

# DR470-2CH Manual



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#### Introduction

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.



• 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.



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.

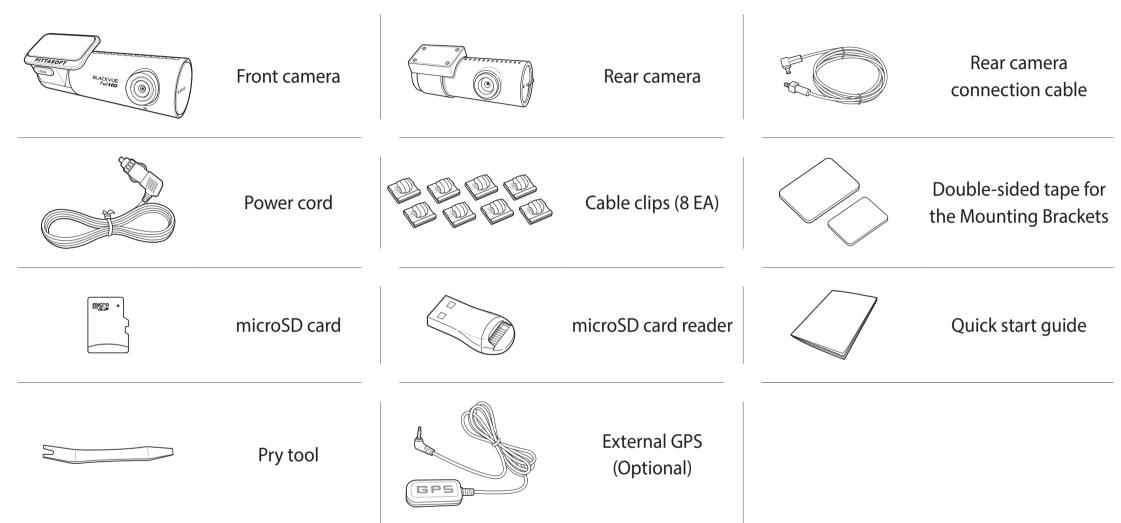
- It is recommended that you install the software and firmware from the BlackVue download page. You can access the BlackVue download page on the BlackVue website (<u>www.blackvue.com</u>).
- It is recommended that you remove the power cord if the product (BlackVue dashcam/Parking Mode Hardwiring Kit) 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.



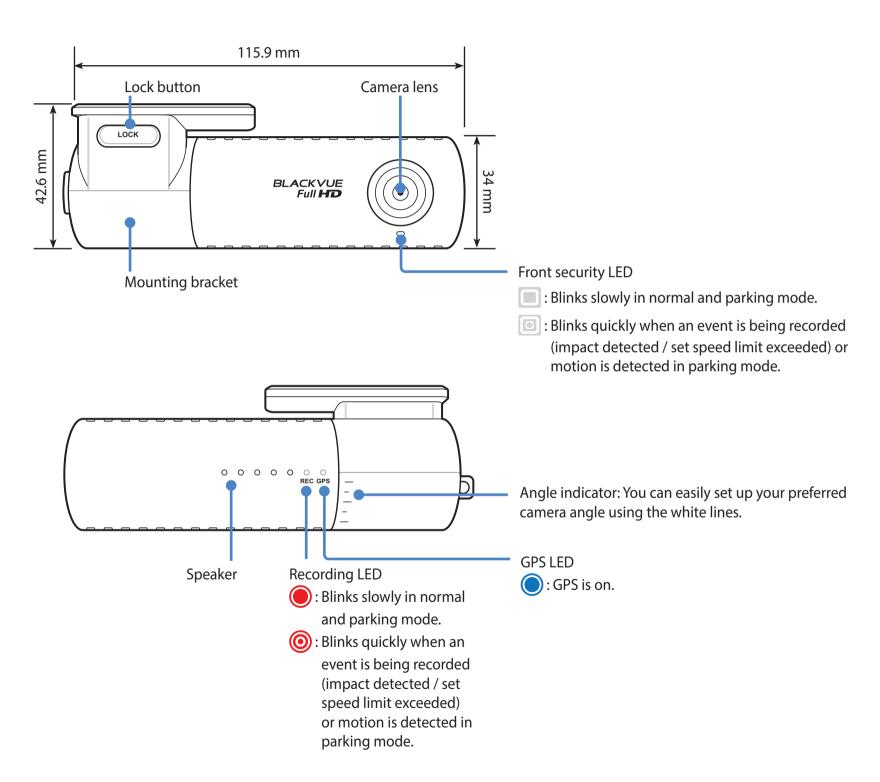


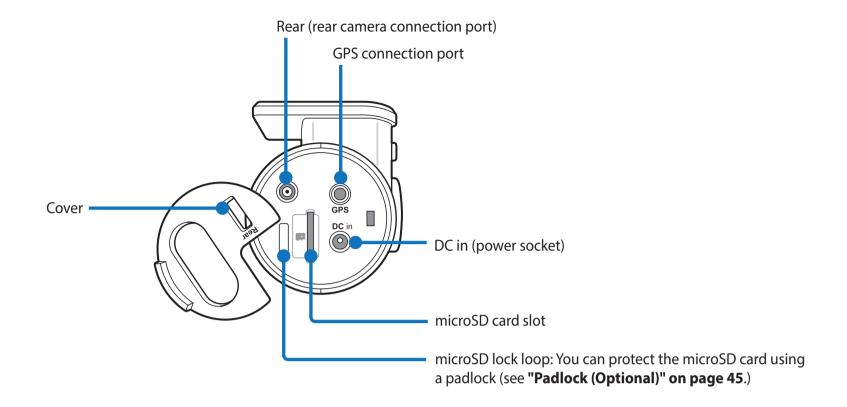
- The illustrations in this manual may differ from the product.
- To improve the performance of the product, the contents of this manual are subject to change without prior notice.
- For more information about the package components and accessories, visit the BlackVue website (<u>www.blackvue.com</u>).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

# At a glance

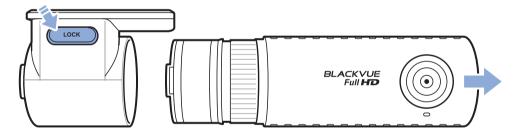
The following diagrams explain each part of the BlackVue dashcam.

