NF.mp4
- **Date & time:** 10th May 2016, 11:32:07 am
- **Recording mode:** N: Normal      E: Event      P: Parking
- **Camera direction:** F: Front dashcam      R: Rear dashcam

### **Note**

- The dashcam requires a constant power source to record in parking mode. See "**Optional accessories**" on **page 89** for more information.
- Use the , ,  buttons to filter the video list by recording type (Normal, Event and Parking).

## ☐ Checking the displayed time & GPS data

The camera's time zone is initially set to 'Pacific/Midway\_Midway Islands' (GMT-11). The time the video was recorded is displayed in the lower left corner of the video in the playback screen. If the displayed time in the recorded videos is incorrect please see **"Time zone"** on page 55.



The vehicle's speed is displayed in the lower-left corner of the video while it is playing back.

Rotate your smartphone or press the rotate button  to switch between portrait and landscape display modes.

Press the rear button  to switch to the rear dashcam view.

## ➤ Real-time streaming video (Live View)

You can view in real-time the video currently being recorded by connecting your smartphone to the dashcam via direct Wi-Fi.



- 1 Go to your smartphone's **Settings** > **Wi-Fi** and connect to your dashcam.
- 2 Open the BlackVue C app. Select **BLACKVUE WI-FI** and tap the  button.
- 3 Rotate your smartphone or press the rotate button  to switch between portrait and landscape display modes.
- 4 Press the rear button  to switch to the rear dashcam view.

## ➤ Managing videos

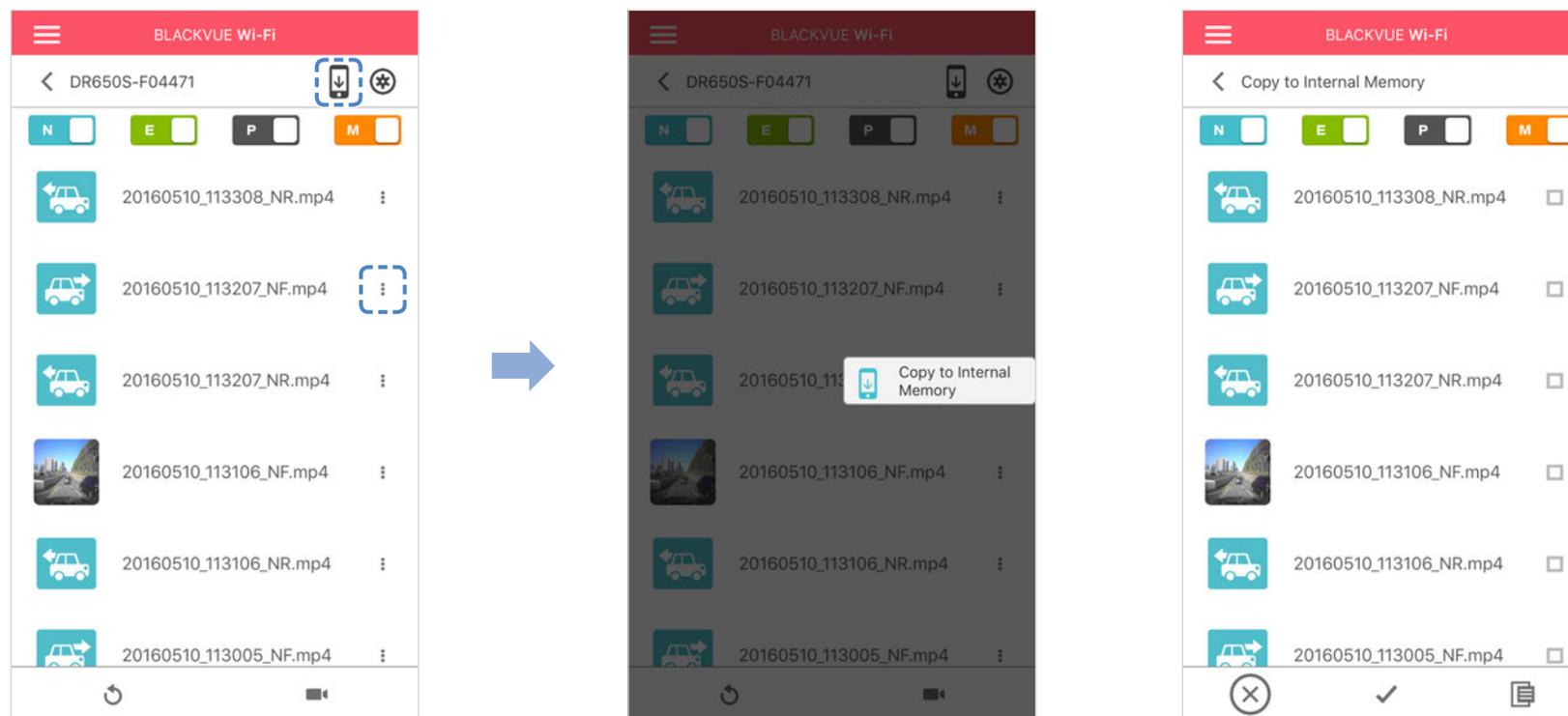
### ☐ Managing videos in BLACKVUE WI-FI

You can manage the recorded videos using the BlackVue C app.

#### 📝 Note

- When the microSD card fills up, the newest video files will start to replace the oldest video files (called loop recording) – so you will always have the most recent video files.

### ■ Copy to Internal Memory

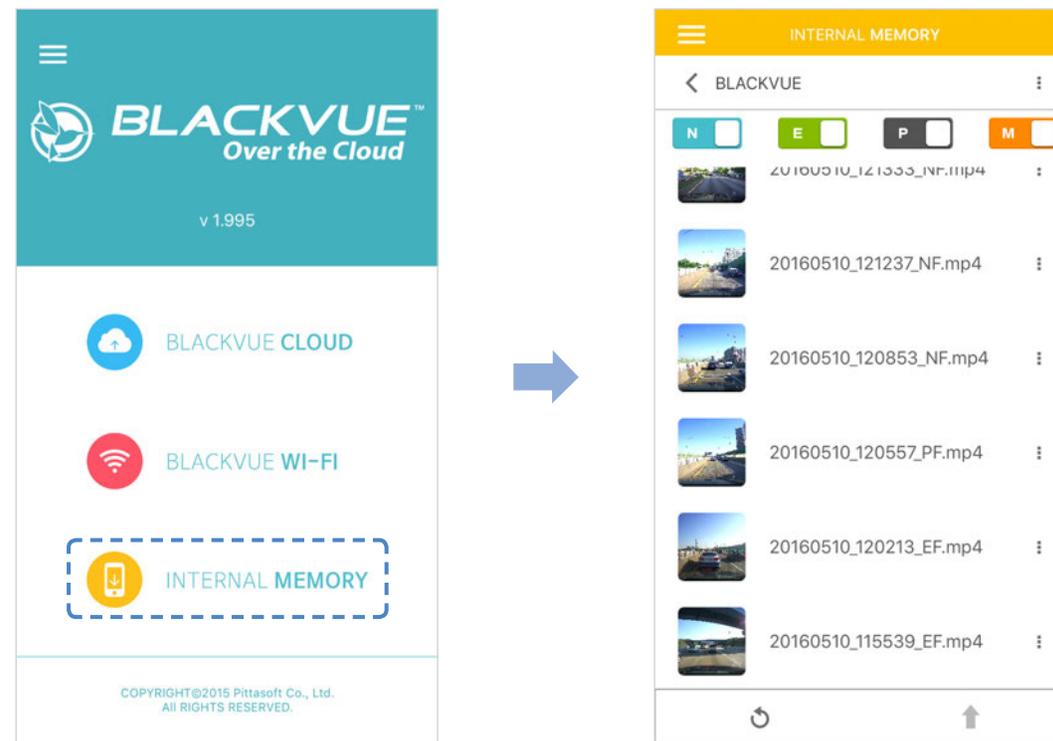


To copy individual files to your smartphone, tap  next to the video you want to copy. Select Copy to Internal Memory.

To copy multiple files to your smartphone in one go tap . Select which files to copy, or tap  to select all files. Tap  to begin copying.

## Managing videos in INTERNAL MEMORY

Open the BlackVue C app and select INTERNAL MEMORY.

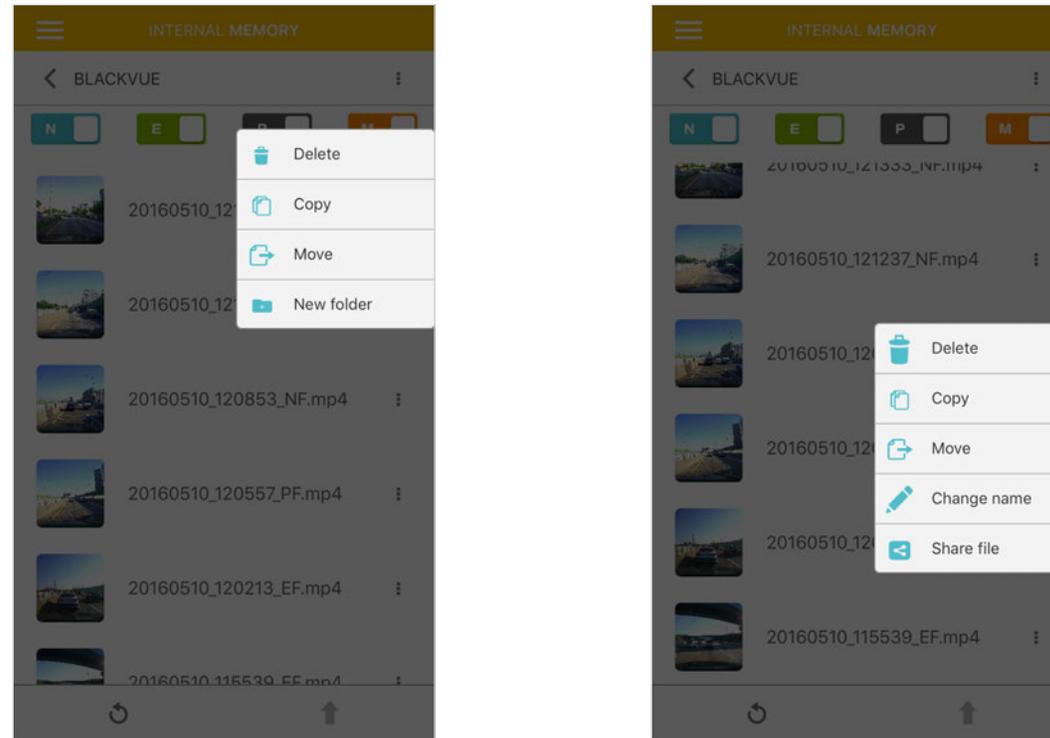


Tap  to see file options. You can delete, copy or move files, change the name of files and share files.

## ■ Deleting videos

To delete multiple files from your smartphone in one go, tap at the top of the screen and select **Delete**. Select which files to delete, or tap ✓ to select all files. Tap 🗑️ to delete the selected files.

To delete individual files, tap ⋮ next to the video you want to delete. Select **Delete**.



## ■ Creating a new folder

To create a new folder tap at the top of the screen and select **New folder**. Enter a new folder name and press OK.

## ■ Copying and pasting videos

To copy multiple files in one go, tap at the top of the screen and select **Copy**. Select which files to copy, or tap ✓ to select all files. Tap 📄 to copy the selected files. Go to another folder and tap 📄 to paste the selected files there.

To copy individual files, tap ⋮ next to the video you want to copy. Select **Copy**. Go to another folder and tap 📄 to paste the file there.

## ■ Moving videos

To move multiple files in one go, tap  at the top of the screen and select **Move**. Select which files to move, or tap  to select all files. Tap  and go to another folder and tap  to move the selected files there.

To move individual files, tap next to the video you want to move. Select **Move**. Go to another folder and tap to move the file there.

## ■ Renaming a video

To rename a video, tap  next to the video you want to rename. Select **Change name**. Enter a new name and tap **OK**.

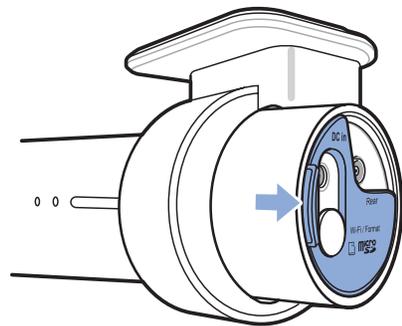
## ■ Uploading, sharing or emailing a video

Tap  next to the video you want to share. Select **Share file**. Choose the app you want to share with. The available options will depend on what apps you have installed on your smartphone.

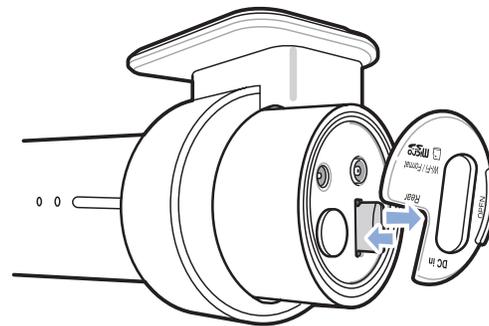
## ▶ Playing and managing video files using your computer (Windows/Mac)

### ➤ Removing the microSD card

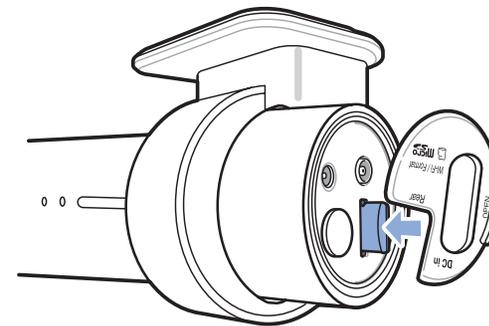
- 1 Unplug the power cord to turn off the dashcam.
- 2 Open the side cover of the dashcam.
- 3 To remove the microSD card, gently press on the card to release the lock then carefully pull the card out.  
To insert the microSD card, gently push the card into the slot until it locks into place and close the side cover.



Open side cover



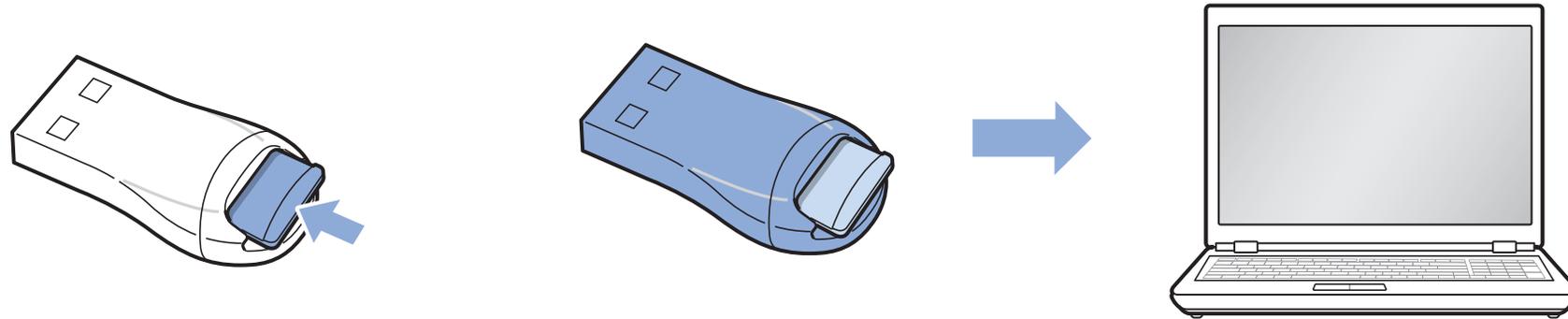
To remove



To insert

## ➤ Opening video files in BlackVue Viewer

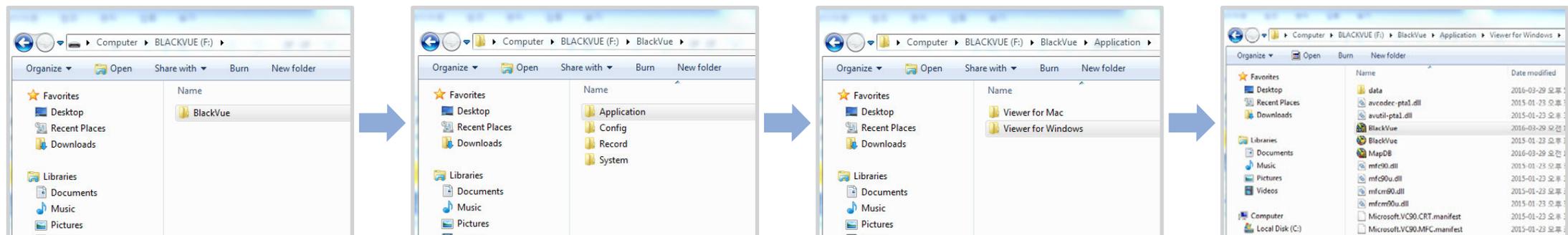
- 1 Remove the microSD card from the dashcam.
- 2 Insert the card into the microSD card reader and connect it to a computer.



- 3 Find and run the BlackVue Viewer program.

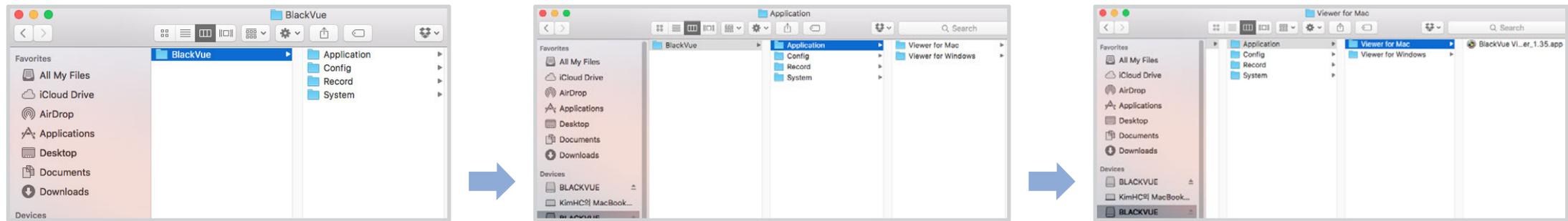
### □ For Windows users

Open Windows Explorer and click on the microSD card (Removable Disk (F:), or the name of your card location). Go to F:\BlackVue\ Application\Viewer for Windows\ and run BlackVue.exe.