#### Front camera



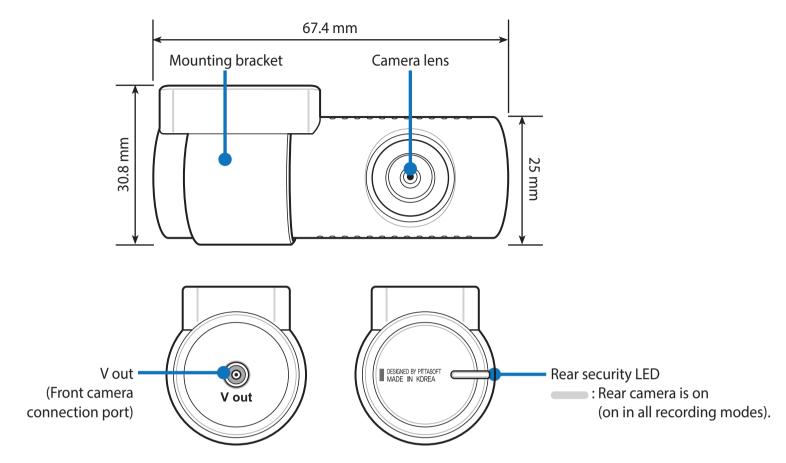


### Removing and inserting the front camera

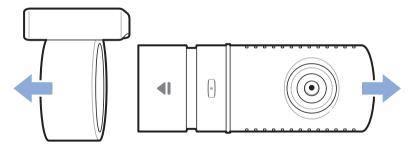


- To remove the front camera from its bracket, press the LOCK button and pull the front camera out of the mounting bracket.
- To insert the front camera into its bracket, push the front camera into the mounting bracket until it "clicks" in.

#### Rear camera



#### Removing and inserting the rear camera

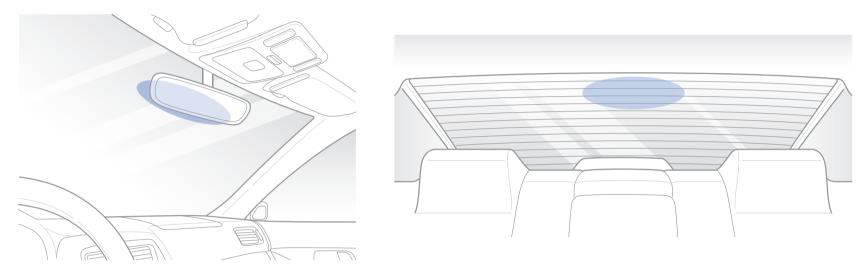


- To remove the rear camera from its bracket, hold the mounting bracket and pull the rear camera out.
- To insert the rear camera into its bracket, push the rear camera into the mounting bracket until it "clicks" in.



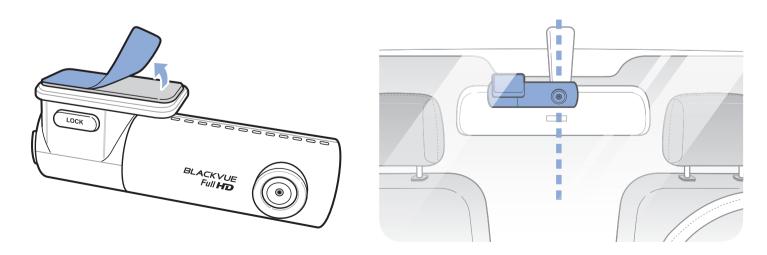
### Installing the BlackVue dashcam

Install the front camera behind the rear view mirror. Install the rear camera at the top of the back windshield. Remove any foreign matter and clean and dry the windshield before installation.

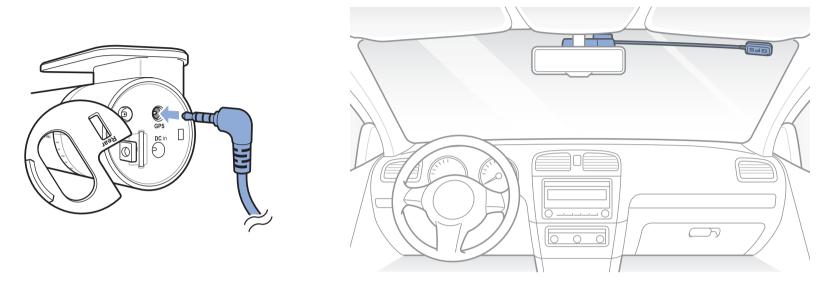


# Warning

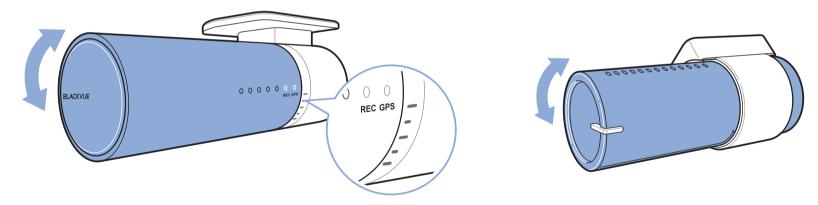
- Do not install the product in a location where it can obstruct the driver's field of vision.
- Turn off the engine.
- Peel off the protective film from the double-sided tape and attach the front camera to the windshield behind the rear-view mirror.



- **?** Peel off the protective film from the double-sided tape and attach the rear camera to the rear windshield.
- **Optional GPS receiver**: Plug in the GPS receiver and attach it in a corner of the windshield. Tuck the cable into the windshield trim using the pry tool.

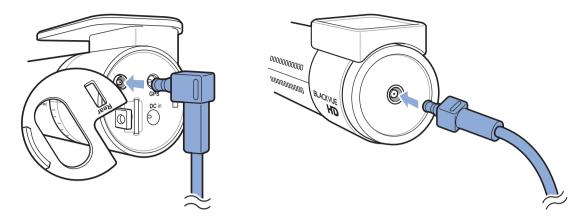


Adjust the angle of the lens by rotating the body of the camera. We recommend pointing the lens slightly downwards (≈10° below horizontal), so as to record video with a 6:4 road to background ratio.

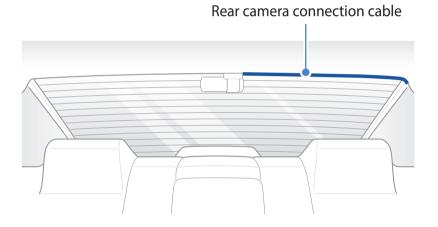


**6** Peel off the protective lens cover.

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

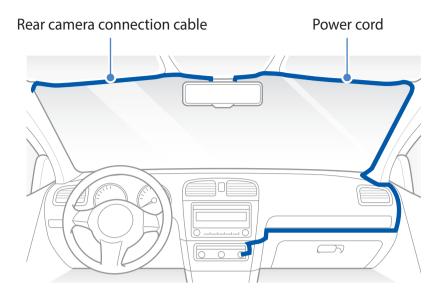


Use the pry tool to lift the edges of the rubber window sealing and molding and tuck in the rear camera connection cable.



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

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



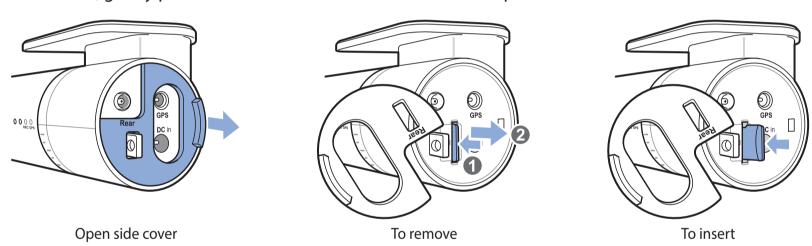
Turn on the engine. The BlackVue dashcam will power up and start recording. Video files are stored on the microSD card. When the microSD card fills up, the newest video files will start to replace the oldest video files (called **loop recording**) - so you will always have the most recent video files.

# **■** 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 or the set speed limit is exceeded, 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.
- 12 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.

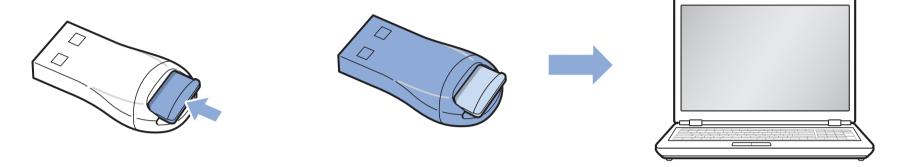
### **Playing and Managing Videos**

- Playing and managing video files using your computer (Windows/Mac)
- Removing the microSD card
- Unplug the power cord to turn off the dashcam.
- Open the side cover of the front camera.
- 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.



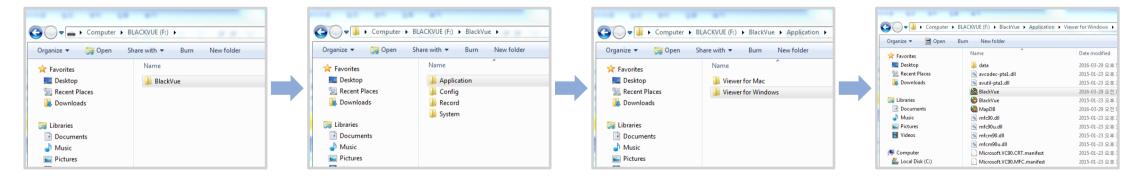
# **Opening video files in BlackVue Viewer**

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



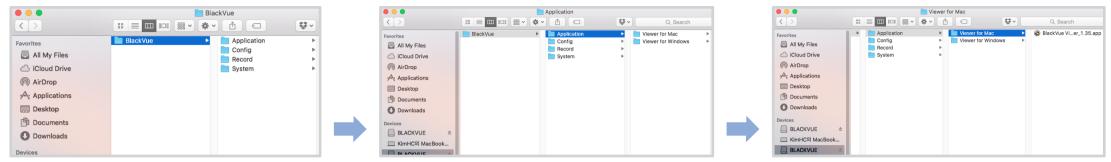
- Find and run the BlackVue Viewer program.
- **For Windows users**

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.