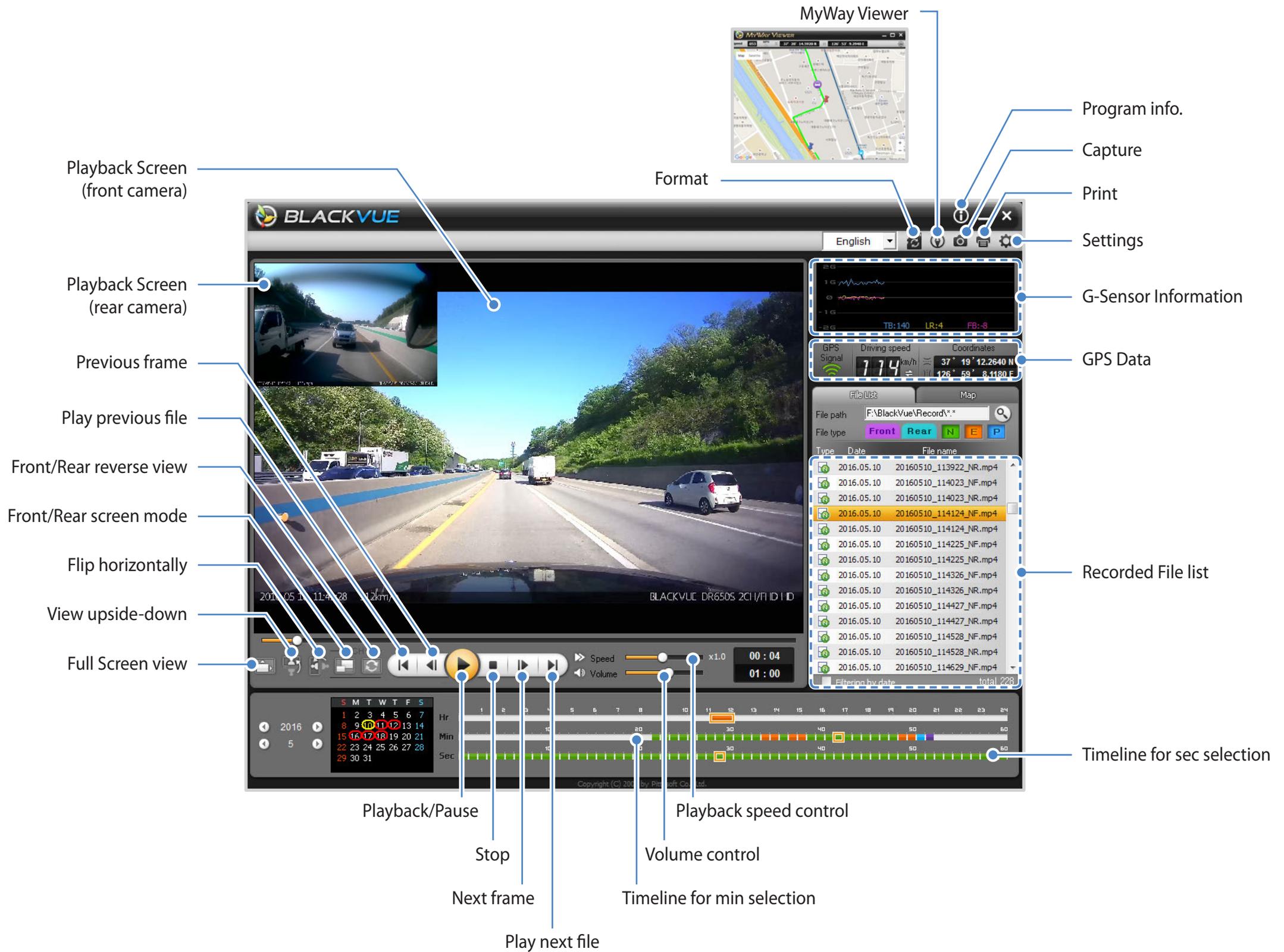
## For Mac users

Open Finder and select the microSD card reader from the list in the left frame. Go to \BlackVue\Application\Viewer for Mac\ and run BlackVue Viewer.

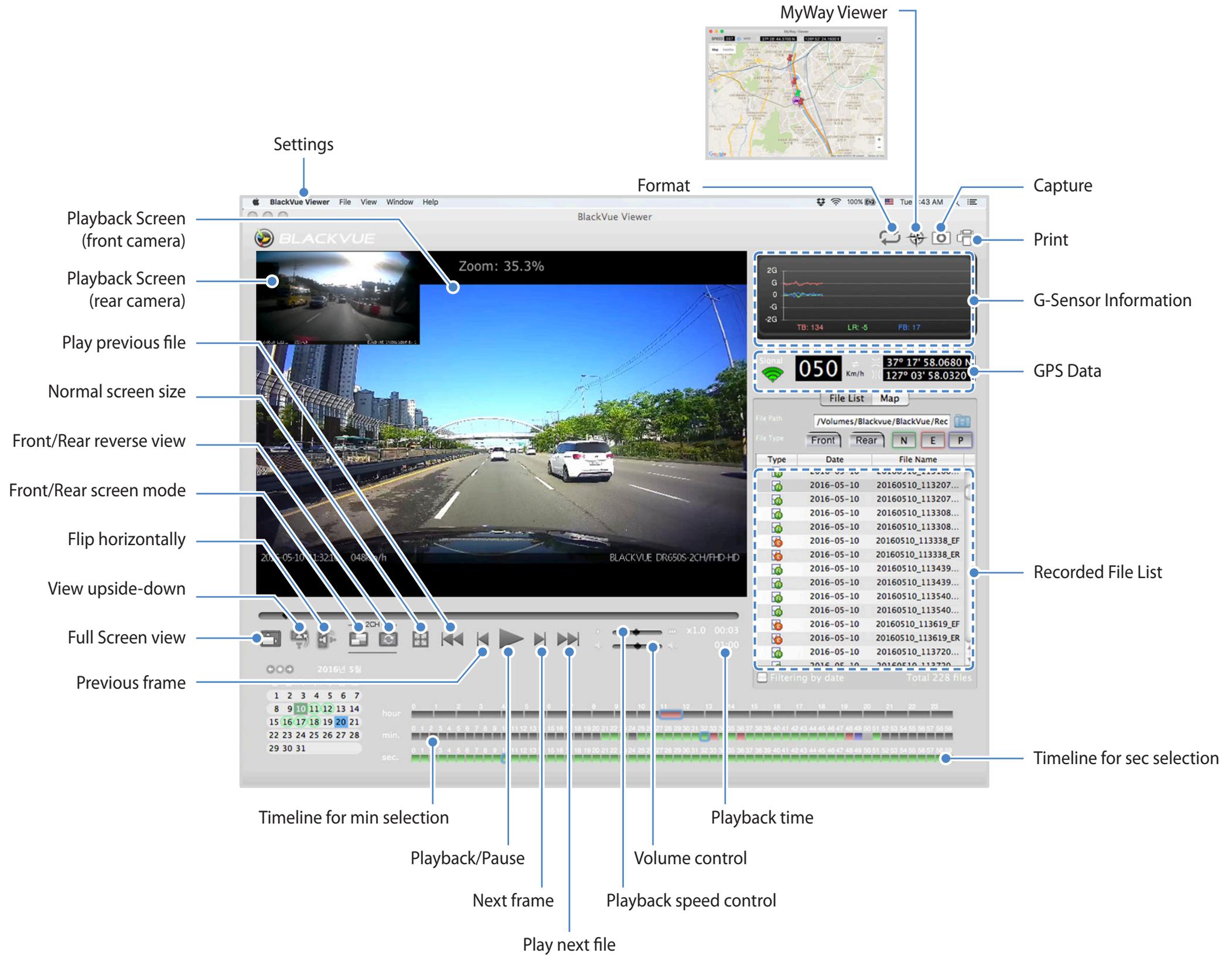


# Viewer screen composition

## Windows Viewer



# Mac Viewer



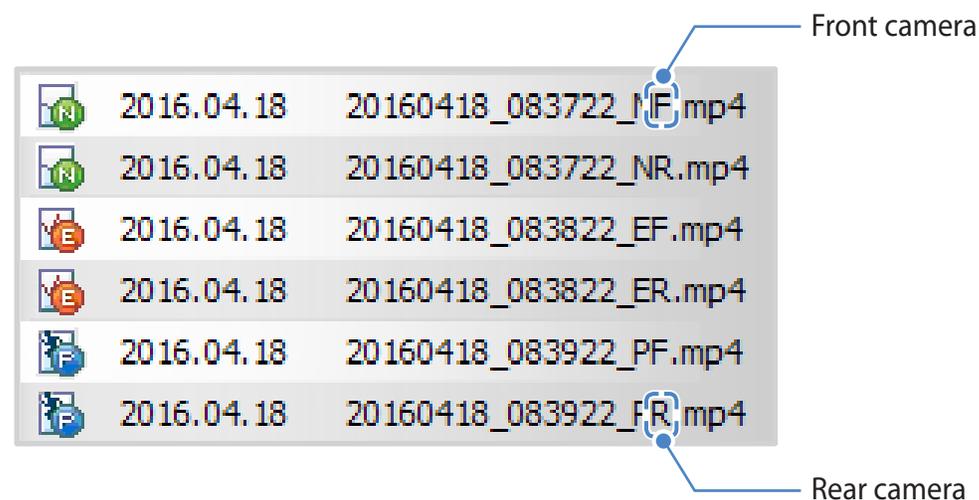
## ▶ Playing video

### □ Playing back videos

In BlackVue Viewer select a video and click  or double click the selected video to play.

BlackVue Viewer shows by default the files in the microSD card. To see files in another folder click  (Windows) or  (Mac) and set the folder path.

### □ Identify video files by recording type



	2016.04.18	20160418_083722_1F.mp4	Front camera
	2016.04.18	20160418_083722_NR.mp4	
	2016.04.18	20160418_083822_EF.mp4	
	2016.04.18	20160418_083822_ER.mp4	
	2016.04.18	20160418_083922_PF.mp4	
	2016.04.18	20160418_083922_FR.mp4	Rear camera

: The dashcam starts normal recording by default.

: The dashcam starts event recording with a 5-second prerecording when it detects an impact during normal mode or parking mode.

: The dashcam starts parking recording with a 5-second prerecording when it detects motion in the camera during parking mode. Parking mode recording starts when the vehicle does not move for 5 minutes or longer.

#### Note

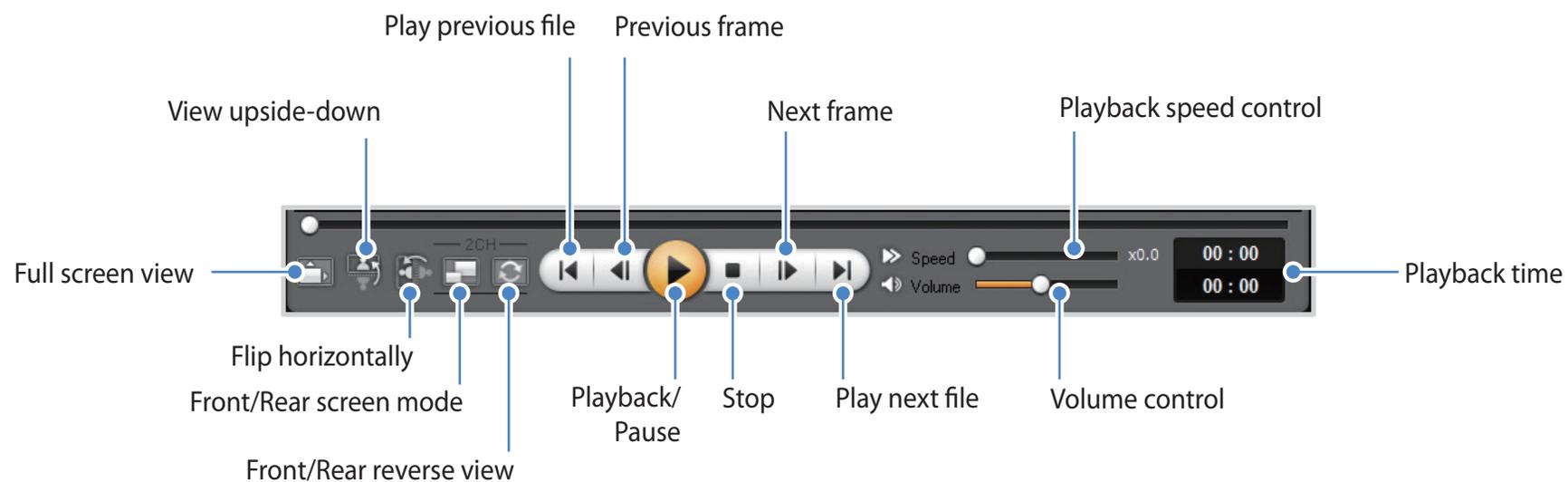
- The dashcam requires a constant power source to record in parking mode. See "**Parking mode hardwiring kit (Optional)**" or "**Parking mode battery pack (Optional)**" on page 89 for more information.
- To install the BlackVue Viewer program on your computer, go to the BlackVue website ([www.blackvue.com](http://www.blackvue.com)) and download the installable version of the BlackVue Viewer.
- Using the File type buttons ( , , , ,  ) you can filter the file list by Front camera, Rear camera, Normal recording, Event recording, and Parking mode recording.

## ☐ Checking the displayed time

The time the video was recorded is displayed in the lower left corner of the video in the playback screen. If the displayed time in the recorded videos is incorrect please see **"Setting your time zone" on page 73.**

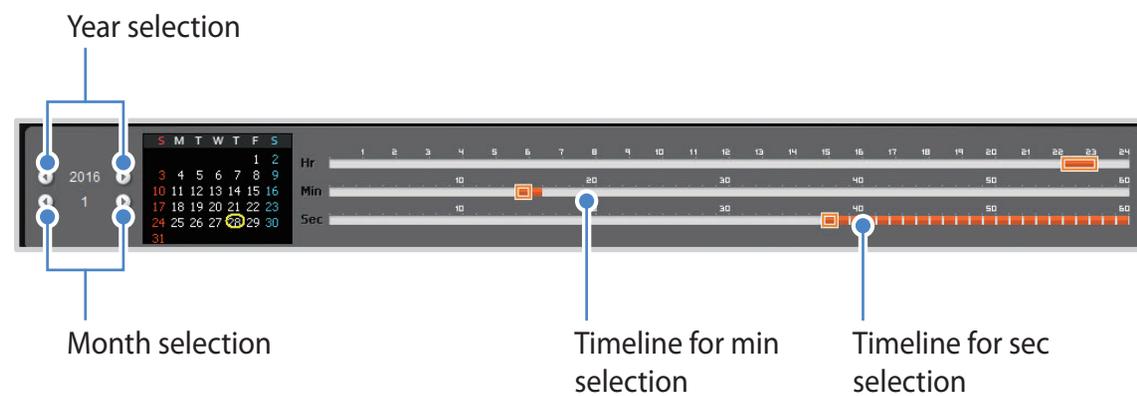
## ☐ Using BlackVue Viewer

You can customize the playback options of the recorded videos, such as the screen size, playback speed, and volume using the playback option buttons.



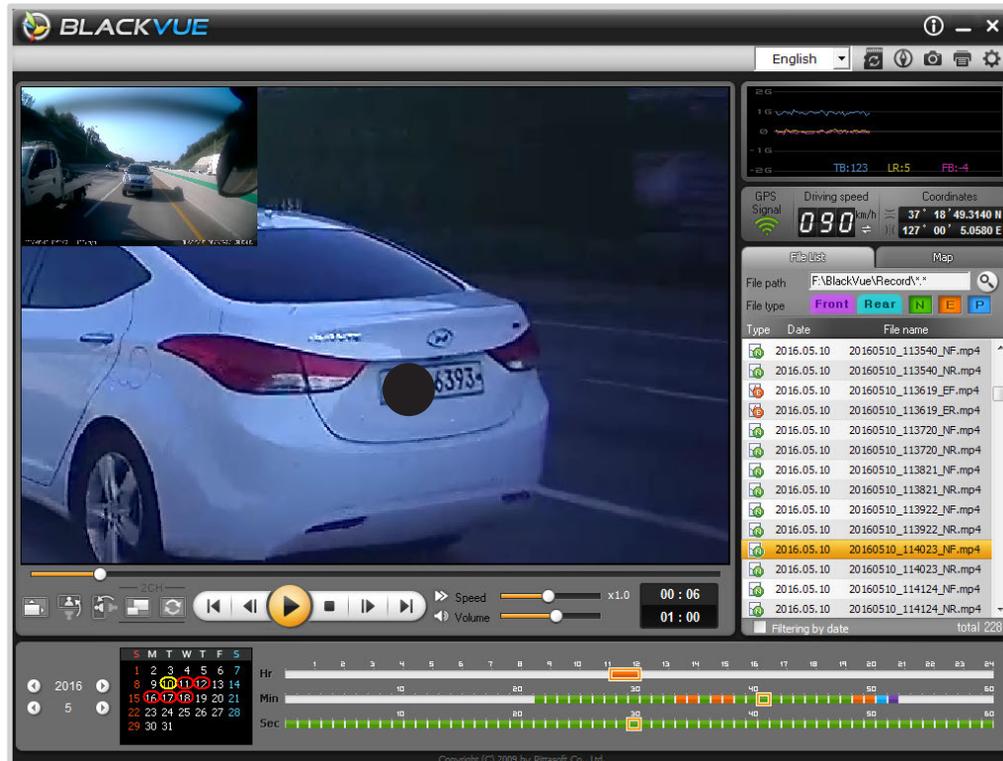
## ☐ Exploring the timeline

You can explore the timeline for the playback of the recorded videos by date, hour, minute, and second using the timeline option buttons.

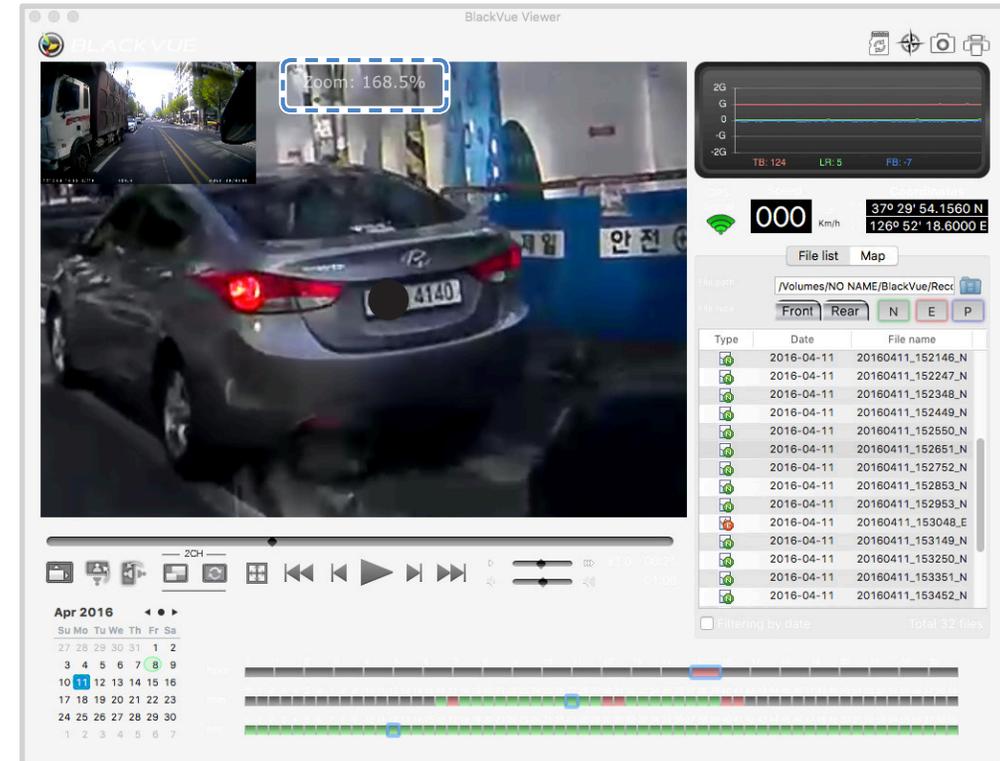


## Zoom options

- **Full-screen view:** Double click on the video image to enter full-screen view. Double click again or tap ESC to return to the default view.
- **Zoom to 100%:** Right-click on the video image to view at 100% zoom. Click and drag to move the video image around.



Windows



Mac

## Viewing the G-Sensor graph



You can check the impact sensitivity (G-Sensor) information in the main window.

## ☐ Checking the GPS data

You can check the GPS data of the recorded video in the BlackVue Viewer while video is playing back.

The screenshot shows the BlackVue Viewer software interface. The main window displays a video playback of a road scene. On the right side, there is a panel with GPS data, including a speedometer showing 074 km/h and coordinates (37° 19' 22.8780 N, 126° 54' 36.7620 E). Below the speedometer is a map showing the car's location. The interface also includes a file list, a playback control bar with speed and volume sliders, and a calendar view at the bottom.

Callouts in the image point to the following features:

- MyWay Viewer
- Switch Speed Unit
- Map Type Selection
- Car Location
- Map Zoom-in/out

## ☐ GPS tracking

You can check the vehicle's speed and the location of the recorded video in BlackVue Viewer while a video is playing back (GPS tracking).

- 1 Double click a file in the file list to play.
- 2 Click the **Map** tab.

## ☐ GPS tracking – Advanced mode

Combine 4 consecutive videos and GPS data to build a driving route and see your car's speed and location as well as any event recorded, while watching the video footage at any point of the route.