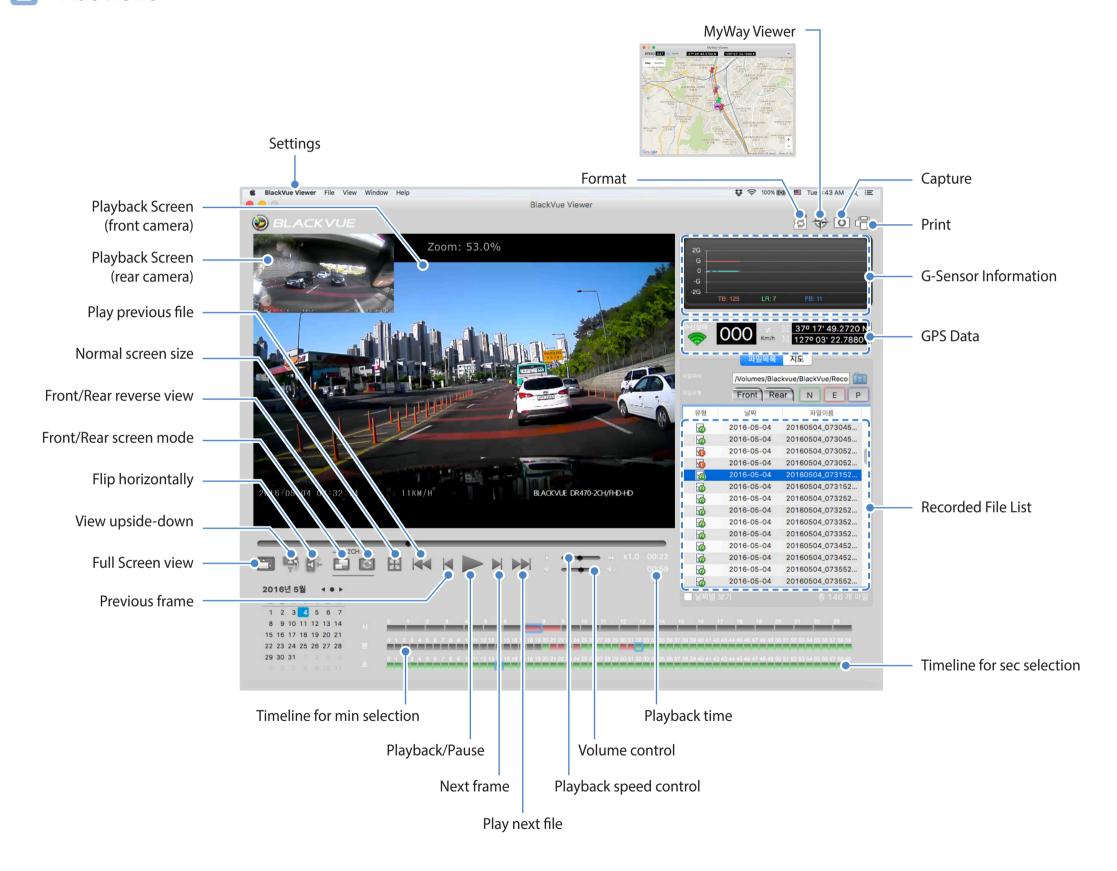


### **Viewer screen composition**

#### **Windows Viewer**



#### **Mac Viewer**

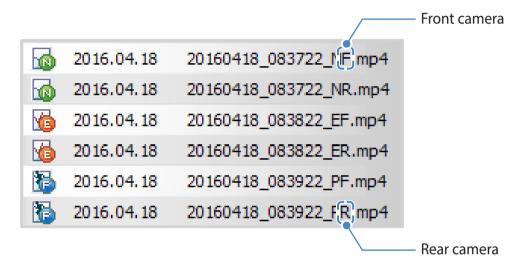


# **Playing video**

#### 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 [1] (Mac) and set the folder path.

### Identify video files by recording type



: 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, or the set speed limit is exceeded.

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

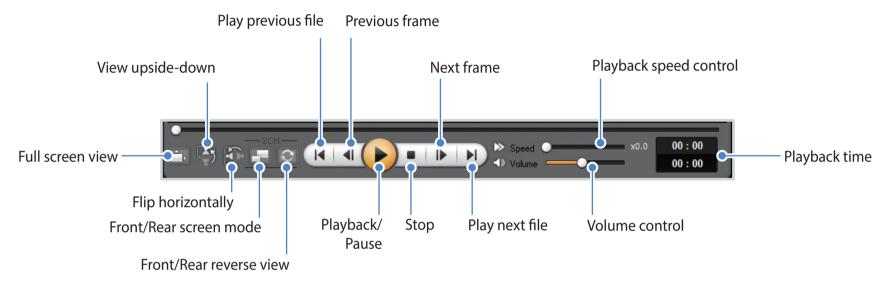
- The dashcam requires a constant power source to record in parking mode. See "Parking mode hardwiring kit (Optional)" on page 47 or "Parking mode battery pack (Optional)" on page 48 for more information.
- To install the BlackVue Viewer program on your computer, go to the BlackVue website (www.blackvue.com) and download the installable version of the BlackVue Viewer.
- Using the File type buttons ( 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 38.

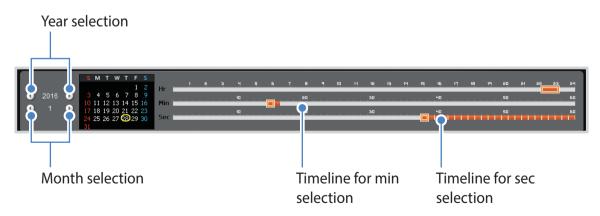
#### Using BlackVue Viewer

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**

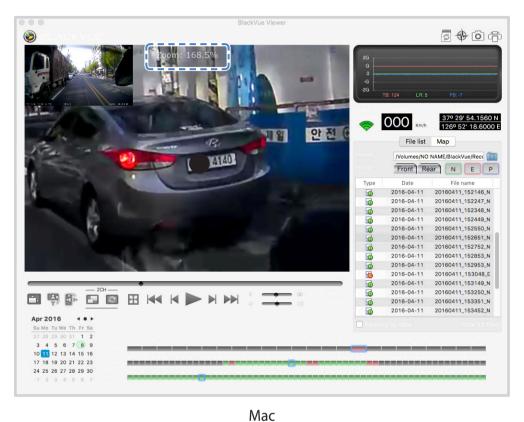
You can explore the timeline for the playback of the recorded videos by date, hour, minute, and second using the timeline option buttons.



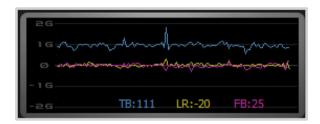
#### **Zoom options**

- 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.





### 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.



### **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).

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

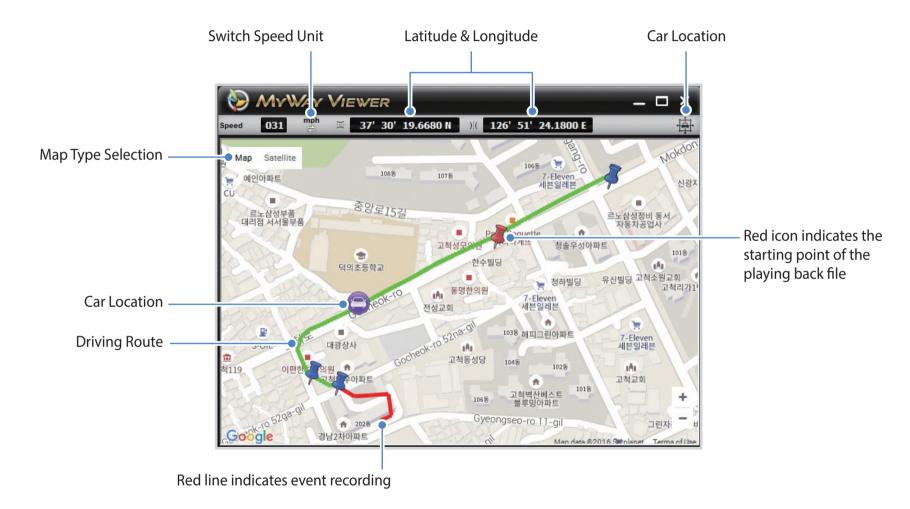
# Note

• An external GPS receiver is required to obtain GPS data. See "GPS receiver (Optional)" on page 46.

#### **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.

- Double click a file in the file list to play.
- 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.

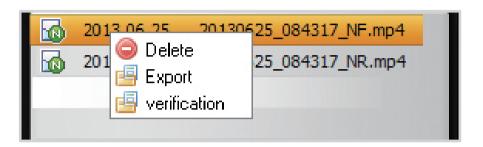


- If the microSD card is full, by default the dashcam will record over the oldest videos first.
- Capturing or printing a still image from video

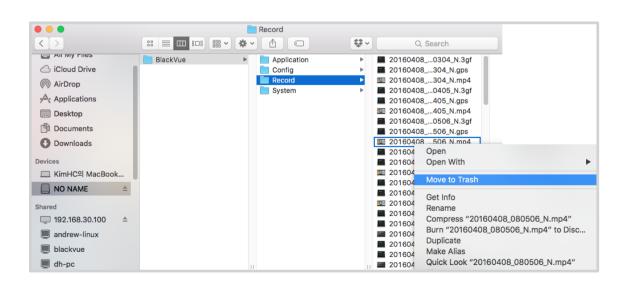


- Double click a file in the file list to play.
- Click the **III** button to pause the video.
- Select the button to capture the image or the button to print directly.

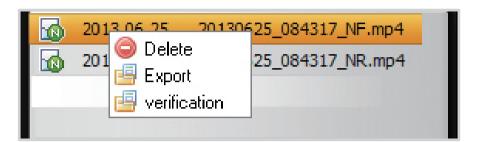
- **Deleting videos**
- For Windows users
- Select the video from the recorded video list.
- Right-click the video.



- Click Delete.
- For Mac users
- Go to \BlackVue\Record\.
- Select the video from the recorded video list.
- Click Move to Trash.



- **Exporting videos**
- For Windows users
- Select the video from the recorded video list.
- Right-click the video.

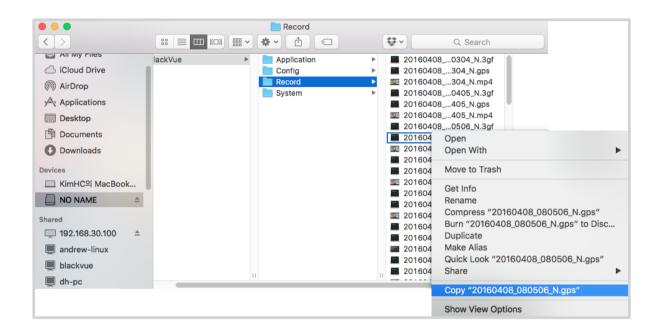


- Click Export.
- Enter a file name and the start and end points (min:sec) of the segment you want to export. To export without audio select "Sound Off".



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

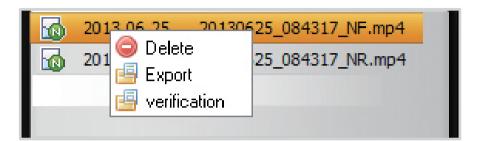
- For Mac users
- Go to \BlackVue\Record\.
- Select the video from the recorded video list.
- Click Copy "file name".



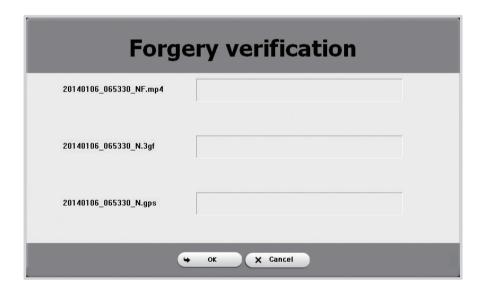
### Verifying videos

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

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



Click Verification.



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.

Please format the microSD card using BlackVue Viewer (Windows or Mac).