- 1 Double click a file in the file list to play.
- 2 Click the  button.



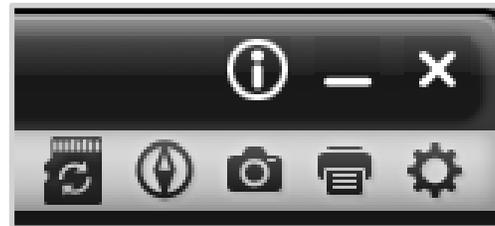
## ➤ Managing videos

You can manage the recorded videos through the BlackVue Viewer program. You can also format the microSD card and upgrade the firmware.

### Note

- If the microSD card is full, by default the dashcam will record over the oldest videos first.

### Capturing or printing a still image from video

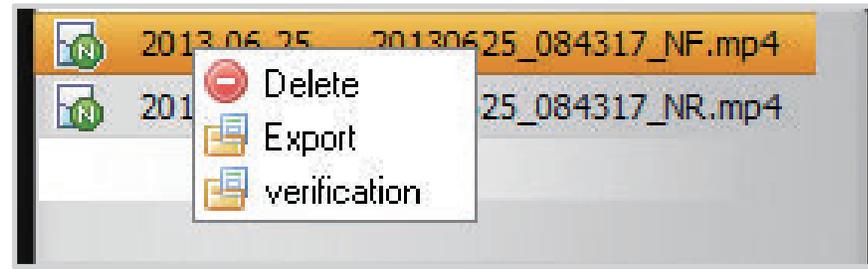


- 1 Double click a file in the file list to play.
- 2 Click the  button to pause the video.
- 3 Select the  button to capture the image or the  button to print directly.

## □ Deleting videos

### ■ For Windows users

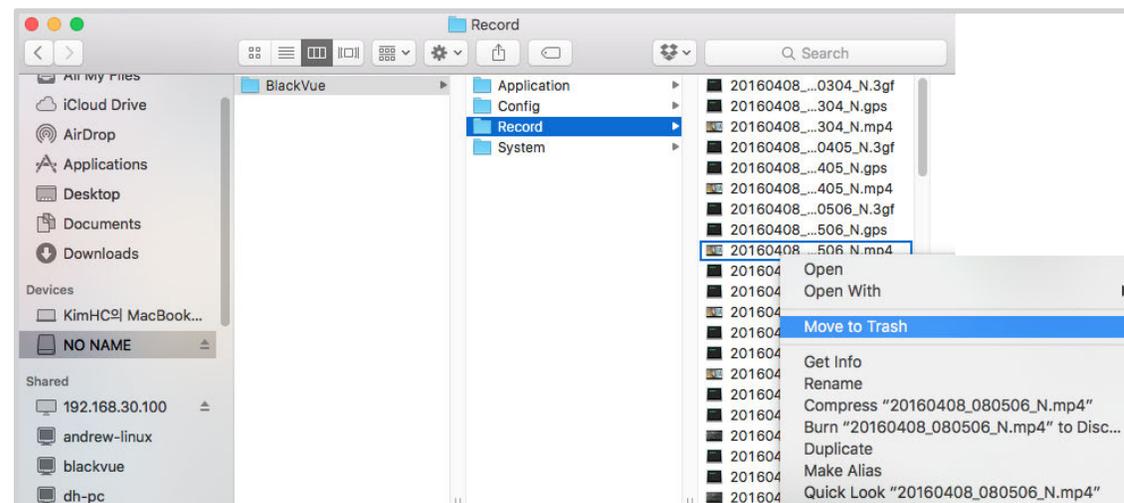
- 1 Select the video from the recorded video list.
- 2 Right-click the video.



- 3 Click Delete.

### ■ For Mac users

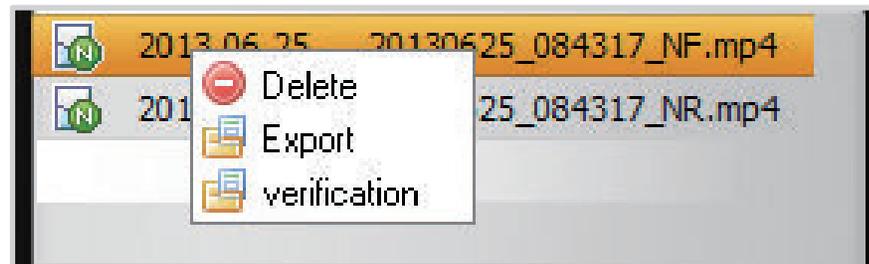
- 1 Go to \BlackVue\Record\.
- 2 Select the video from the recorded video list.
- 3 Click Move to Trash.



## Exporting videos

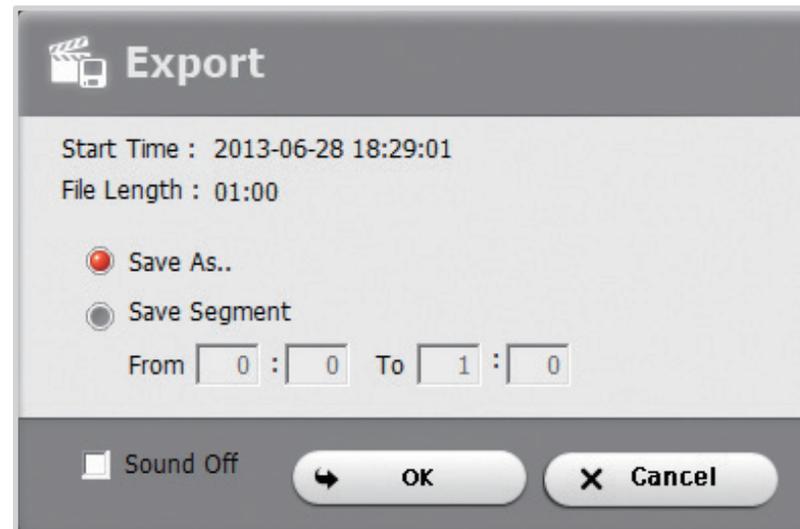
### For Windows users

- 1 Select the video from the recorded video list.
- 2 Right-click the video.



- 3 Click Export.

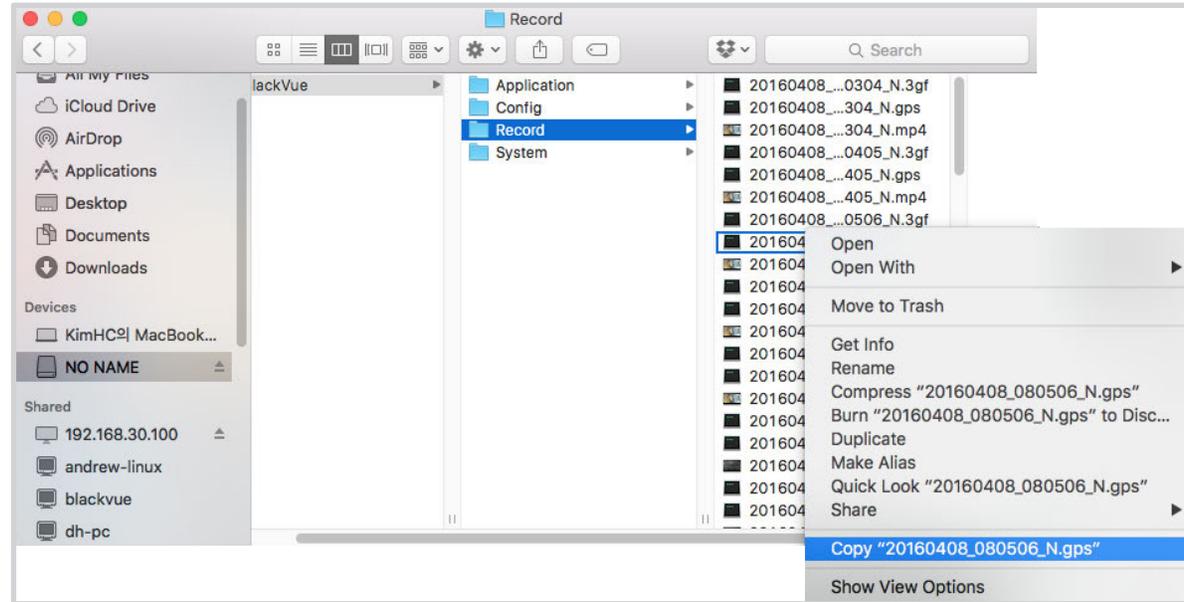
- 4 Enter a file name and the start and end points (min:sec) of the segment you want to export. To export without audio select "Sound Off".



- 5 Click the **OK** button.
- 6 Select the folder in which to save the file and enter the file name.
- 7 Click the **Save** button.

■ For Mac users

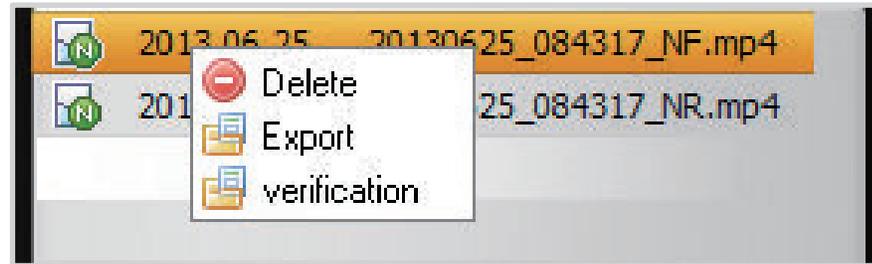
- 1 Go to \BlackVue\Record\.
- 2 Select the video from the recorded video list.
- 3 Click Copy "*file name*".



## Verifying videos

The following function is only available in BlackVue Viewer for Windows.

- 1 Select the video from the recorded video list.
- 2 Right-click the video.



- 3 Click Verification.



- 4 Click the **OK** button.

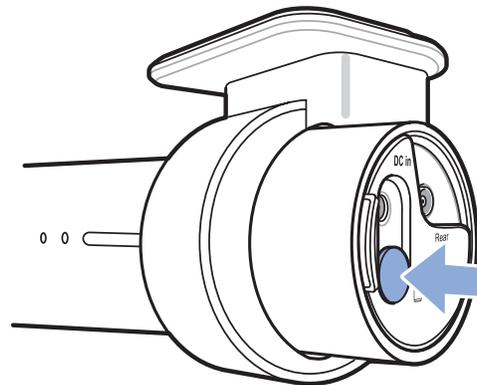
## Tips for optimal performance

### ▶ **Formatting the microSD card**

Format the microSD card once a month, or when the BlackVue dashcam tells you the card needs maintenance.

Format the microSD card using the dashcam's self-format function or BlackVue Viewer (Windows or Mac).

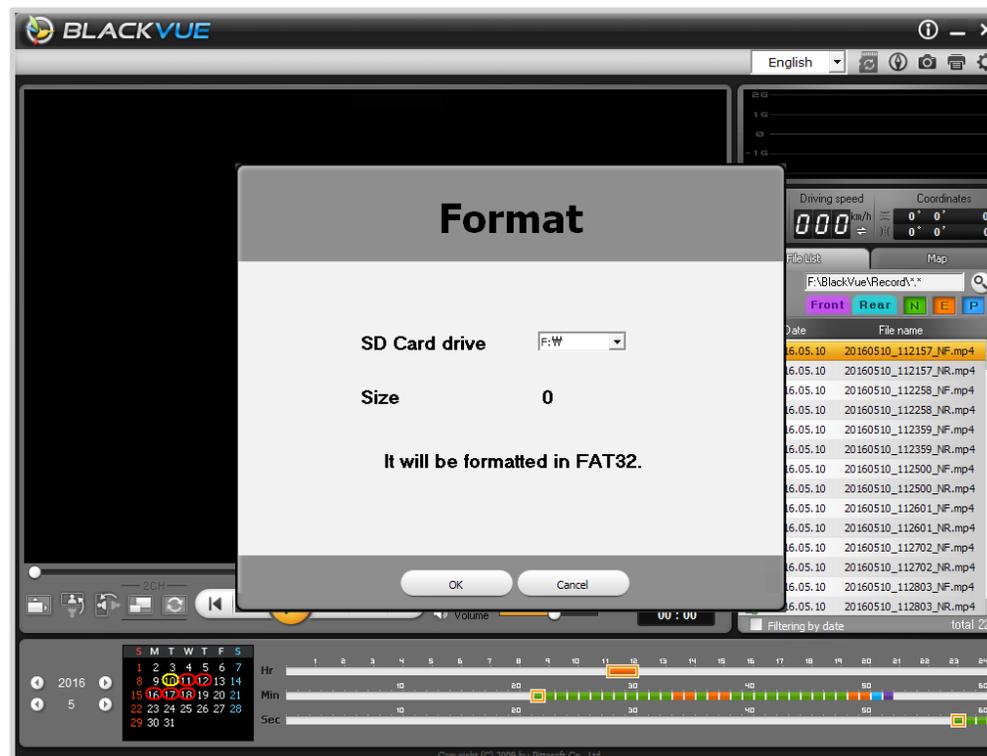
### ➤ **Format using the dashcam's self-format function**



To format the microSD card press the Wi-Fi/Format button on the side of the dashcam for 10 seconds until the dashcam beeps.

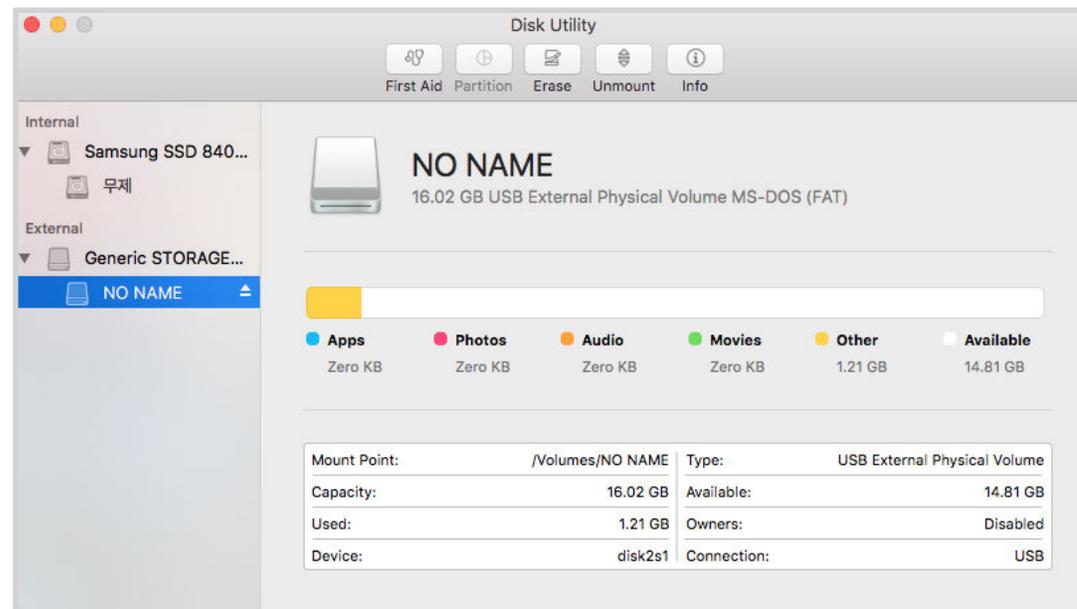
## ➤ Format using Windows Viewer

- 1 Download BlackVue Viewer from [www.blackvue.com](http://www.blackvue.com) > Support > Downloads and install the program on your computer.
- 2 Insert the microSD card into the microSD card reader.
- 3 Connect the microSD card reader to your computer.
- 4 Launch the copy of BlackVue Viewer that is installed on your computer.
- 5 Click the Format  button.
- 6 Select the microSD card drive and click **OK**.

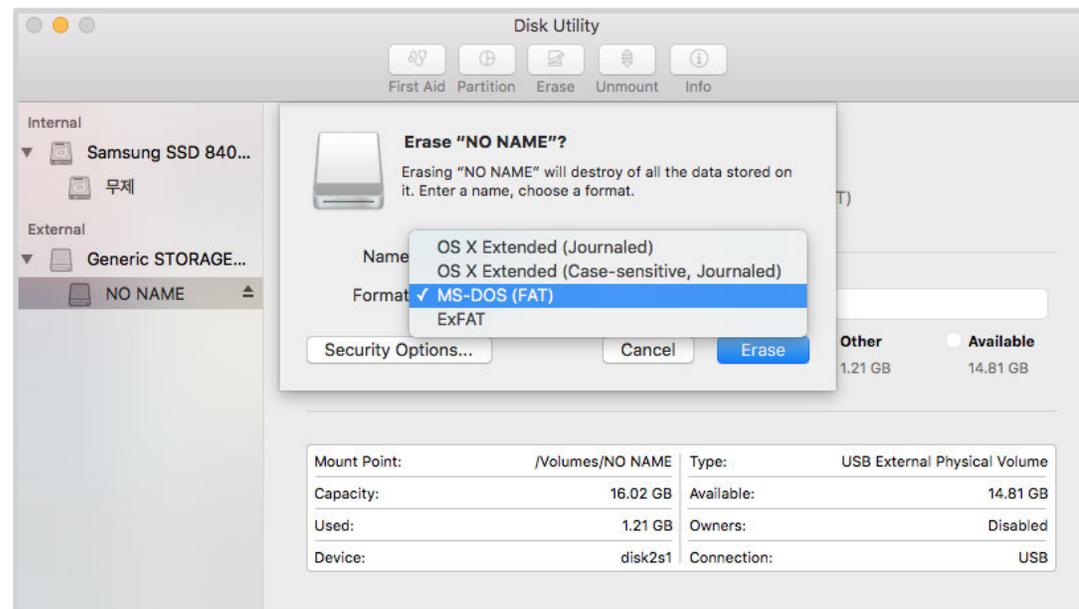


## ➤ Format using Mac Viewer

- 1 Download BlackVue Viewer from [www.blackvue.com](http://www.blackvue.com) > Support > Downloads and install the program on your computer.
- 2 Insert the microSD card into the microSD card reader.
- 3 Connect the microSD card reader to a Mac.
- 4 Launch the copy of BlackVue Viewer that is installed on your computer.
- 5 Click the Format  button.
- 6 Select the microSD card from the list of drives in the left frame.



7 After selecting your microSD card select the Erase tab in the main window.



8 Select "MS-DOS (FAT)" from the Volume Format dropdown menu and click Erase.

### Caution

- If you format the microSD card, all the video files stored in the microSD card will be deleted.
- Back up important video files such as event recording files before formatting the microSD card. PittaSoft Co., Ltd. will not be responsible for the loss of video files that were not backed up.
- Formatting the microSD card once a month is recommended.
- Format the microSD card if the recorded video quality appears to be poor.
- Only use official BlackVue microSD cards. Other cards may have compatibility issues.
- PittaSoft Co., Ltd. will not be held responsible for any problems caused by using another manufacturer's microSD card.

## **Upgrading the firmware**

Firmware upgrades may add new features or improve performance. Keep your BlackVue dashcam updated by upgrading the firmware to the latest version. Visit the BlackVue website ([www.blackvue.com](http://www.blackvue.com)) to check for any new firmware releases for your BlackVue dashcam model.

## **Upgrading the firmware using an iOS or Android device (Firmware Over The Air)**

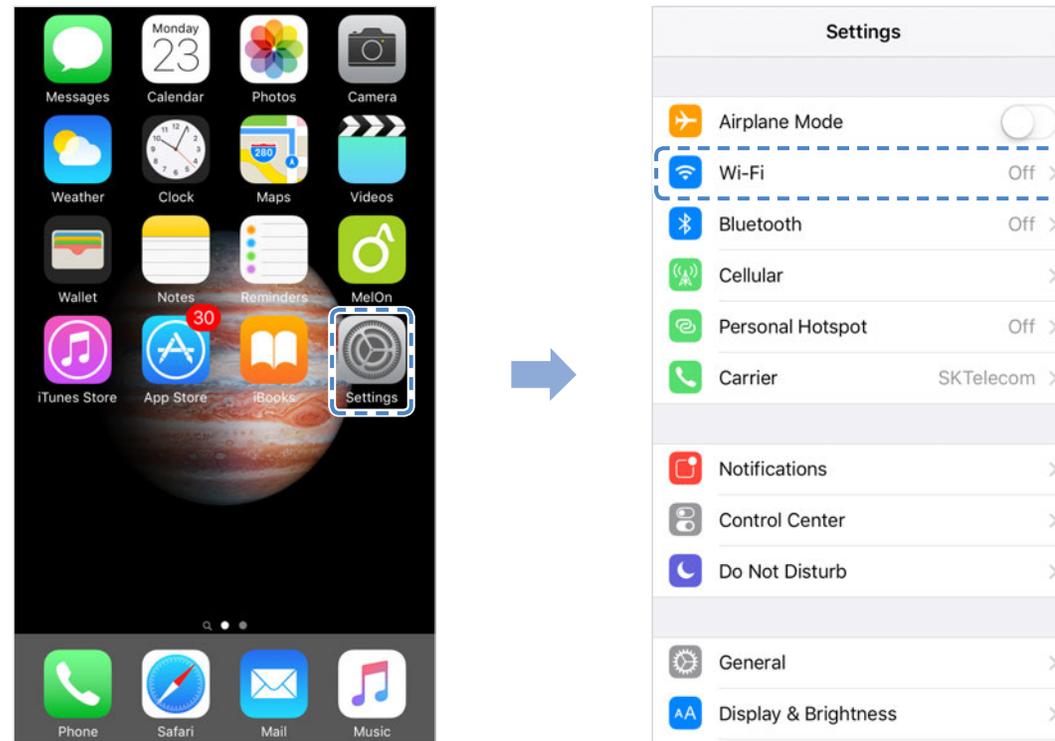
[Click here for a step-by-step video tutorial](#), or go to the main menu and select **Help > Video tutorials**.

Makes sure your smartphone has a stable internet connection.

- 1** Open the BlackVue C app
- 2** Tap  and select **Firmware download**.
- 3** Select your dashcam model and the firmware language and tap **OK**.
- 4** Check the firmware version and release notes and tap **OK** to start downloading.
- 5** After the download completes tap **OK** to be taken back to the home screen.

Make sure your BlackVue dashcam is on and nearby.

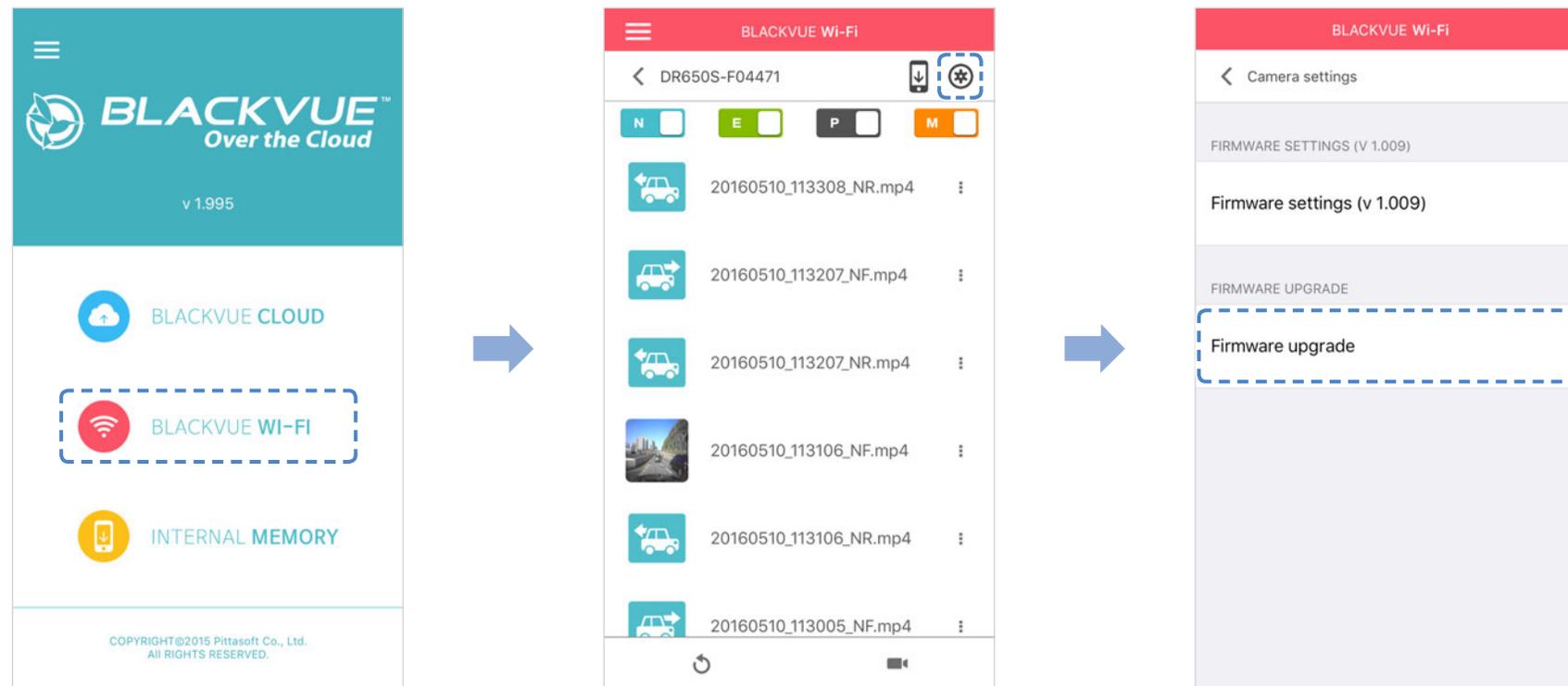
6 Go to your smartphone's **Settings** then select **Wi-Fi**, and make sure Wi-Fi is turned on.



7 Choose your BlackVue dashcam from the network list. The dashcam's default SSID begins with its model number (e.g. DR650S-\*\*\*\*\*).

8 Enter the default password '**blackvue**' and tap **Join**.

9 Open the BlackVue C app. Select **BLACKVUE WI-FI** >  > **Firmware upgrade**.



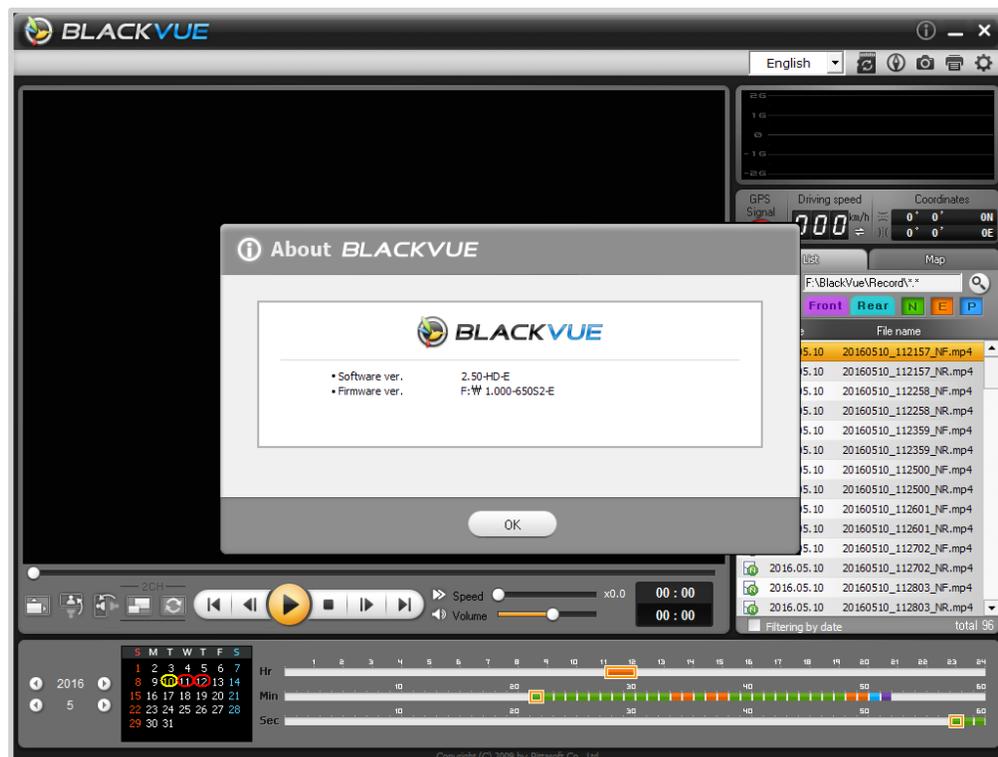
10 Tap **OK** to apply the firmware upgrade.

11 The dashcam's firmware will be upgraded – this may take a few minutes. The dashcam needs to reboot to complete the firmware upgrade.

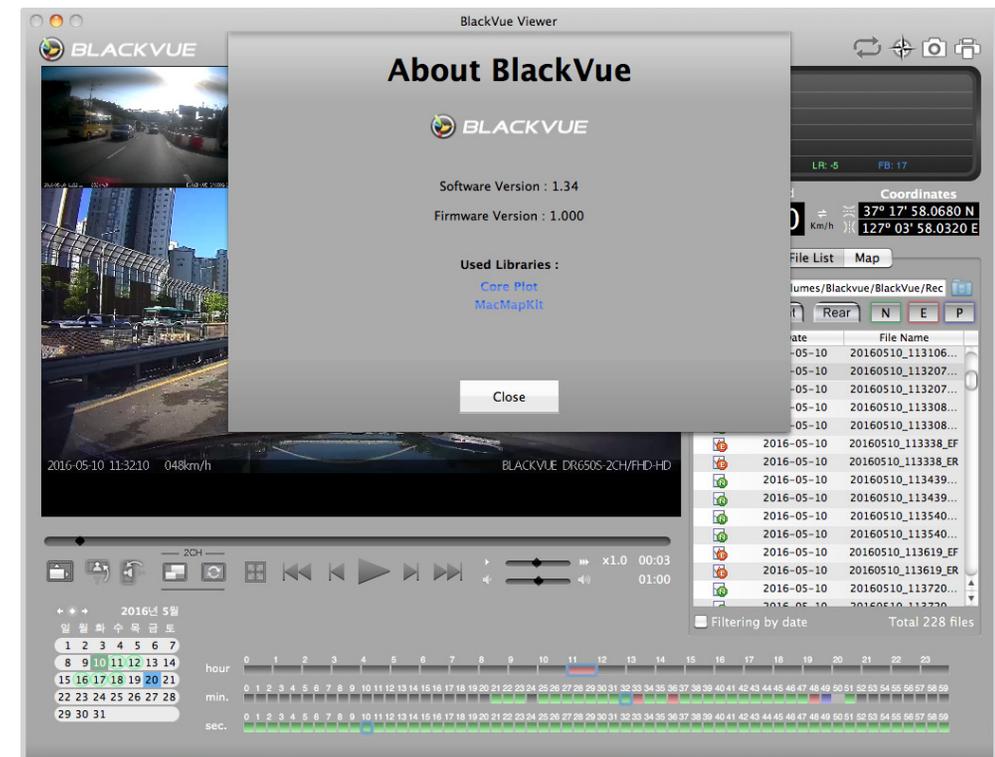
## ➤ Upgrading the firmware using a computer (Windows or Mac)

Keep your BlackVue dashcam updated by upgrading the firmware to the latest version. Visit the BlackVue website ([www.blackvue.com](http://www.blackvue.com)) to check for any new firmware releases for your BlackVue dashcam model.

- 1 Insert the microSD card into the microSD card reader.
- 2 Connect the microSD card reader to a PC.
- 3 Launch BlackVue Viewer and click on the About ⓘ button.
  - For Mac users, click  **BlackVue Viewer** and select About BlackVue from the menu.
- 4 Check the current firmware version of your BlackVue dashcam and proceed only if your version is not the latest one.



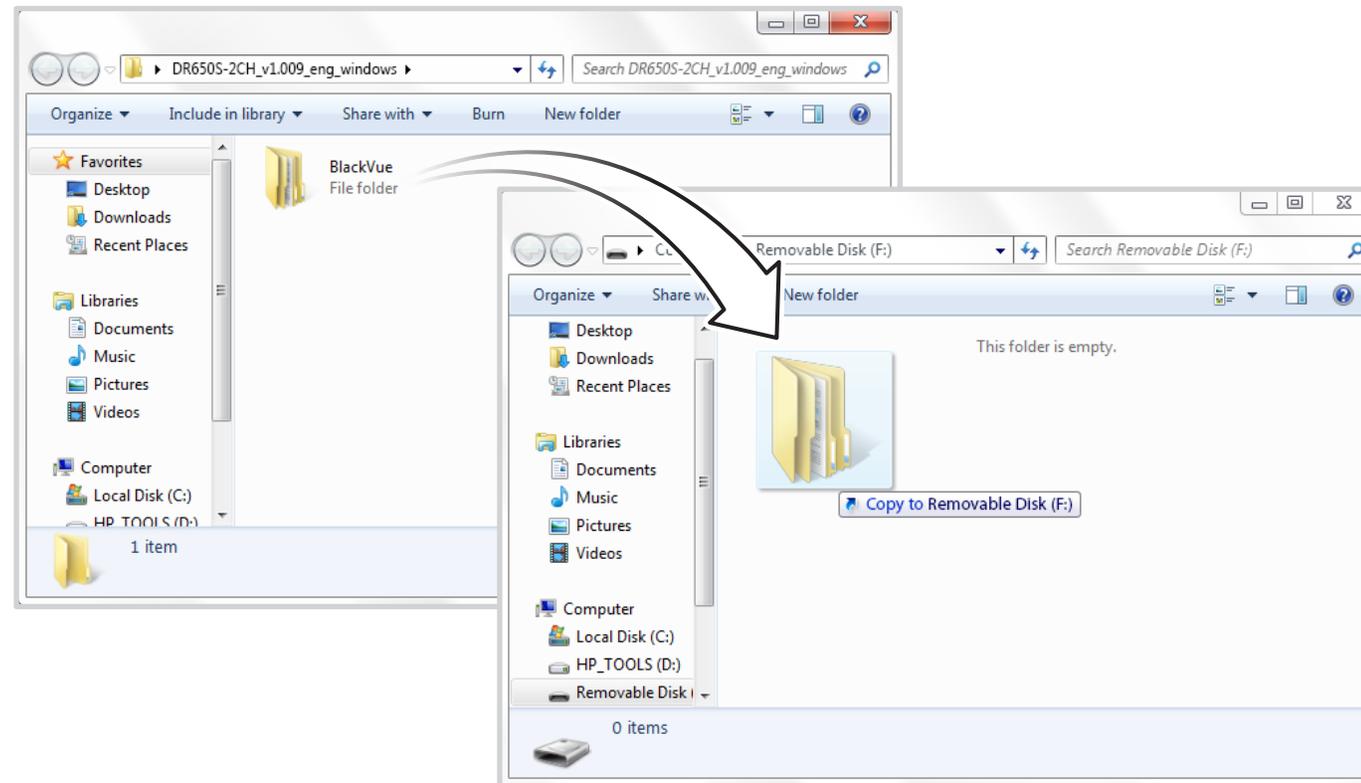
Windows



Mac

- 5 Format the microSD card. See **"Formatting the microSD card"** on page 44.

- 6 Go to the BlackVue website ([www.blackvue.com](http://www.blackvue.com) > Support > Download) and download the latest firmware for your BlackVue dashcam model in zip format.
- 7 Unzip the downloaded file and copy the BlackVue folder to the microSD card.



- 8 Insert the microSD card into the dashcam and connect the power to initiate the firmware upgrade. Make sure the power remains on until the upgrade is completed. Any power interruption may prevent the firmware upgrade from completing, resulting in malfunction.

#### Note

- Do not insert or remove the microSD card when the dashcam is turned on. Doing so may damage the data and cause a malfunction of the microSD card.
- After a firmware upgrade all settings are reset to the defaults to ensure stable operation. Please reconfigure your personal settings (such as time zone, etc.).

## Changing settings

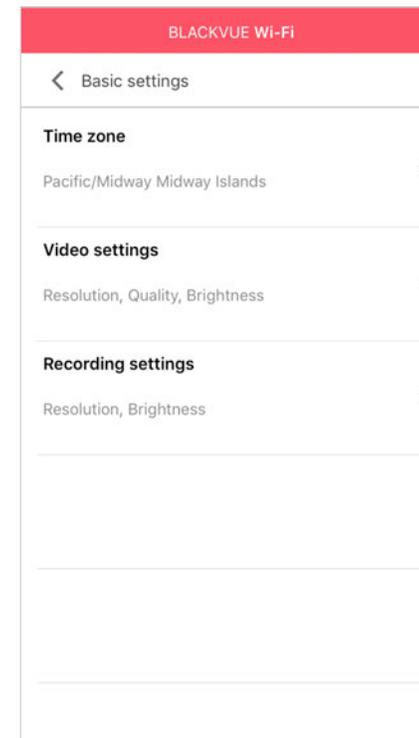
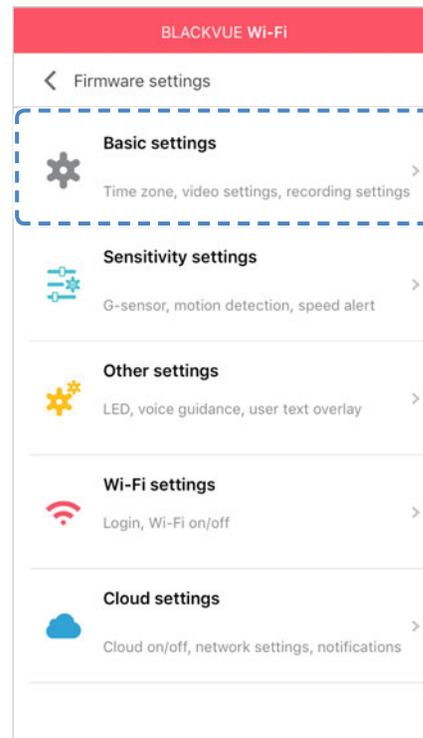
### ▶ Changing settings using your smartphone (Android/iOS)



“Pair” your smartphone with the BlackVue dashcam via direct Wi-Fi (for details see **"Opening video files" on page 18**).

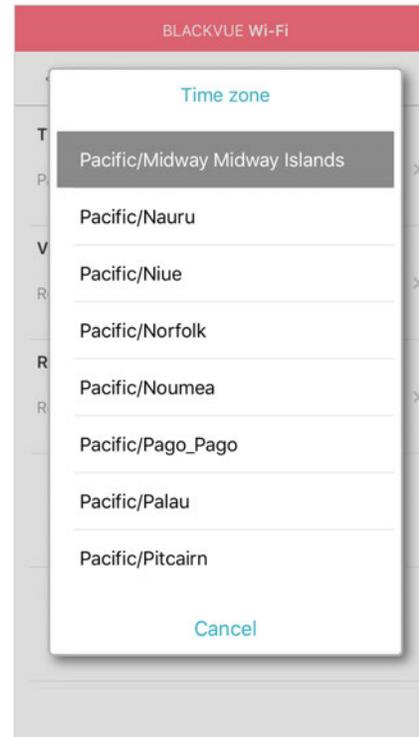
- 1 Go to your smartphone's **Settings** > **Wi-Fi** and connect to your dashcam.
- 2 Open the BlackVue C app. Select **BLACKVUE WI-FI** > ⚙️ to access the Firmware settings menu.