#### **Format using Windows Viewer**

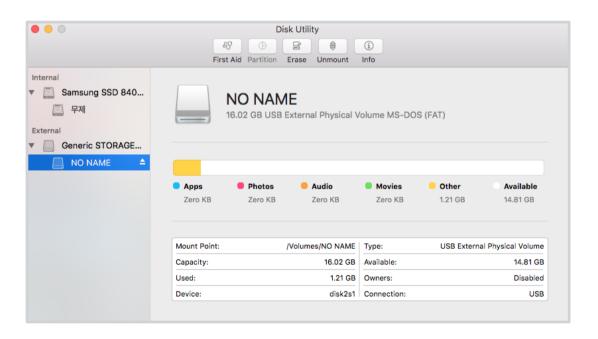
- Download BlackVue Viewer from <a href="https://www.blackvue.com">www.blackvue.com</a> Support > Downloads and install the program on your computer.
- Insert the microSD card into the microSD card reader.
- Connect the microSD card reader to your computer.
- Launch the copy of BlackVue Viewer that is installed on your computer.
- Click the Format 💋 button.

#### Select the microSD card drive and click **OK**.

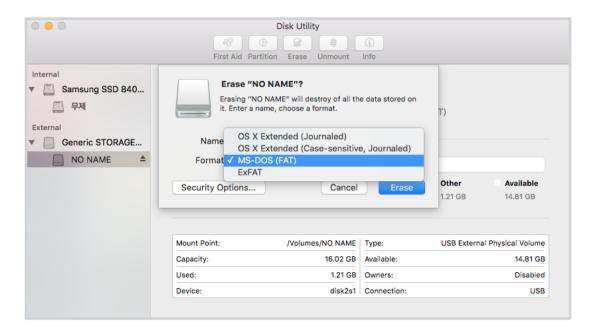


#### Format using Mac Viewer

- Download BlackVue Viewer from <a href="https://www.blackvue.com">www.blackvue.com</a> Support > Downloads and install the program on your computer.
- Insert the microSD card into the microSD card reader.
- Connect the microSD card reader to a Mac.
- Launch the copy of BlackVue Viewer that is installed on your computer.
- Click the Format 🖫 button.
- Select the microSD card from the list of drives in the left frame.



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



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

#### **Caution**

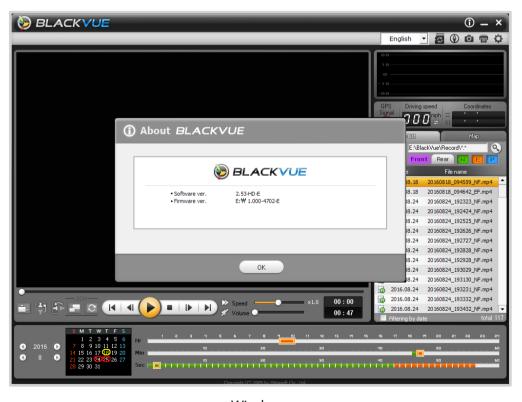
- If you format the microSD card, all the video files stored in the microSD card will be deleted.
- Back up important video files such as event recording files before formatting the microSD card. PittaSoft Co., Ltd. will not be responsible for the loss of video files that were not backed up.
- Formatting 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.

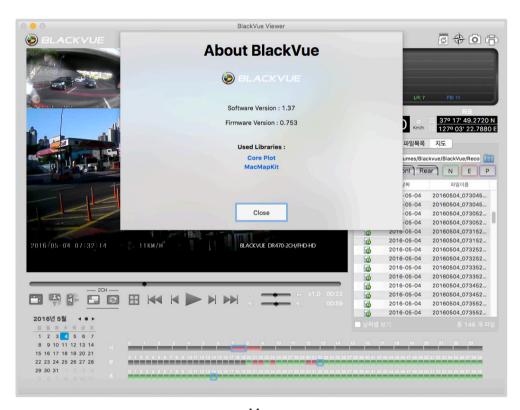


### **Upgrading the firmware**

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) to check for any new firmware releases for your BlackVue dashcam model.

- Insert the microSD card into the microSD card reader.
- Connect the microSD card reader to your computer (Windows or Mac).
- Launch BlackVue Viewer and click on the About 1 button.
  - For Mac users, click BlackVue Viewer and select About BlackVue from the menu.
- Check the current firmware version of your BlackVue dashcam and proceed only if your version is not the latest one.

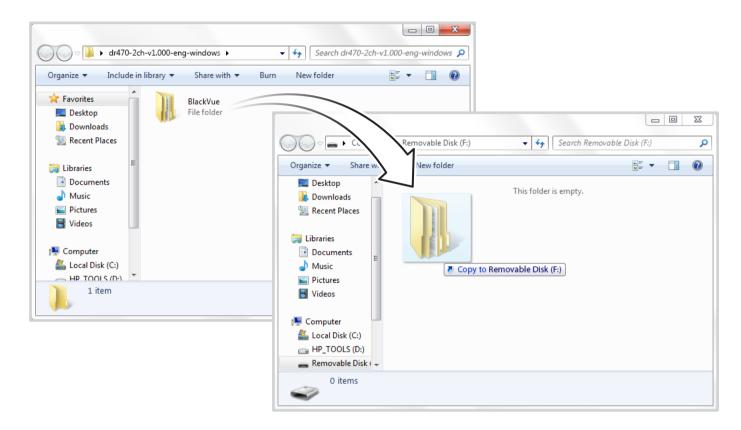




Windows Mac

Format the microSD card. See "Formatting the microSD card" on page 30.

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



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**



### BlackVue Viewer language setting

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



### **BlackVue settings**

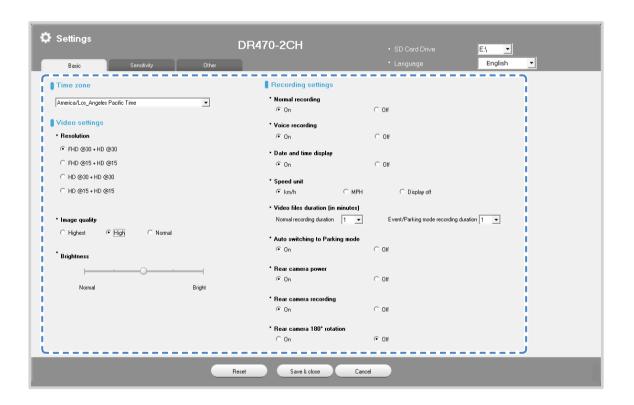
Click on the Dutton or the BlackVue Viewer menu to open the BlackVue settings panel. You will be able to change most of the BlackVue settings to customize its operation.