## Basic settings



## Time zone

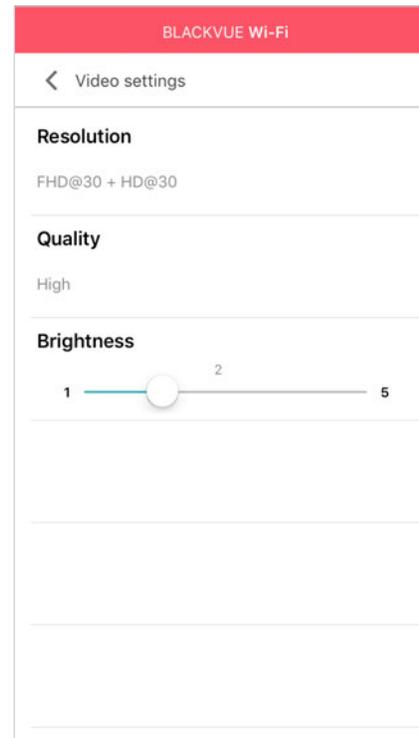
[Click here for a step-by-step video tutorial](#), or go to the main menu and select **Help** > **Video tutorials**.



The initial time zone is set to 'Pacific/Midway\_Midway Islands' (GMT-11). Select your time zone in the dropdown list. If your city is not in the list, select any other city within the same time zone.

When you change the time zone and save the setting, the dashcam it will format the microSD card and restart automatically. Please backup any important videos that are in the microSD card before changing the time zone.

## Video settings



### Resolution

Select the resolution and frame rate. For example, "FHD@30 + HD@30" means the front camera records Full HD video at 30 frames per second, and the rear camera records HD video at 30 frames per second.

### Image quality

You can adjust the recording image quality (bit rate). Choose between:

- Highest (Front: 10 Mbit/s, Rear: 5 Mbit/s)
- High (Front: 8 Mbit/s, Rear: 4 Mbit/s)
- Normal (Front: 6 Mbit/s, Rear: 3 Mbit/s)

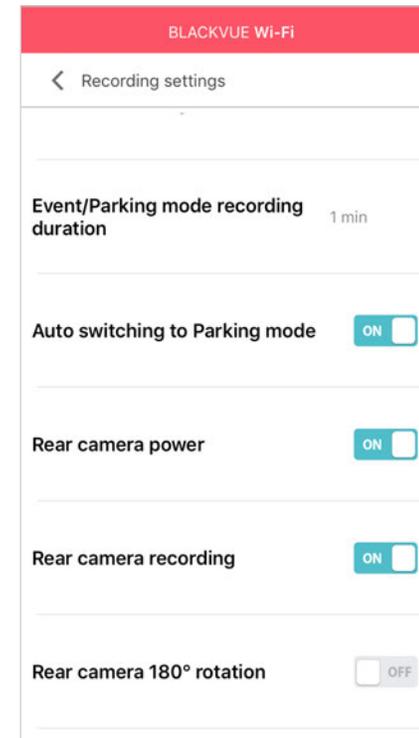
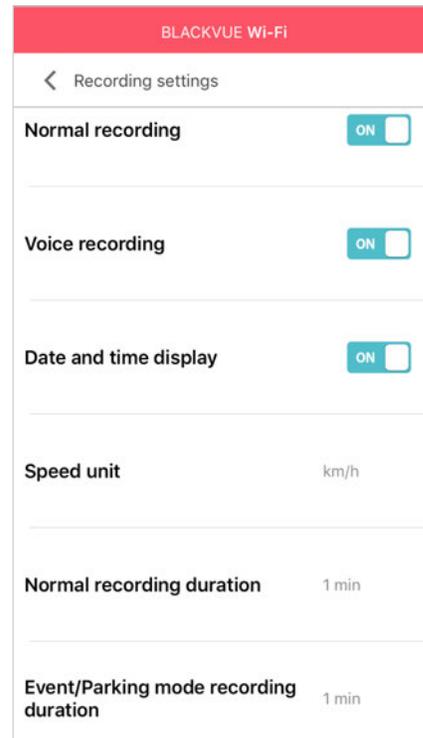
These are the maximum bit rates when the resolution is set to "FHD@30 + HD@30". If you lower the resolution and frame rate setting, the actual bit rates will be lower.

Increasing the image quality will increase the size of the video files. Loading and copying time will increase accordingly.

### Brightness

You can adjust the recording brightness level.

## Recording settings



### Normal recording

When turned off the dashcam does not record in normal mode.

### Voice recording

When turned off the dashcam does not record audio.

### Date and time display

Turn on/off the date and time display on videos.

**Speed unit**

Select km/h, MPH, or turn off.

**Normal recording duration**

Choose between 1,2 or 3 minute video files.

**Event/Parking mode recording duration**

Choose between 1,2 or 3 minute video files.

**Auto switching to parking mode**

If enabled, the dashcam switches from normal mode to parking mode when the vehicle is stationary for 5 minutes.

**Rear camera power**

You can turn off power to the rear camera.

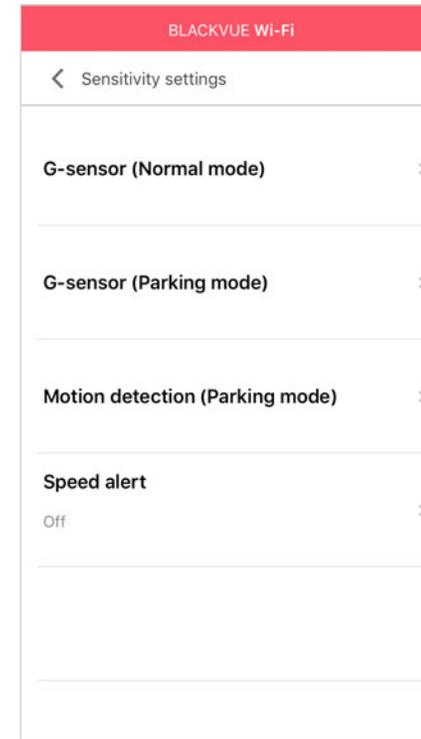
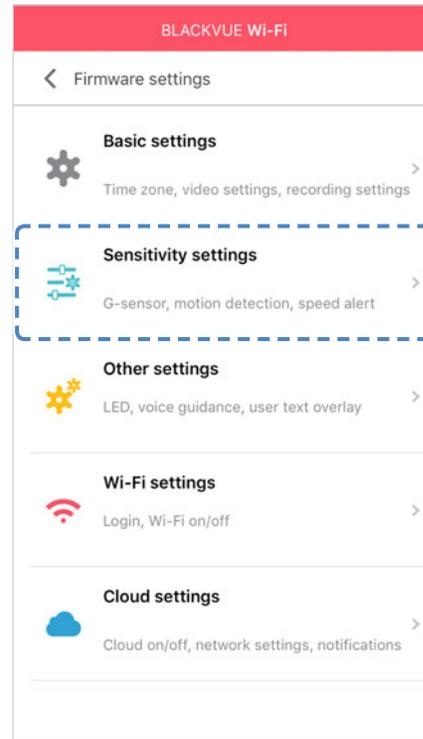
**Rear camera recording**

You can enable or disable rear camera recording.

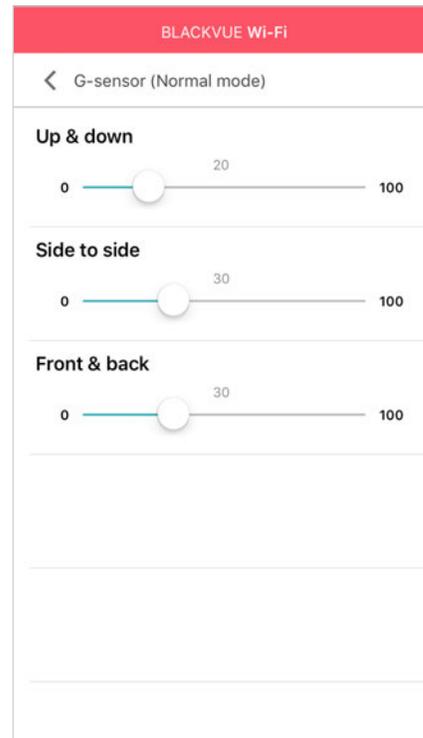
**Rear camera 180° rotation**

If you installed the rear camera in a flipped position, use this setting to rotate the rear camera image.

# ➤ Sensitivity settings

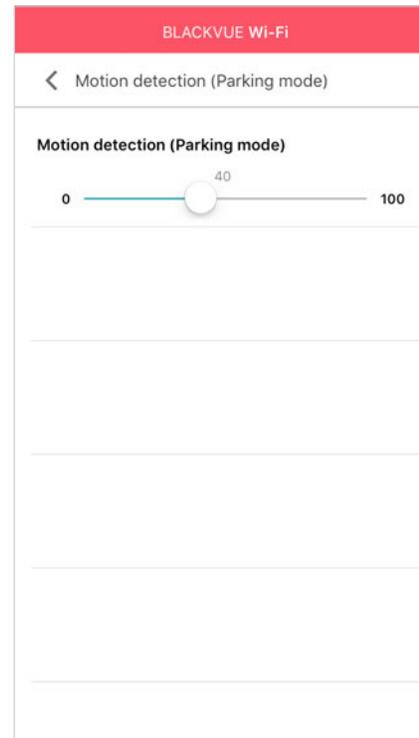


## G-sensor (Normal mode and parking mode)



The G-sensor measures the movement of your vehicle through 3 axes – up and down, side to side, and front and back. When the G-sensor detects significant or sudden movement (such as an impact or collision) it will trigger an event recording. You can adjust the sensitivity so minor incidents and bumps don't trigger an event recording. To turn off event recordings by impact detection set the G-sensor sensitivity to zero.

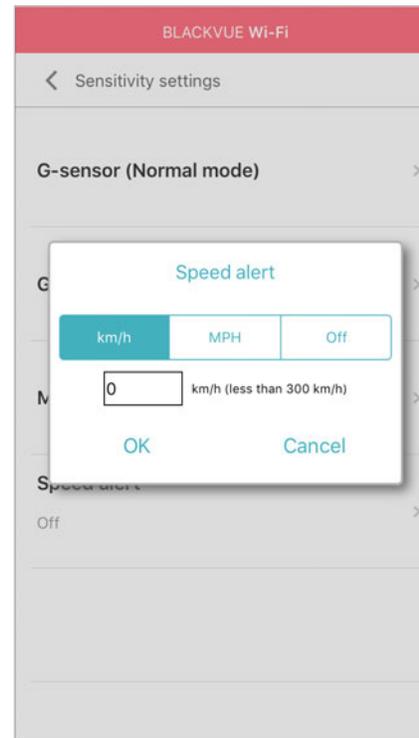
## Motion detection (Parking mode)



In parking mode the dashcam continuously buffers video and saves a parking recording when motion is detected in the dashcam's field of view.

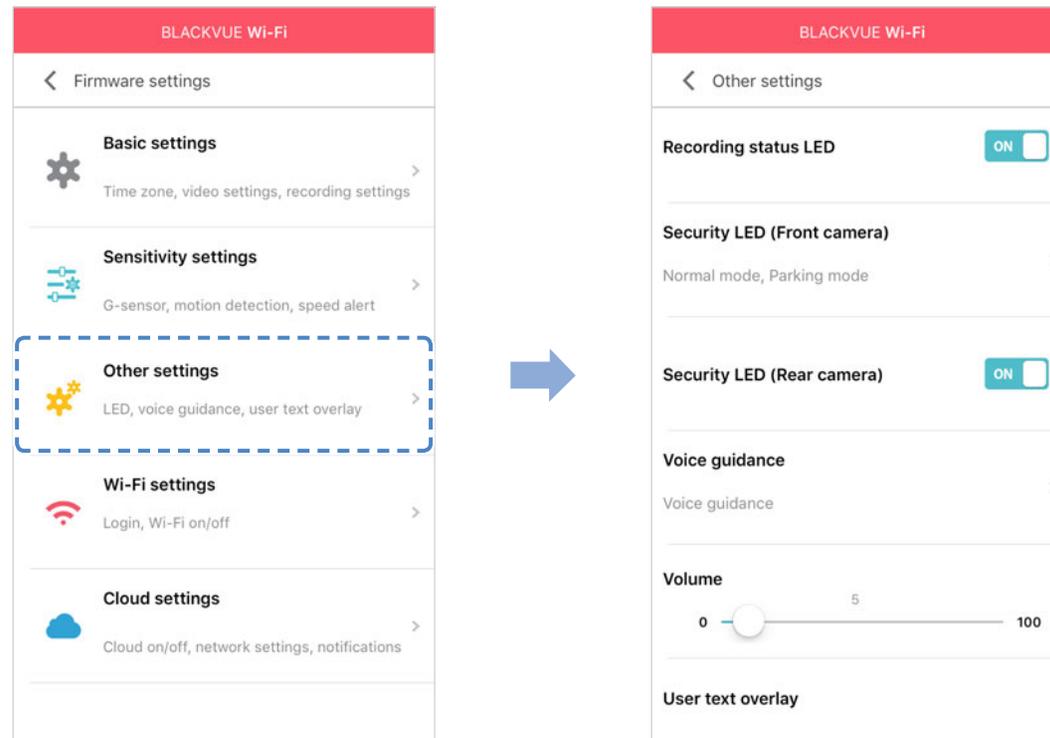
You can adjust the sensitivity of the motion detection so minor motion caused by wind or rain doesn't trigger a recording. Please take into account your vehicle's surroundings when adjusting the sensitivity.

## Speed alert



Set a speed limit (up to 300 km/h or 200 MPH) for the speed alert. When the vehicle exceeds the specified speed limit, the dashcam beeps and switches to event recording. After saving one event recording file the dashcam switches back to normal mode recording.

## ➤ Other settings



### Recording status LED

You can turn the recording status LED on/off.

### Security LED (Front camera)

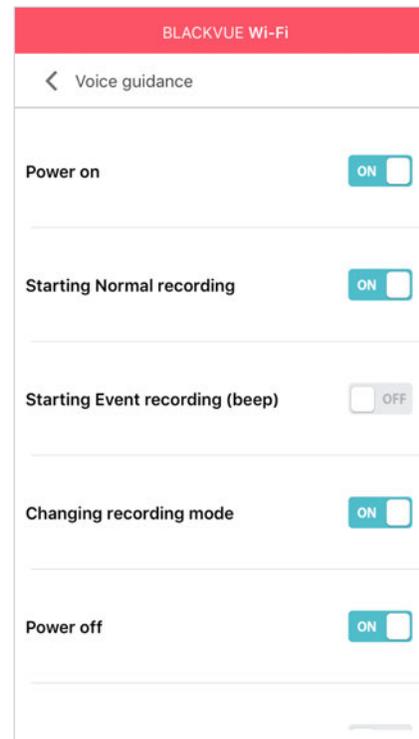
You can turn the front security LED on/off in normal mode and in parking mode.

### Security LED (Rear camera)

You can turn the rear security LED on/off.

## Voice guidance

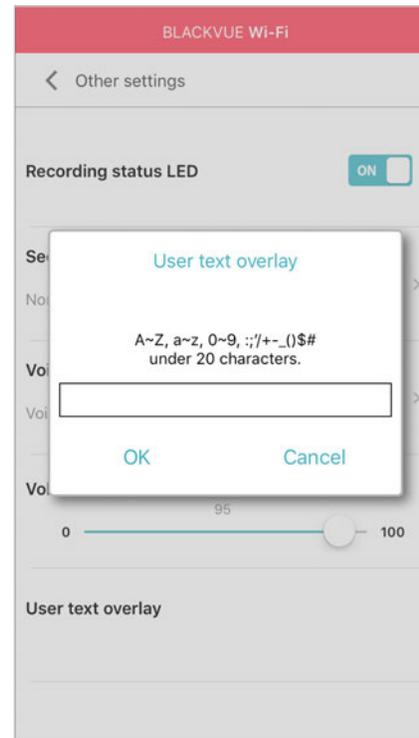
You can adjust the voice guidance (announcements) you want to hear.



## Volume

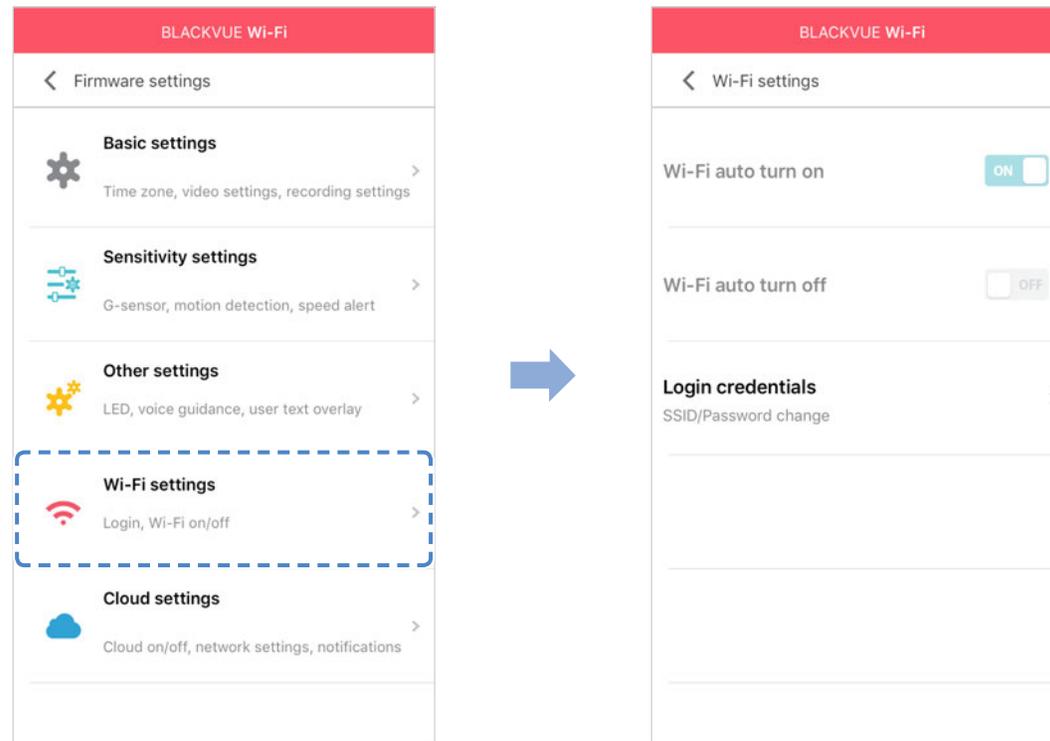
You can adjust the volume of the voice guidance (announcements).

## User text overlay



You can create a user text overlay of up to 20 characters using a combination of English letters (A – Z, a – z), numbers (0 – 9), and symbols (;/+-\_()\$#). The text is overlaid in the top-left corner of the recorded videos.

## ➤ Wi-Fi settings



### ☐ Wi-Fi auto turn on & off

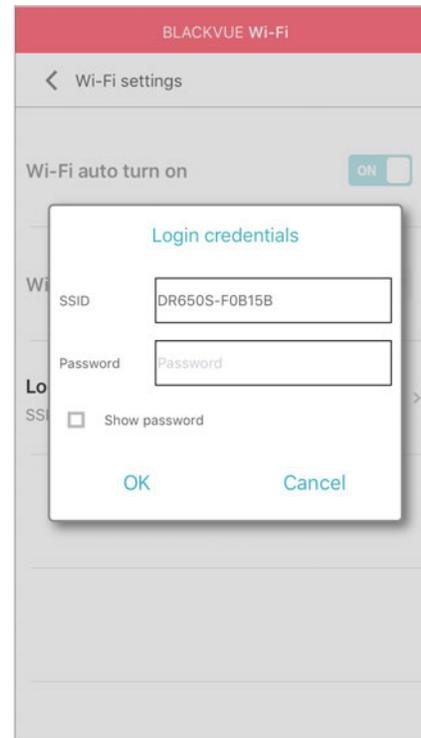
When the Cloud service is enabled the Wi-Fi auto turn on/off settings cannot be adjusted. Wi-Fi will automatically switch on when you turn on the dashcam and remain on.

If you disable the Cloud service, you will be able to adjust the Wi-Fi auto turn on/off settings.

	ON	OFF
Wi-Fi auto turn on	Wi-Fi turns on when the dashcam turns on.	Wi-Fi does not turn on when the dashcam turns on.
Wi-Fi auto turn off	Wi-Fi turns off if it is inactive for 10 minutes.	Wi-Fi does not turn off automatically.