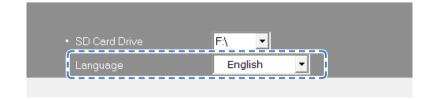
## **Basic settings**

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

- Click the Dutton or the BlackVue Viewer menu.
- Click the **Basic** tab.
- Change the settings.
- 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.

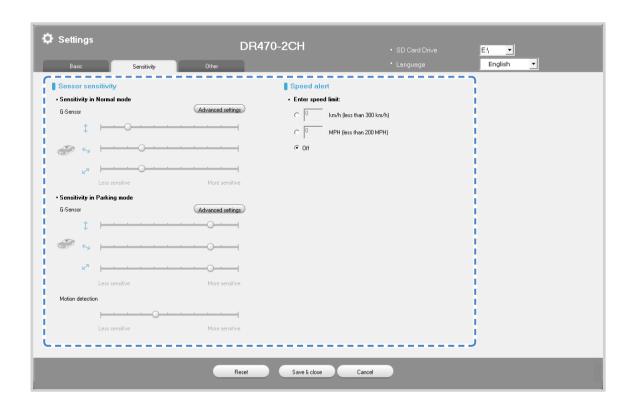
#### Rear camera 180° rotation

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**.

- Click the Dutton or the BlackVue Viewer menu.
- Click the **Sensitivity** tab.
- Change the settings.
- 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.

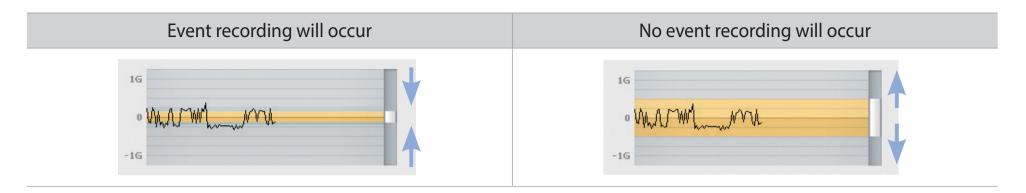
You can adjust the sensitivity of the motion detection so minor motion caused by wind or rain doesn't trigger a recording. Please take into account your vehicle's surroundings when adjusting the sensitivity.

#### 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.

- Click the Advanced Settings button of the recording mode.
- Select the reference video from the list that you want to use to set the threshold of event recording.
- Click the button or double click the selected video.
- 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.





## Click Save & Close.

## Speed alert

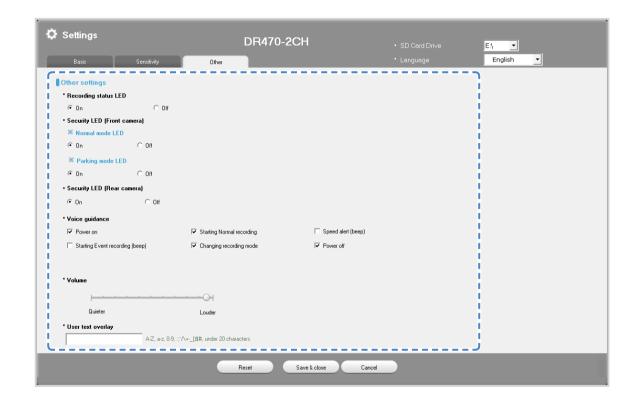
Set a speed limit (up to 300 km/h or 200 MPH) for the speed alert.

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.

# Other settings

You can adjust other settings such as the LED indicators, voice guidance, volume, and user text overlay in the Other tab of the Settings window.

- Click the Dutton or the BlackVue Viewer menu.
- Click the **Other** tab.
- Change the 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.

- Normal mode LED
- Parking mode LED

#### • Security LED (Rear camera)

You can turn the rear security LED on/off.

#### Voice guidance

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

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

#### 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 (;;' $\land$ +-\_()\$#). The text is overlaid in the top-left corner of the recorded videos.

## Click Save & Close.

## 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.

# **Optional accessories**

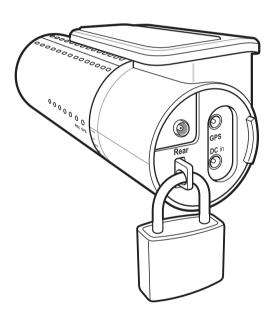


# **Padlock (Optional)**

You can protect the microSD card using a padlock. To lock the microSD card slot purchase a padlock and lock the microSD lock loop.

# **Note**

- Check the size of the microSD lock loop on the BlackVue dashcam before purchasing a padlock.
- Even when the microSD card slot is locked with a padlock, there is the possibility that the card may be forcibly removed by breaking the lock loop, cover or dashcam.
- Copy important videos from the microSD card to other storage media. PittaSoft Co., Ltd. will not be held liable for any loss of videos due to theft of the microSD card.





# **GPS receiver (Optional)**

If you do not install an external GPS receiver, videos are recorded without GPS coordinates and driving speed information. To include speed, recording location, and the driving route data in the videos, install an external GPS receiver.