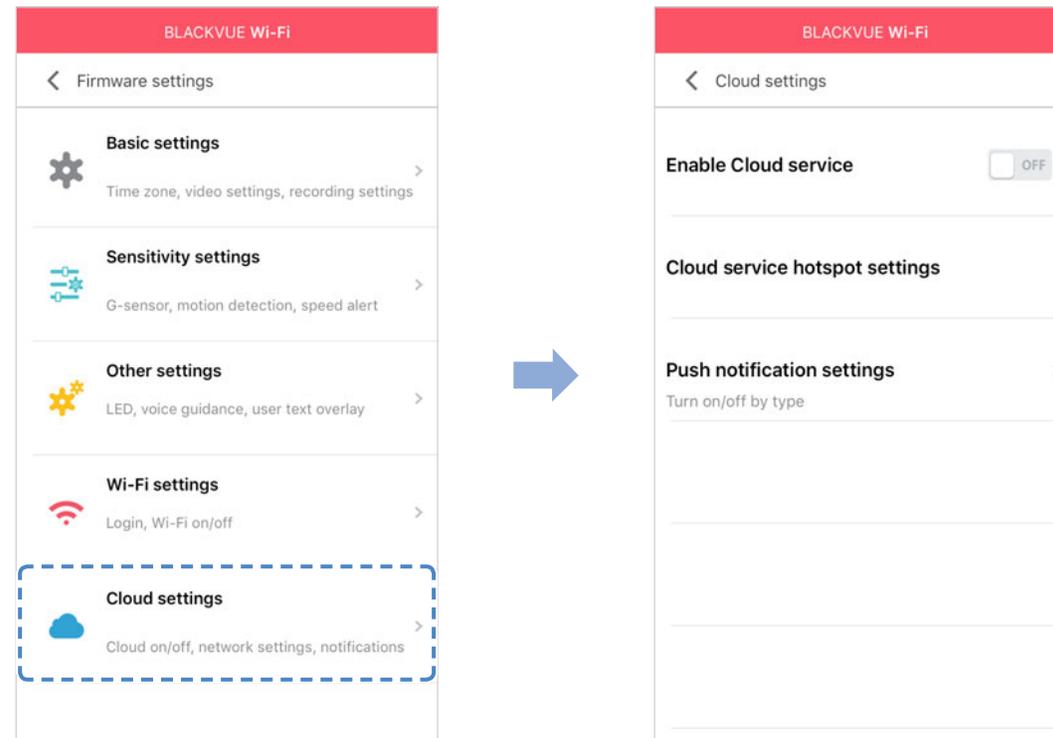
You can also press the physical **Wi-Fi / Format** button on the dashcam to manually switch Wi-Fi on/off.

## Login credentials



You can change the dashcam's SSID and Wi-Fi login password.

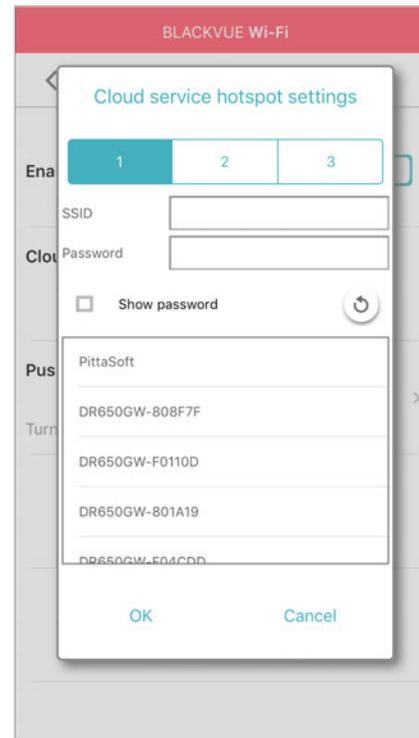
## Cloud settings



### Enable Cloud service

If you don't use the Cloud service you can turn it off.

## Cloud service hotspot settings



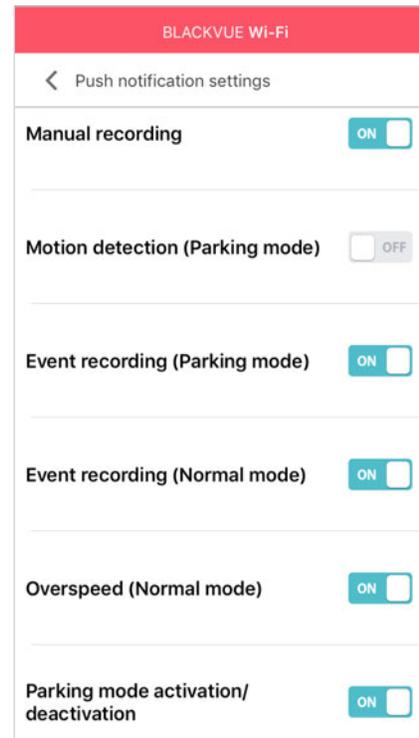
Up to 3 Wi-Fi hotspot SSIDs can be saved (e.g. home, portable hotspot and work). Choose your Wi-Fi hotspot from the list and enter the password. Tap 2 and 3 to add settings for additional hotspots.

Your BlackVue will try to connect to hotspot 1 first. If it cannot connect to hotspot 1, it will then try to connect to hotspot 2, and then hotspot 3.

### Note

- The BlackVue dashcam is not compatible with 5GHz wireless networks.

## Push notification settings



You can customize when you want to receive push notifications.

## ▶ Changing settings using your computer (Windows/Mac)

### ➤ BlackVue Viewer language setting

Select your preferred language for the BlackVue Viewer interface from the dropdown list.

### ➤ BlackVue settings

Click on the  button or the  **BlackVue Viewer** menu to open the BlackVue settings panel. You will be able to change most of the BlackVue settings to customize its operation.

Select a Language

Settings

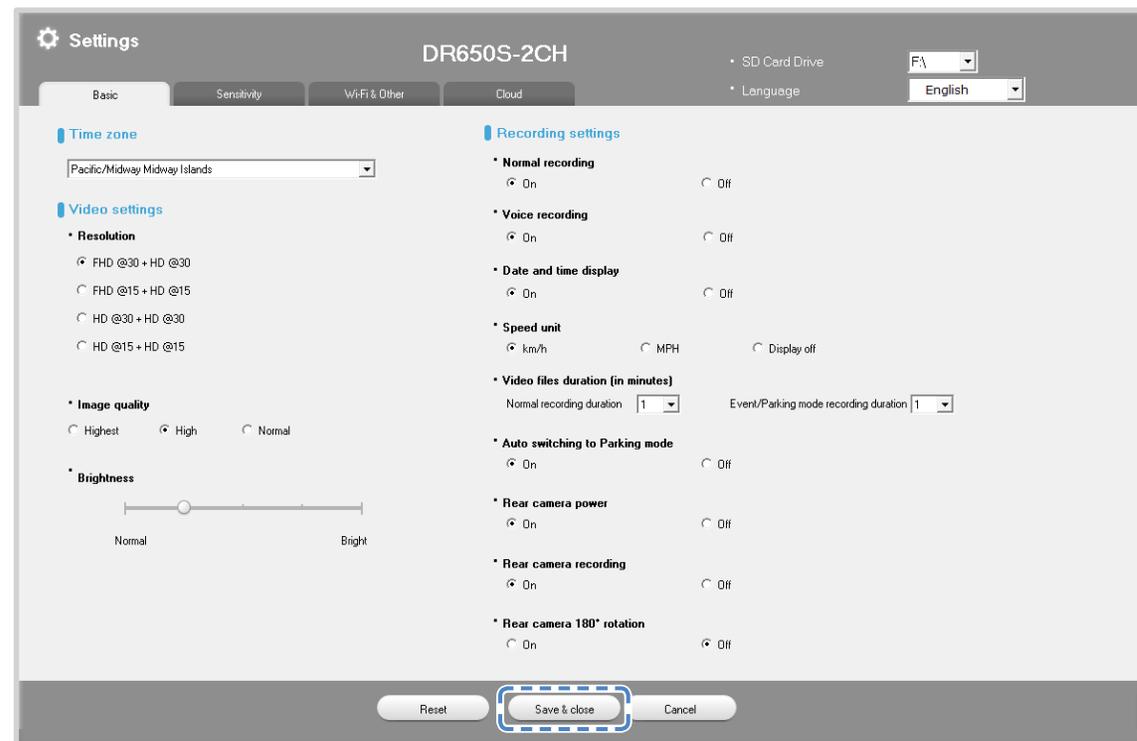


Type	Date	File name
16	2016.05.10	20160510_113922_NR.mp4
16	2016.05.10	20160510_114023_NF.mp4
16	2016.05.10	20160510_114023_NR.mp4
16	2016.05.10	20160510_114124_NF.mp4
16	2016.05.10	20160510_114124_NR.mp4
16	2016.05.10	20160510_114225_NF.mp4
16	2016.05.10	20160510_114225_NR.mp4
16	2016.05.10	20160510_114326_NF.mp4
16	2016.05.10	20160510_114326_NR.mp4
16	2016.05.10	20160510_114427_NF.mp4
16	2016.05.10	20160510_114427_NR.mp4
16	2016.05.10	20160510_114528_NF.mp4
16	2016.05.10	20160510_114528_NR.mp4
16	2016.05.10	20160510_114629_NF.mp4

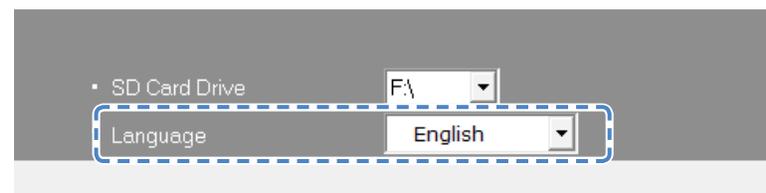
## Basic settings

You can set the basic configuration in the **Basic** tab of the **Settings**.

- 1 Click the  button or the  **BlackVue Viewer** menu.
- 2 Click the **Basic** tab.
- 3 Change the settings.
- 4 Click **Save & Close**.



## Firmware



Select your preferred language for the firmware from the language dropdown list. The audio announcements by the dashcam will be in the selected language.

## ■ Setting your time zone

The initial time zone is set to 'Pacific/Midway\_Midway Islands' (GMT-11). Select your time zone in the dropdown list. If your city is not in the list, select any other city within the same time zone.

When you change the time zone and save the setting, the next time you insert the microSD card into the dashcam it will format the microSD card and restart automatically. Please backup any important videos that are in the microSD card before changing the time zone.

## ■ Video settings

### • Resolution

Select the resolution and frame rate. For example, "FHD@30 + HD@30" means the front camera records Full HD video at 30 frames per second, and the rear camera records HD video at 30 frames per second.

### • Image quality

You can adjust the recording image quality (bit rate). Choose between:

- Highest (Front: 10 Mbit/s, Rear: 5 Mbit/s)
- High (Front: 8 Mbit/s, Rear: 4 Mbit/s)
- Normal (Front: 6 Mbit/s, Rear: 3 Mbit/s)

These are the maximum bit rates when the resolution is set to "FHD@30 + HD@30". If you lower the resolution and frame rate setting, the actual bit rates will be lower.

Increasing the image quality will increase the size of the video files.

### • Brightness

You can adjust the recording brightness level.

## ■ Recording settings

- **Normal recording**

When turned off the dashcam does not record in normal mode.

- **Voice recording**

When turned off the dashcam does not record audio.

- **Date and time display**

Turn on/off the date and time display on videos.

- **Speed unit**

Select km/h, MPH, or turn off.

- **Normal recording duration**

Choose between 1, 2 or 3 minute video files.

- **Event/Parking mode recording duration**

Choose between 1, 2 or 3 minute video files.

- **Auto switching to parking mode**

If enabled, the dashcam switches from normal mode to parking mode when the vehicle is stationary for 5 minutes.

- **Rear camera power**

You can turn off power to the rear camera.

- **Rear camera recording**

You can enable or disable rear camera recording.

- **Rear camera 180° rotation**

If you installed the rear camera in a flipped position, use this setting to rotate the rear camera image.

## Sensitivity settings

You can set impact sensitivity (G-Sensor), motion detection, and the speed alert in the **Sensitivity** tab of the **Settings**.

- 1 Click the  button or the  **BlackVue Viewer** menu.
- 2 Click the **Sensitivity** tab.
- 3 Change the settings.
- 4 Click **Save & Close**.



### Sensitivity in normal and parking mode

The G-sensor measures the movement of your vehicle through 3 axes – up and down, side to side, and front and back. When the G-sensor detects significant or sudden movement (such as an impact or collision) it will trigger an event recording. You can adjust the sensitivity so minor incidents and bumps don't trigger an event recording. To turn off event recordings by impact detection set the G-sensor sensitivity to zero.

## ■ Sensitivity of the motion detection (parking mode)

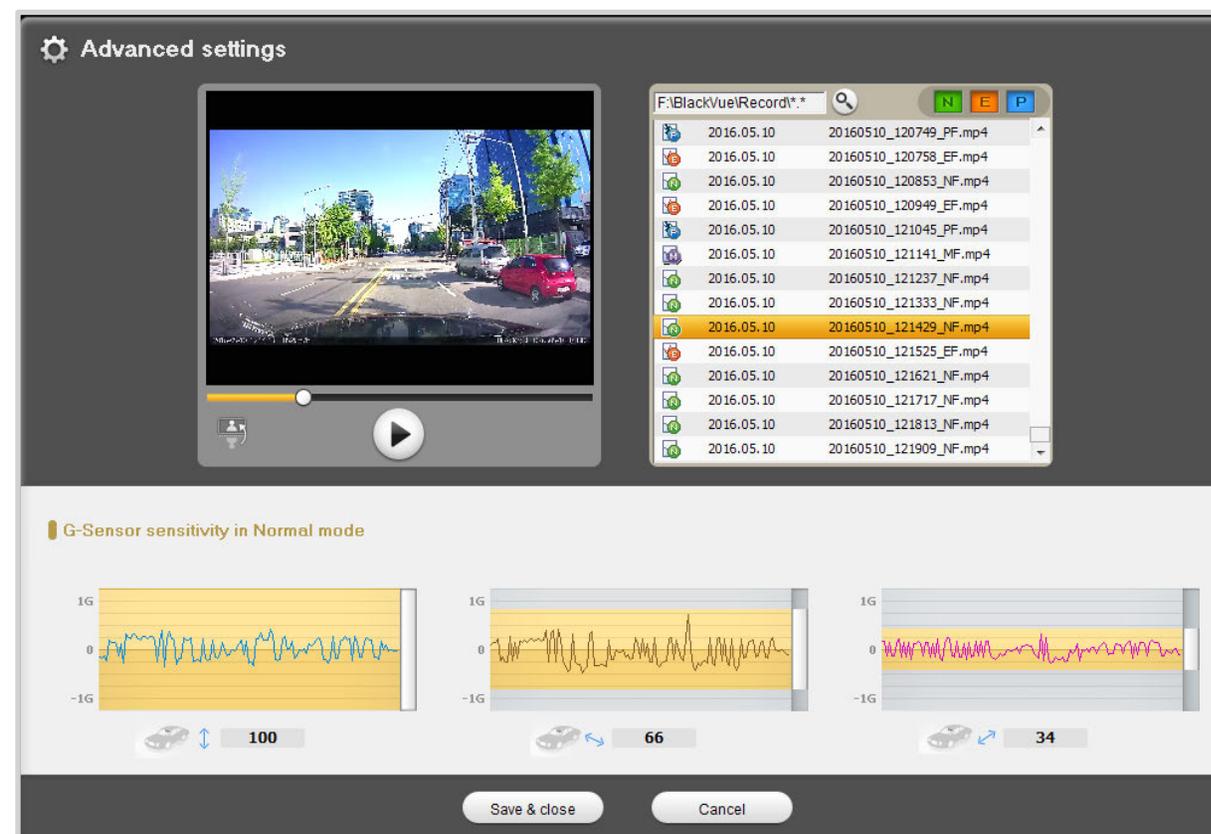
In parking mode the dashcam continuously buffers video and saves a parking recording when motion is detected in the dashcam's field of view.

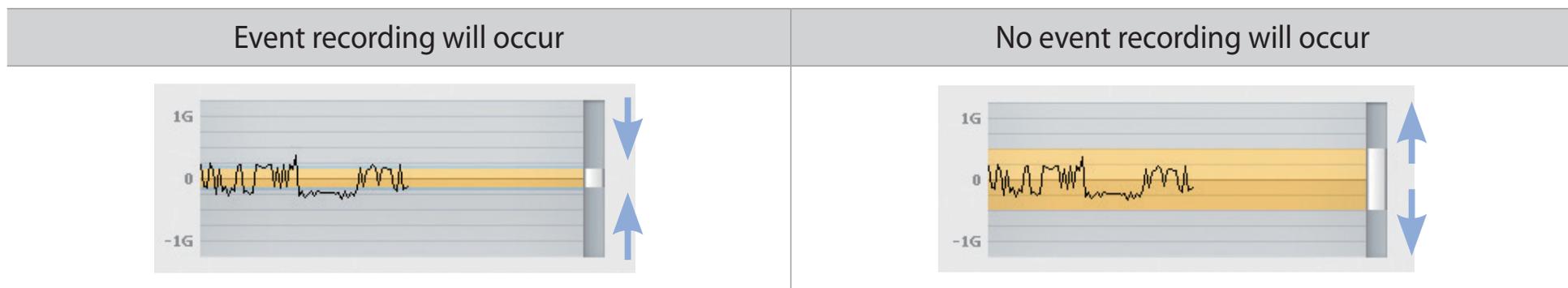
You can adjust the sensitivity of the motion detection so minor motion caused by wind or rain doesn't trigger a recording. Please take into account your vehicle's surroundings when adjusting the sensitivity.

## ■ Advanced sensitivity settings for normal and parking mode

Advanced sensitivity settings allows you to fine-tune the event recording G-Sensor threshold, while watching pre-recorded G-Sensor data and video as a reference.

- 1 Click the Advanced Settings button of the recording mode.
- 2 Select the reference video from the list that you want to use to set the threshold of event recording.
- 3 Click the ▶ button or double click the selected video.
- 4 Set the thresholds by adjusting the control bars next to each G-Sensor axis. Any G-Sensor data that crosses over the threshold on any of the 3 axes will trigger an Event recording.





**5** Click **Save & Close**.

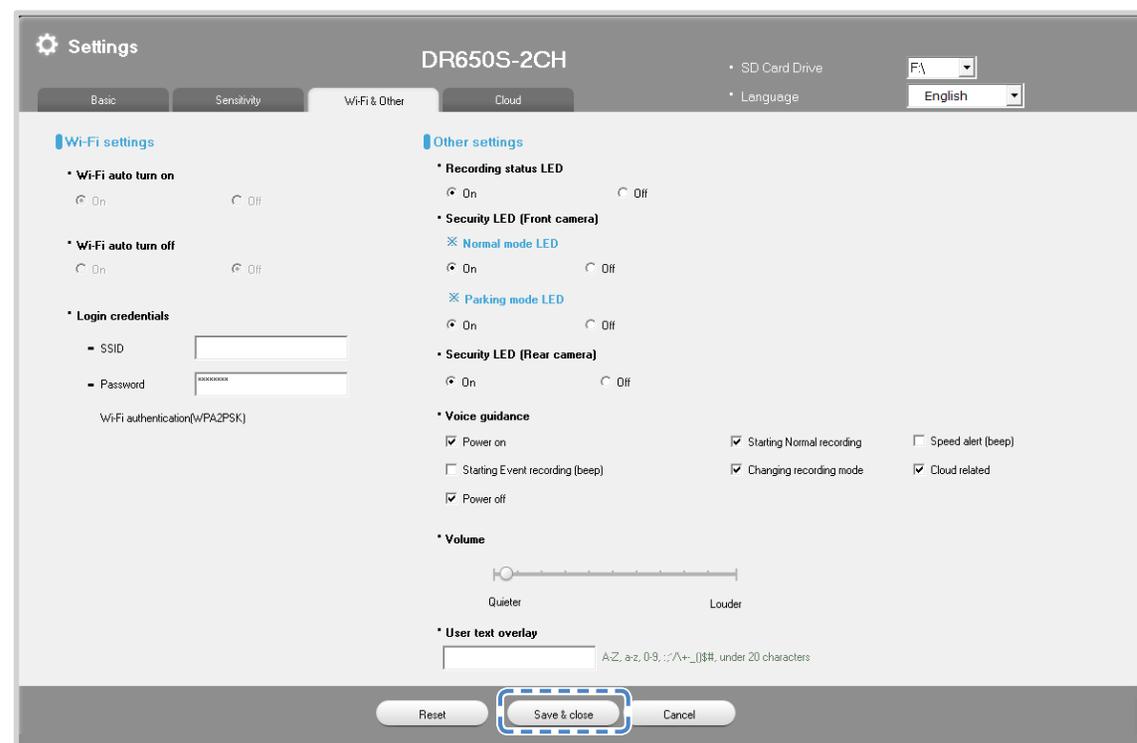
**Speed alert**

Set a speed limit (up to 300 km/h or 200 MPH) for the speed alert. When the vehicle exceeds the specified speed limit, the dashcam beeps and switches to event recording. After saving one event recording file the dashcam switches back to normal mode recording.