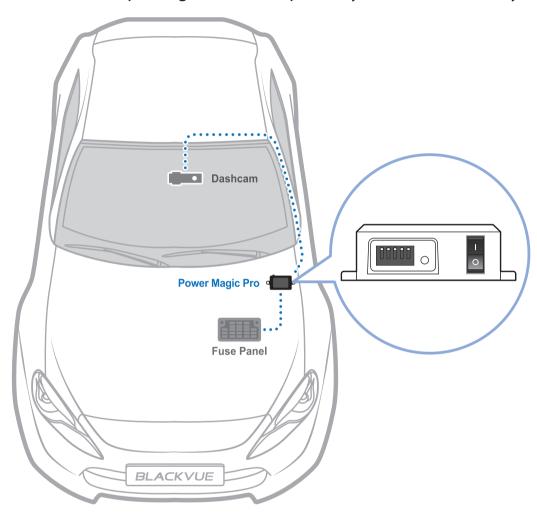


• If you purchased the product without an external GPS receiver, please visit the BlackVue website (<u>www.blackvue.com</u>) for information about purchasing a GPS receiver separately.



# **Parking mode hardwiring kit (Optional)**

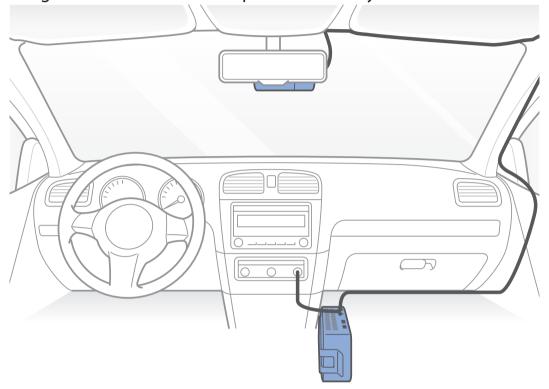
The BlackVue dashcam will turn off when the engine is turned off. To record video while the engine is turned off, a hardwiring kit (such as the Power Magic Pro) is required. The Power Magic Pro powers your dashcam when the engine is off by hardwiring it to the automotive battery. A low voltage power 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**

# **Running the time setting program**

- Remove the microSD card from the dashcam and insert it into the microSD card reader.
- Connect the microSD card reader to a PC.

# |**■** Note

- If you insert the microSD card into the dashcam after setting the time, the dashcam will automatically format the microSD card. Therefore, please backup all important video files before setting the time.
- Go to the BlackVue website (www.blackvue.com > Support > Download) and download the time setting program in zip format.
- Unzip the downloaded file and run the time setting program.
- Select the **SD Card Folder** (microSD card drive).
- Set the time.

# **■** Note

- Set the time to the estimated time in the future when you will start recording with the BlackVue dashcam. Please take into account the time it will take to remove the microSD card from your computer, insert it into your dashcam and boot up.
- Booting takes about 10-15 seconds after the dashcam turns on.
- Click the Save button.
- Remove the microSD card from your computer, insert the microSD card into the dashcam and turn it on. After booting up the new time setting will be applied.

# **Product specifications**

Model Name	DR470-2CH					
Color/Size/Weight	Front: Black / Width 115.9 mm x Height 34 mm / 72 g Rear: Black / Width 67.4 mm x Height 25 mm / 28 g					
Memory	microSD Card (16 GB / 32 GB / 64 GB / 128 GB)					
Recording Modes	Normal Recording, Event Recording (Impact Detection / Speed Limit), and Parking Mode Recording (Motion & Impact Detection)  * For parking mode recording, a Parking Mode Battery Pack (Power Magic Battery Pack) or a Parking Mode Hardwiring Kit (Power Magic Pro) is required.					
Camera	Front: CMOS Sensor (Approx. 2 M Pixel) Rear: CMOS Sensor (Approx. 1 M Pixel)					
Viewing Angle	Front: Diagonal 135°, Horizontal 110°, Vertical 57° Rear: Diagonal 129°, Horizontal 108°, Vertical 57°					
Resolution/Frame Rate	Front: Full HD (1920x1080) @ 30 fps Rear: HD (1280x720) @ 30 fps * Resolution/frame rate can be changed. * Frame rate is different during parking mode.					
Image Quality	Highest, High, Normal					
Video Compression Mode	MP4					
GPS	External (optional)					
Microphone	Built-in					
Speaker (Voice Guidance)	Built-in					
LED Indicators	Front: Recording LED, GPS LED, Front Security LED Rear: Rear Security LED					
Sensors	3-Axis Acceleration Sensor Temperature Sensor * Power off function in high temperature environment					

Backup Battery	Built-in super capacitor					
Input Power	DC 12 V − 24 V (DC Plug: ⊝ ⊕ (Ø3.5 x Ø1.35), MAX 1 A/12 V)					
Avg. 340 mA (4.08 W at 12 V, when there is no external GPS receiver)  Power Consumption  Avg. 340 mA (4.08 W at 12 V, when an external GPS receiver is connected)  * Actual power consumption may vary depending on use conditions and external GPS receiver.						
Operation Temperature	-20 °C – 60 °C (-4 °F – 140 °F )					
Storage Temperature	orage Temperature -20 °C − 70 °C (-4 °F − 158 °F )					
High Temp. Cut-off	High Temp. Cut-off Approx. 85 °C (185 °F)					
Certifications	Front: FCC, CE, RoHS, WEEE Rear: FCC, CE, RoHS, WEEE					
Software	BlackVue Viewer  * Windows XP or higher (Windows 8 supported) and Mac Leopard OS X (10.5) 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
		Highest	2 HR 10 MIN	2 HR 40 MIN	2 HR 30 MIN	3 HR 10 MIN
16 GB	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		Highest	10 Mbps	8 Mbps	8 Mbps	6 Mbps
	Front	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



- 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 and recycling information

# **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 You can also email a Customer Support expert at 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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**Product** I Car Dashcam Model Name I DR470-2CH

Manufacturer I Pittasoft Co., Ltd. / South Korea

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Customer Support | cs@pittasoft.com

**Product Warranty** I One-Year Limited Warranty

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