## Wi-Fi & Other settings

You can adjust Wi-Fi and Other settings such as the Wi-Fi auto turn on/off, login credentials, LED indicators, voice guidance, volume, and a user text overlay in the Wi-Fi & Other tab of the Settings window.

- 1 Click the  button or the  **BlackVue Viewer** menu.
- 2 Click the **Wi-Fi & Other** tab.
- 3 Change the settings.
- 4 Click **Save & Close**.



## ■ Wi-Fi settings

- **Wi-Fi auto turn on & off**

When the Cloud service is enabled the Wi-Fi auto turn on/off settings cannot be adjusted. Wi-Fi will automatically switch on when you turn on the dashcam and remain on.

If you disable the Cloud service, you will be able to adjust the Wi-Fi auto turn on/off settings.

	ON	OFF
Wi-Fi auto turn on	Wi-Fi turns on when the dashcam turns on.	Wi-Fi does not turn on when the dashcam turns on.
Wi-Fi auto turn off	Wi-Fi turns off if it is inactive for 10 minutes.	Wi-Fi does not turn off automatically

You can also press the physical Wi-Fi / Format button on the dashcam to manually switch Wi-Fi on/off.

- **Login credentials**

You can change the dashcam's SSID and Wi-Fi login password.

## ■ Other settings

You can adjust other settings such as the LED indicators, voice guidance, volume and user text overlay.

- **Recording status LED**

You can turn the recording status LED on/off.

- **Security LED (Front camera)**

You can turn the front security LED on/off in normal mode and in parking mode.

- Normal mode LED
- Parking mode LED

- **Security LED (Rear camera)**

You can turn the rear security LED on/off.

- **Voice guidance**

You can turn the voice guidance (announcements) you want to hear.

- Power on
- Starting Normal recording
- Starting Event recording (beep)
- Changing recording mode
- Power off
- Speed alert (beep)
- Cloud related

- **Volume**

You can the volume of the voice guidance (announcements).

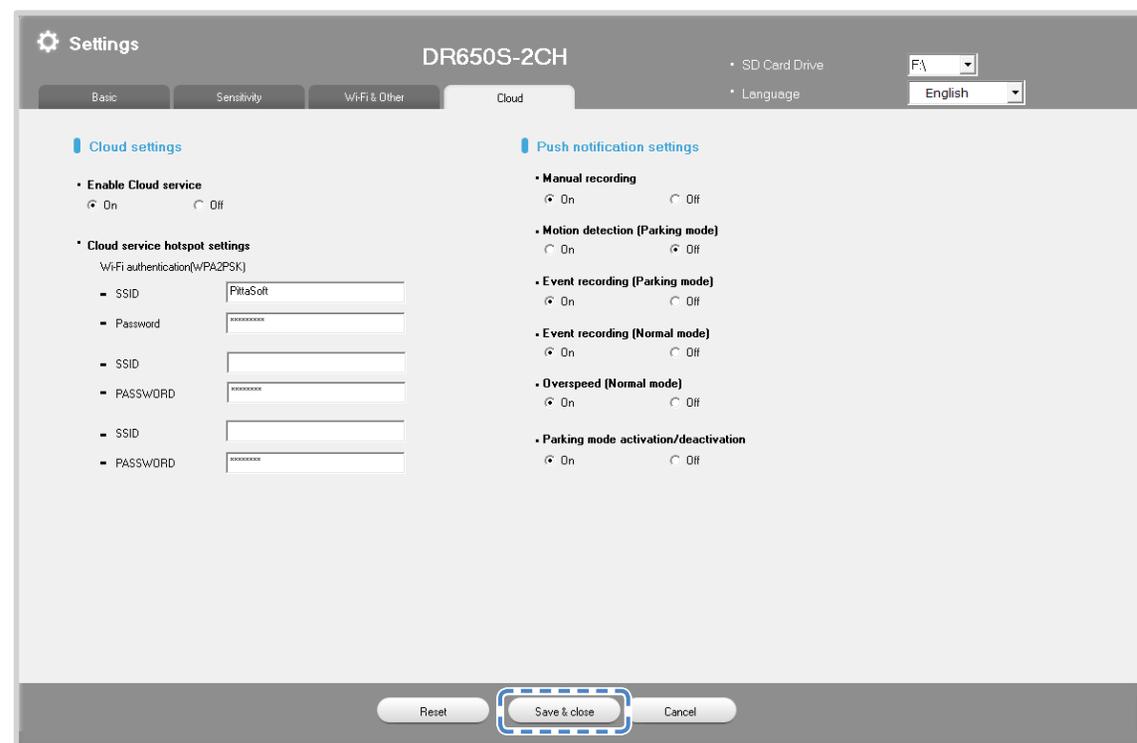
- **User text overlay**

You can create a user text overlay of up to 20 characters using a combination of English letters (A – Z, a – z), numbers (0 – 9), and symbols (;'\/\+\_-()\$#). The text is overlaid in the top-left corner of the recorded videos.

## Cloud settings

You can adjust Cloud settings such as the Enable Cloud service, Cloud service hotspot settings, and Push notification settings in the Cloud settings tab of the Settings window.

- 1 Click the  button or the  **BlackVue Viewer** menu.
- 2 Click the **Cloud** tab.
- 3 Change the settings.
- 4 Click **Save & Close**.



## ■ Cloud settings

- **Enable Cloud service**

If you don't use the Cloud service you can turn it off.

- **Cloud service hotspot settings**

Up to 3 Wi-Fi hotspot SSIDs can be saved (e.g. home, portable hotspot and work). Enter the Wi-Fi hotspot SSID and password.

Your BlackVue will try to connect to hotspot 1 first. If it cannot connect to hotspot 1, it will then try to connect to hotspot 2, and then hotspot 3.

### **Note**

- The BlackVue dashcam is not compatible with 5GHz wireless networks.

## ■ Push notification settings

You can customize when you want to receive push notifications.

- Motion detection (Parking mode)
- Event recording (Parking mode)
- Event recording (Normal mode)
- Overspeed (Normal mode)
- Parking mode activation/deactivation

## Applying the settings

You can automatically apply the configuration by inserting the microSD card into the BlackVue dashcam and turning it on. Configure the settings before using the dashcam.

To reset all settings to their defaults press the reset button in the settings screen of the BlackVue Viewer program.

## About the Cloud Service

Using a mobile Wi-Fi hotspot or a car-embedded wireless internet connection you can connect your dashcam to the internet and take advantage of the following features in the BlackVue C smartphone app:

**Live View** – Watch your dashcam's live video feed.

**Push notifications** – Be notified on your smartphone when something happens to your car.

**GPS tracking** – See in real-time where your car is and track your car's route and speed.

**Two-way voice communication** – Initiate voice chat from your smartphone to your dashcam.

**Video backup** – Backup video recordings to the Cloud or your smartphone's storage.

**Video playback** – Watch recorded videos stored on your dashcam or in the Cloud on your smartphone anywhere, anytime.

### **Connect to BLACKVUE CLOUD (Optional)**

If you don't have a mobile Wi-Fi hotspot, or if you don't want to use the BLACKVUE CLOUD service, you can skip this step.

If you have a mobile Wi-Fi hotspot (also known as a portable Wi-Fi router), a car-embedded wireless internet network or a Wi-Fi network near your car, you can use the BlackVue C app to connect to BLACKVUE CLOUD and see in real-time where your car is and the dashcam's live video feed.

For more information about using the BlackVue C app, please download the BlackVue C App Manual from [www.blackvue.com](http://www.blackvue.com) > **Support** > **Downloads**.

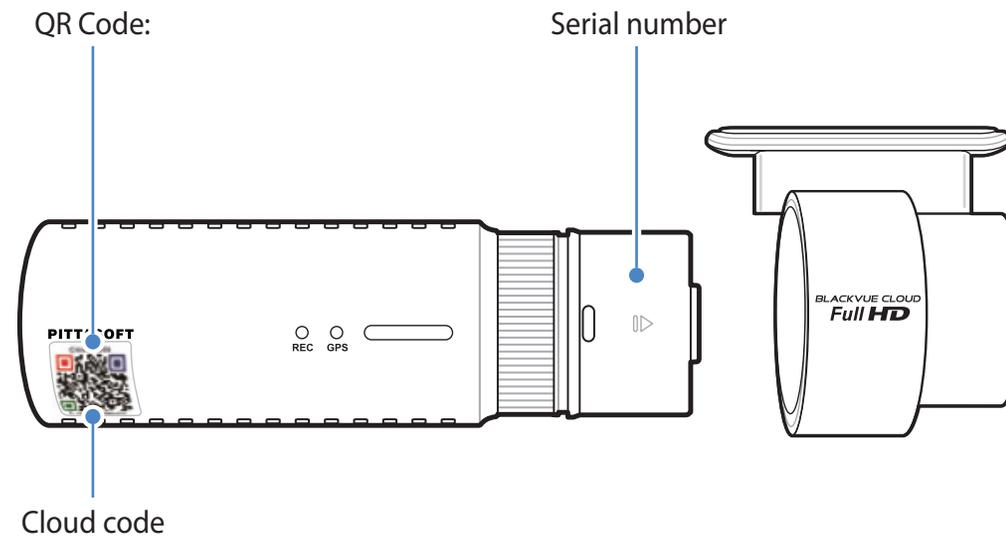
#### **1 Create an account**

- (i) Open the BlackVue C app.
- (ii) Tap the  button in the top-left corner and select **Create account**.
- (iii) Enter your email address and choose a password. Re-enter your password and press **Next**.
- (iv) After reading the Terms & Policies, check the boxes and press the **Create account** button to continue.
- (v) You will receive an e-mail. Click the link in the email to finish creating your account.

## 2 Register your dashcam with your account

- (i) In the BlackVue C app select **BLACKVUE CLOUD** and login to your account.
- (ii) Tap **Yes** to enable push notifications (this setting can be adjusted at any time later).
- (iii) Select **Register new camera**.
- (iv) Register your camera using one of the following methods:

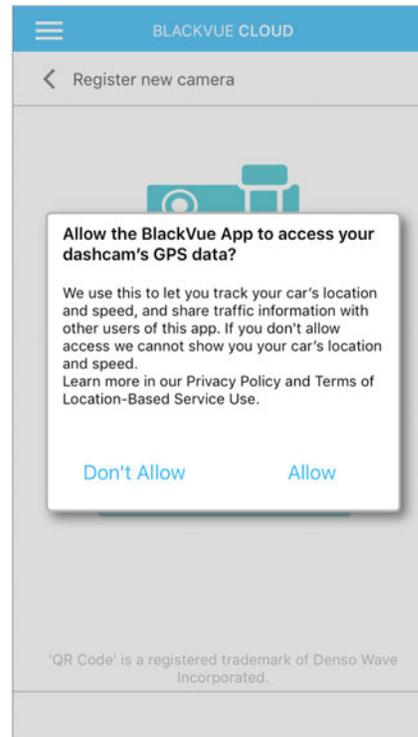
**QR Code:** Press **Scan QR Code** and line up the QR Code on your smartphone's screen.



or

**Manual registration:** Enter your camera's Serial number and Cloud code and press **Register**.

- (v) The app will ask for your permission to access your dashcam's GPS data. If you **allow** access the app will be able to show you your dashcam's location and speed. If you **don't allow** access you won't be able to see your dashcam's location and speed (you can allow access later in Privacy settings).



### 3 Connect your BlackVue dashcam to a Wi-Fi hotspot for Cloud connectivity

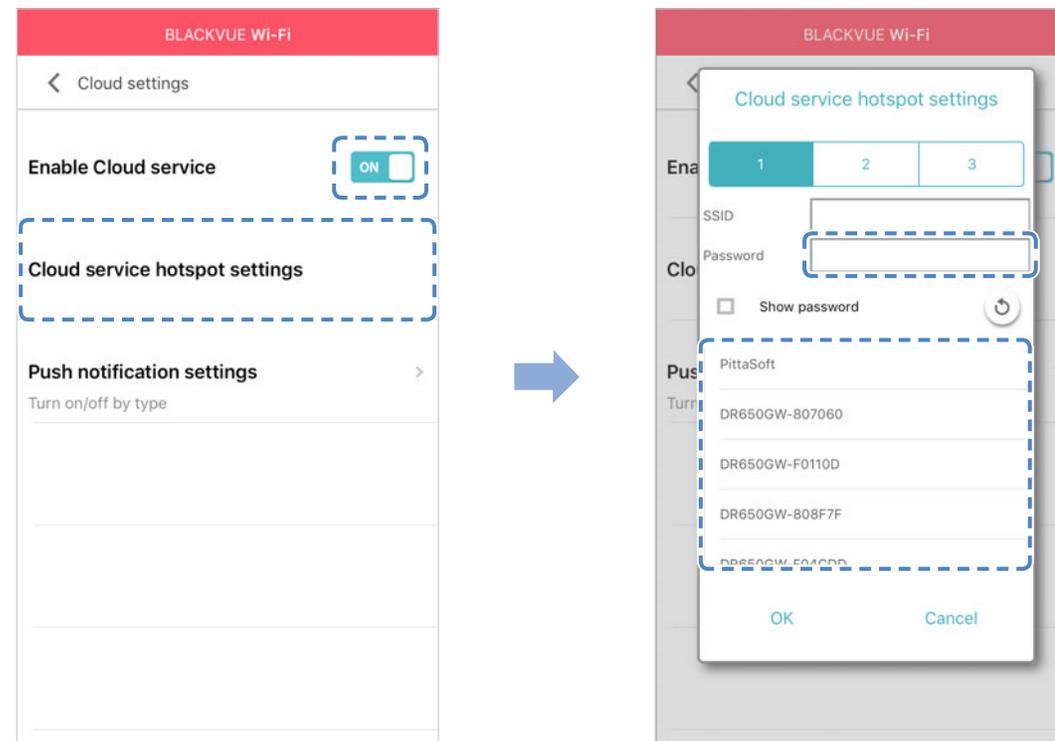
Click [here](#) for a step-by-step video tutorial, or go to the main menu and select **Help > Video tutorials**.

- (i) Make sure your BlackVue dashcam and mobile Wi-Fi hotspot are on.
- (ii) "Pair" your smartphone with the BlackVue dashcam via direct Wi-Fi.
- (iii) Open the BlackVue C app. Select **BLACKVUE WI-FI** >  > **Cloud settings**.



- (iv) Ensure **Enable Cloud service** is on. Select **Cloud service hotspot settings**.

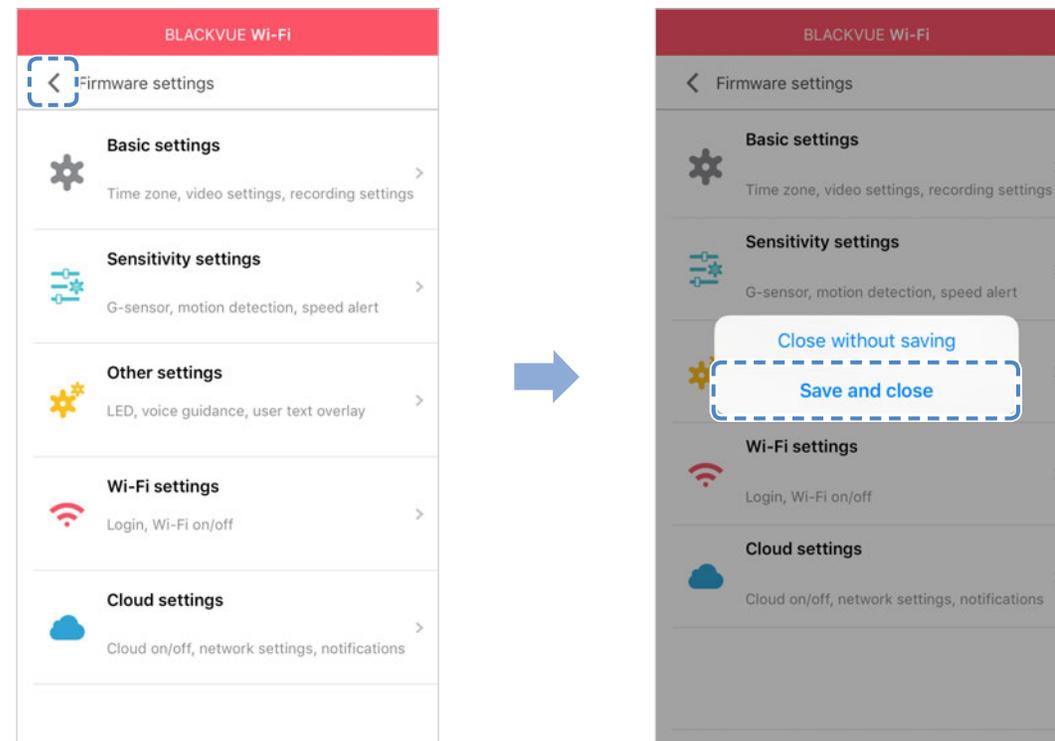
- (v) Choose your Wi-Fi hotspot from the list and enter the password. Tap 2 and 3 to add settings for additional hotspots. Once done, tap **OK**.



### Note

- Up to 3 Wi-Fi hotspot SSIDs can be saved (e.g. home, portable hotspot and work). Your BlackVue will try to connect to hotspot 1 first. If it cannot connect to hotspot 1, it will then try to connect to hotspot 2, and then hotspot 3.
- The BlackVue dashcam is not compatible with 5GHz wireless networks.

(vi) Go back to the Firmware settings menu, tap  and tap **Save and close**.



After rebooting, your dashcam will automatically connect to the Wi-Fi hotspot.

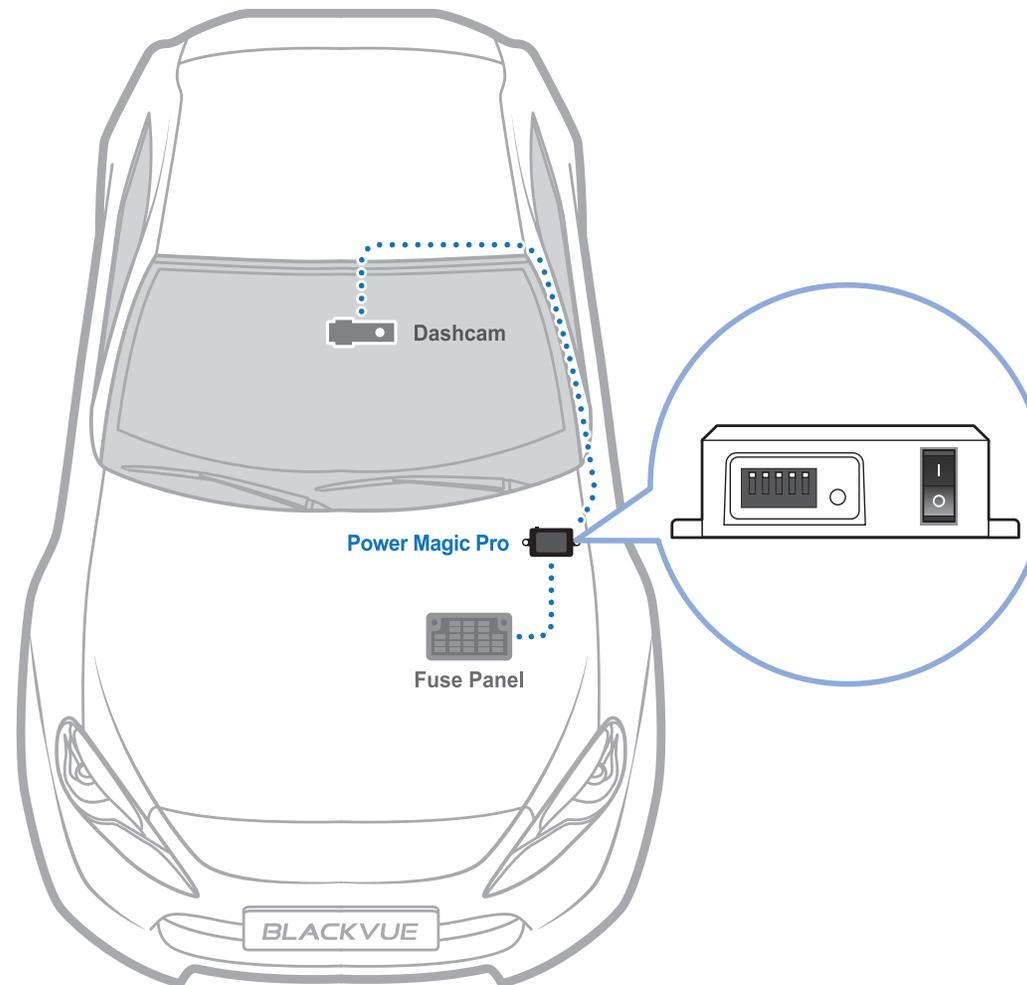
Select BLACKVUE CLOUD from the main screen to access all of the Cloud features.

#### Note

- You can also change the dashcam settings through BLACKVUE CLOUD by going tapping next to your camera name and select **Camera settings**.
- For more information about using the BlackVue C app, please refer to the manual by going to the main menu and selecting **Help** > **App manual**.

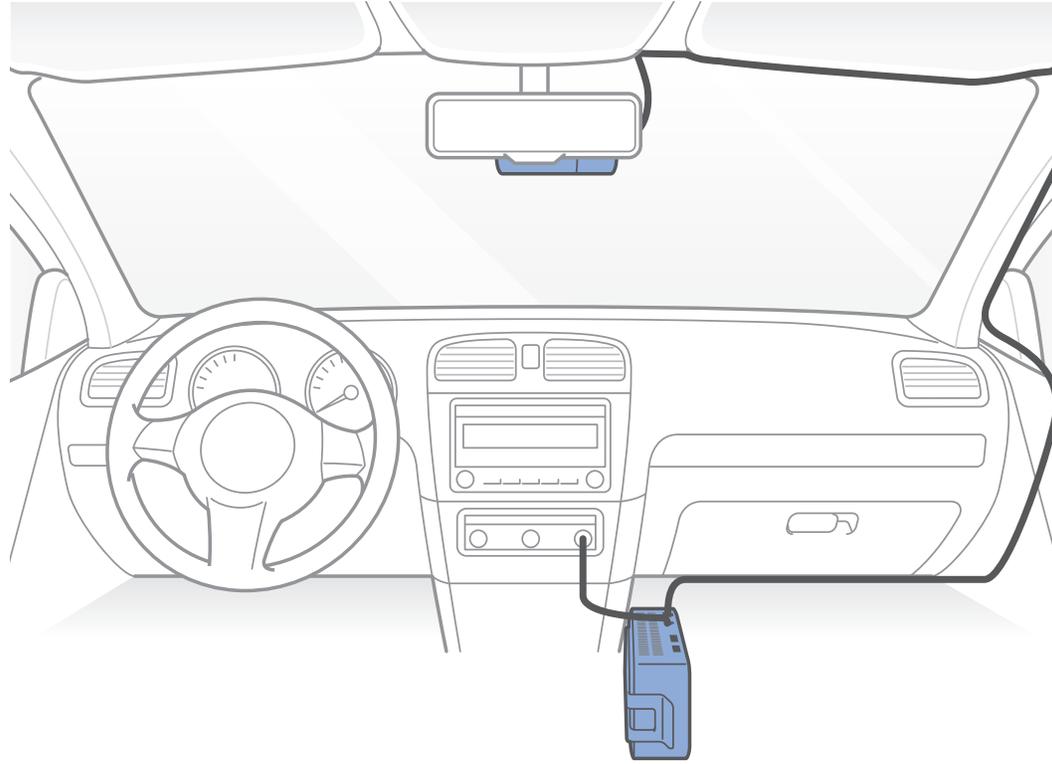
### ▶ Parking mode hardwiring kit (Optional)

The BlackVue dashcam will turn off when the engine is turned off. To record video while the engine is turned off, a hardwiring kit (such as the Power Magic Pro) is required. The Power Magic Pro powers your dashcam when the engine is off by hardwiring it to the automotive battery. A low voltage power cut-off function and a parking mode timer protect your vehicle's battery from discharge.



## ▶ Parking mode battery pack (Optional)

To record video when the engine is turned off without using the vehicle's battery, you can install a parking mode battery pack. The Power Magic Battery Pack B-112 powers a single dashcam for up to 12 hours after 1 hour of rapid charging. When the engine is off the battery pack powers the dashcam. When the engine is on the dashcam is powered directly from the vehicle's battery and the battery pack charges.



## Troubleshooting

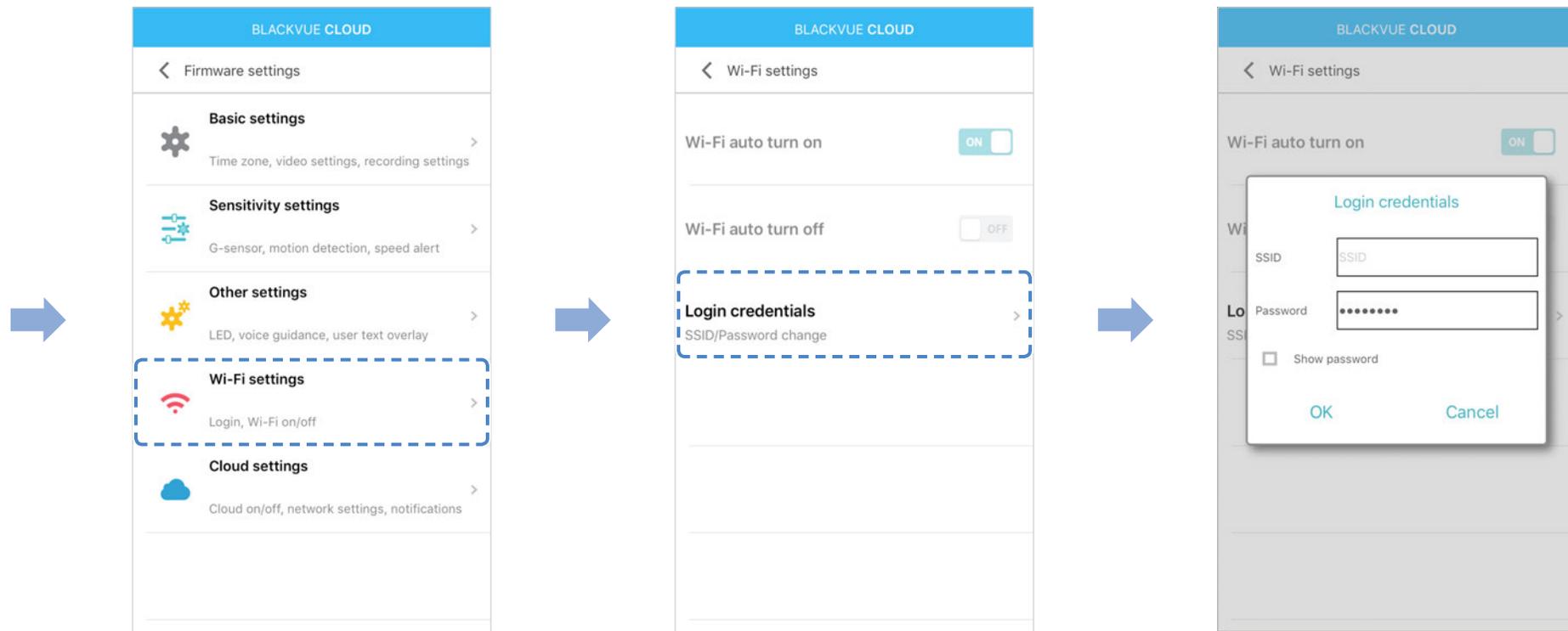
### ▶ Resetting the direct Wi-Fi login password

If you have forgotten the password you can change or reset it using one of the following methods.

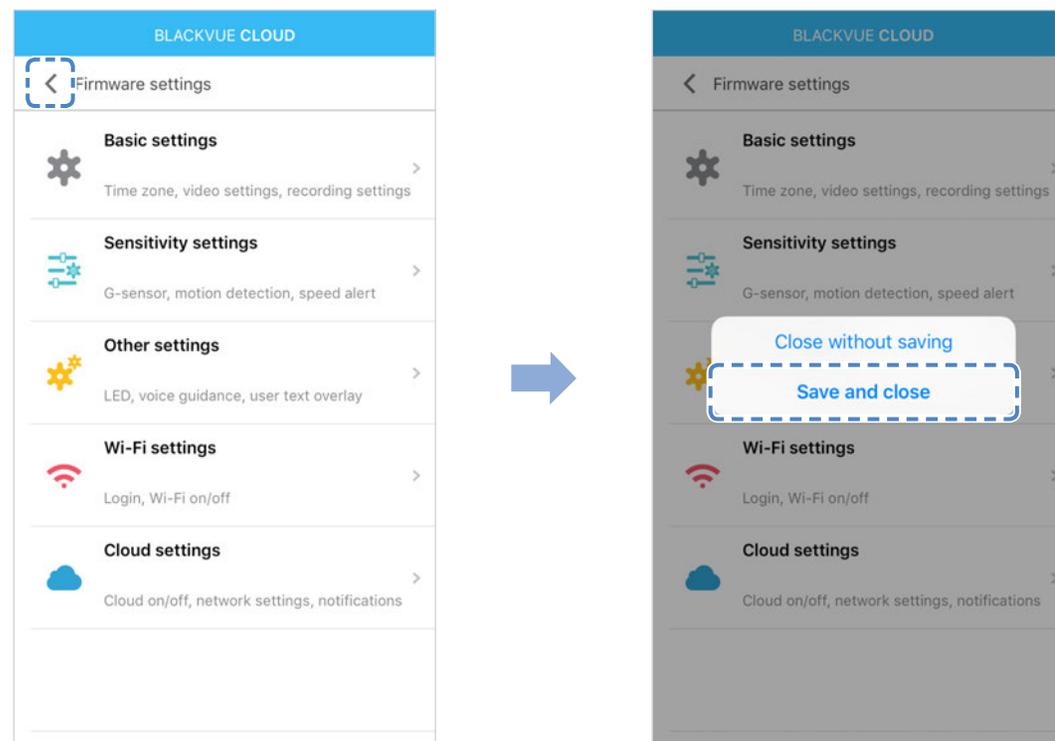
### ➤ Change the Wi-Fi password over the internet:

- 1 Login to the BlackVue C app.
- 2 Select **BLACKVUE CLOUD**.
- 3 Tap **⋮** next to your camera name and select **Camera settings** > **Firmware settings** > **Wi-Fi settings** > **Login credentials**.  
You can change the camera's SSID and Wi-Fi login password.





4 Go back to the Firmware settings menu, tap  and tap **Save and close**.



## ➤ Change the Wi-Fi password using BlackVue Viewer (Windows or Mac)

- 1 Remove the microSD card from the dashcam.
- 2 Insert the card into the microSD card reader and connect it to a computer.
- 3 Find and run the BlackVue Viewer program.  
**For Windows users:** Open Windows Explorer and click on the microSD card (Removable Disk (F:), or the name of your card location). Go to F:\BlackVue\Application\Viewer for Windows\ and run BlackVue.exe.  
**For Mac users:** Open Finder and select the microSD card reader from the list in the left frame. Go to \BlackVue\Application\Viewer for Mac\ and run BlackVue Viewer.
- 4 In BlackVue Viewer click on the  button or the  **BlackVue Viewer** menu to access the settings panel.
- 5 Click the **Wi-Fi & Other** tab and under **Login credentials** change the password.
- 6 Click **Save & Close**.

## ➤ Reset the Wi-Fi password by upgrading the firmware using a computer (Windows or Mac)

- Go to [www.blackvue.com/support/downloads/](http://www.blackvue.com/support/downloads/) and follow the firmware upgrade guide.
- When you use a computer to upgrade the firmware all settings are reset to the defaults to ensure stable operation. Please reconfigure your personal settings such as the time zone, Wi-Fi and Cloud settings.

## Product specifications

<b>Model Name</b>	DR650S-2CH
<b>Color/Size/Weight</b>	Front: Black / Width 118.5 mm x Height 36 mm / 96 g Rear: Black / Width 67.4 mm x Height 25 mm / 28 g
<b>Memory</b>	microSD Card (16 GB/32 GB/64 GB/128 GB)
<b>Recording Modes</b>	Normal Recording, Event Recording (Impact Detection), and Parking modeRecording (Motion + Impact Detection) * For Parking mode recording, a Parking Mode Battery Pack(Power Magic Battery Pack) or aParking Mode Hardwiring Kit(Power Magic Pro) is required.
<b>Camera</b>	Front: CMOS Sensor (Approx. 2.1 M Pixel) Rear: CMOS Sensor (Approx. 1 M Pixel)
<b>Viewing Angle</b>	Front: Diagonal 129°, Horizontal 103°, Vertical 77° Rear: Diagonal 129°, Horizontal 108°, Vertical 57°
<b>Resolution/Frame Rate</b>	Front: Full HD (1920x1080) @ 30 fps Rear: HD (1280x720) @ 30 fps * Resolution/frame rate can be changed. * Frame rate is different during Parking mode and Wi-Fi streaming.
<b>Image Quality</b>	Highest, High, Normal
<b>Video Compression Mode</b>	MP4
<b>Wi-Fi</b>	Built-in (802.11 b/g/n (2.4 – 2.4835 GHz))
<b>GPS</b>	Built-in
<b>Microphone</b>	Built-in
<b>Speaker (Voice Guidance)</b>	Built-in

<b>LED Indicators</b>	Front: Recording LED, GPS LED, Wi-Fi LED, Front Security LED Rear: Rear Security LED
<b>Button</b>	Wi-Fi / Format Button * Self-format Function: Press it for 10 seconds to format the microSD card. Voice recording proximity sensor * Touch the button or it recognizes when a hand approaches to within about 2 cm.
<b>Sensor</b>	3-Axis Acceleration Sensor
<b>Backup Battery</b>	Built-in super capacitor
<b>Input Power</b>	DC 12 V – 24 V (DC Plug:  (Ø3.5 x Ø1.35), MAX 1 A/12 V)
<b>Power Consumption</b>	Avg. 400 mA (4.8 W at 12 V, when GPS and Wi-Fi is On) Avg. 300 mA (3.6 W at 12 V, when GPS and Wi-Fi is Off) * Actual power consumption may vary depending on use conditions and environment.
<b>Operation Temperature</b>	-20 °C – 60 °C (-4 °F – 140 °F )
<b>Storage Temperature</b>	-20 °C – 70 °C (-4 °F – 158 °F )
<b>Certifications</b>	Front: FCC, CE, RoHS, Telec, RCM, WEEE Rear: FCC, CE, RoHS, RCM, WEEE
<b>Software</b>	BlackVue Viewer * Windows XP or higher (Windows 8 supported) and Mac Leopard OS X (10.5) or higher
<b>Application</b>	BlackVue Application (Android 4.4.2 or higher, iOS 8.0 or higher)

## Recording time

Your dashcam will automatically turn on and start recording when it is connected to a power source.

Memory Capacity		Resolution	Full HD + HD @ 30 fps	Full HD + HD @ 15 fps	HD + HD @ 30 fps	HD + HD @ 15 fps
16 GB		Highest	2 HR 10 MIN	2 HR 40 MIN	2 HR 30 MIN	3 HR 10 MIN
		High	2 HR 40 MIN	3 HR 30 MIN	3 HR 10 MIN	3 HR 50 MIN
		Normal	3 HR 30 MIN	5 HR 10 MIN	4 HR 30 MIN	5 HR 10 MIN
32 GB		Highest	4 HR 20 MIN	5 HR 20 MIN	5 HR	6 HR 20 MIN
		High	5 HR 20 MIN	7 HR	6 HR 20 MIN	7 HR 40 MIN
		Normal	7 HR	10 HR 20 MIN	9 HR	10 HR 20 MIN
64 GB		Highest	8 HR 40 MIN	10 HR 40 MIN	10 HR	12 HR 40 MIN
		High	10 HR 40 MIN	14 HR	12 HR 40 MIN	15 HR 20 MIN
		Normal	14 HR	20 HR 40 MIN	18 HR	20 HR 40 MIN
128 GB		Highest	17 HR 20 MIN	21 HR 20 MIN	20 HR	25 HR 20 MIN
		High	21 HR 20 MIN	28 HR	25 HR 20 MIN	30 HR 40 MIN
		Normal	28 HR	41 HR 20 MIN	36 HR	41 HR 20 MIN
Bit rate	Front	Highest	10 Mbps	8 Mbps	8 Mbps	6 Mbps
		High	8 Mbps	6 Mbps	6 Mbps	5 Mbps
		Normal	6 Mbps	4 Mbps	4 Mbps	4 Mbps
	Rear	Highest	5 Mbps	4 Mbps	5 Mbps	4 Mbps
		High	4 Mbps	3 Mbps	4 Mbps	3 Mbps
		Normal	3 Mbps	2 Mbps	3 Mbps	2 Mbps

### Note

- If the microSD card is full, older files are deleted first to make space for newly-recorded videos. Copy important files, such as event recording files, to other storage media.
- Total recording time is different depending on the memory capacity of the microSD card and the resolution of the video.

### Disposal of your BlackVue dashcam



1. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities. Contact local authorities to learn about disposal and recycling options available in your area.
2. The correct disposal of your BlackVue dashcam will help prevent potential negative consequences for the environment and human health.
3. For more detailed information about disposal of your BlackVue dashcam, please contact your city office, waste disposal service or the shop where you purchased the product.

## Customer Support

For customer support and firmware updates please visit [www.blackvue.com](http://www.blackvue.com)

You can also email a Customer Support expert at [cs@pittasoft.com](mailto:cs@pittasoft.com)

## Before Requesting Service

Please back up all important files and data before requesting service. In order to service the dashcam it may be necessary to delete all files and data from the dashcam. All servicing is provided on the basis that the user has backed up all necessary files and data before requesting service. Therefore Pittasoft Co., Ltd. will not be responsible for the loss of any files or data.

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YCK-DR650S-2CH

**Product** | Car Dashcam  
**Model Name** | DR650S-2CH  
**Manufacturer** | Pittasoft Co., Ltd. / South Korea  
**Address** | 7F, BYC HIGHCITY Building A 131, Gasan Digital 1-ro, Geumcheon-gu, Seoul, Republic of Korea, 08506  
**Customer Support** | [cs@pittasoft.com](mailto:cs@pittasoft.com)  
**Product Warranty** | One-Year Limited Warranty  
**f** [facebook.com/BlackVueOfficial](https://facebook.com/BlackVueOfficial)  
**[www.blackvue.com](http://www.blackvue.com)**  
**Made in Korea**

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