BLACKVUE™

DR490L-2CH
Manual

www.blackvue.com
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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.

Note

- A microSD card is provided with the BlackVue dashcam when you purchase the product. After inserting the microSD card and turning on the dashcam, the microSD card will be initialized.
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.
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 – 70°C/-4°F – 158°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 downloads page (www.blackvue.com).**

- **It is recommended that you remove the power cord if the product is not used for an extended period of time.**

- **Do not press the LCD screen with a sharp object.**

- **Do not press the LCD screen too firmly.**
### In the box

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

<table>
<thead>
<tr>
<th>Front camera</th>
<th>Rear camera connection cable</th>
<th>microSD Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardwire cable</td>
<td>Cable clips (8 EA)</td>
<td>Rear camera</td>
</tr>
<tr>
<td>Bracket</td>
<td>Quick start guide</td>
<td>Pry tool</td>
</tr>
<tr>
<td>microSD card adapter</td>
<td>Power cord</td>
<td>External GPS (Optional)</td>
</tr>
</tbody>
</table>

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**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)).
At a glance

The following diagrams explain each part of the BlackVue dashcam.

Front camera

<table>
<thead>
<tr>
<th>Power switch</th>
<th>microSD card slot cover</th>
</tr>
</thead>
</table>

Front security LED

- Blinks white slowly in normal mode or event standby mode.
- Blinks white quickly:
  1. when an event is being recorded (impact detected);
  2. in parking mode.

Mic

Speaker
Rear camera connection port

DC in (power connector)

GPS connection port

GPS LED

■ : Blue LED is on when GPS is on; blinks when there is no GPS signal.
   LED is off when no GPS is connected.

Recording LED

■ : Red LED is on in normal mode, event standby mode and when
   saving a parking recording (motion detected).
   Red LED blinks when an event is being recorded (impact detected).
   Red LED is off in parking standby mode.
Removing and attaching the front camera

- To remove the camera from its mounting bracket, slide the camera unit to the left.
- To attach the camera, slide the camera unit to the right.
Rear camera

Rear security LED

- Blue LED blinks when rear and front cameras are connected.

Front camera connection port

Removing and inserting the rear camera

- To remove the rear camera from its bracket, rotate the camera until the lens points directly away from bracket foot and pull the rear camera out.
- To insert the rear camera into its bracket, point the lens directly away from the bracket foot and push the rear camera into the mounting bracket.
Installation

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.

1. Turn off the engine and make sure accessory power is off. Flick the power switch to the off position.

Open the cover of the microSD card slot, gently push the card into the slot until it locks into place and close the cover.
2 Peel off the plastic film from the lens. Peel off the protective film from the double-sided tape and attach the front camera to the windshield behind the rear-view mirror.

3 **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.

4 Adjust the angle of the lens by loosening the nut and rotating the front camera. We recommend pointing the lens slightly downwards (≈10° below horizontal), so as to record video with a 6:4 road to background ratio. After installation the camera angle can be adjusting in real time with the LCD screen on.
5 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.

6 Connect the front camera (‘R CAM’ port) and the rear camera using the rear camera connection cable.

7 Use the pry tool to lift the edges of the rubber window sealing and molding and tuck in the rear camera connection cable.
To record in parking mode you must hardwire the dashcam to your car’s fuse panel using the hardwire cable. Normal mode and event mode will also be available while driving. Plug the hardwire cable into the DC-IN port on the front camera. Proceed to Step I.

Alternatively, if you power the dashcam from the cigarette lighter socket you will not be able to record in parking mode. Normal mode and event mode will only be available while driving. Plug the power cord into the cigarette lighter socket and the DC-IN port on the front camera. Proceed to Step L.

Connect the yellow [ACC] wire to a Switched fuse. Referring to your vehicle Owner's Manual/Handbook, identify a Switched (accessory power) fuse in your interior fuse panel. Typical examples are the cigarette lighter and car stereo fuse slots.

Remove the identified Switched fuse. Many cars come with a fuse puller tool in the engine compartment fuse panel.

Remove the sleeve from the end of the yellow [ACC] wire, and wrap the wire around one of the blades of the Switched fuse. Reinsert the fuse back into the fuse panel.
10 Connect the red [B +] wire to a Constant Power fuse. Identify a Constant Power (battery power) fuse in your fuse panel. Typical Constant Power fuses are the hazard light (emergency lamp), tail lights and interior light fuses. If your car has a “Battery Saver Function” please utilize the hazard light fuse.

Remove the identified Constant Power fuse. Remove the sleeve from the end of the red [B +] wire, and wrap the wire around one of the blades of the Constant Power fuse. Reinsert the fuse back into the fuse panel.

11 Connect the black [GND] wire to a ground point. Locate a ground point, such as a bolt, that is directly on a bare metal part of the vehicle’s frame. Secure the ground wire to the bare metal frame (for example by securing it under the bolt).

12 Use the pry tool to lift the edges of the windshield trim/molding and tuck in the hardwire cable.

Hardwire cable installation:
Alternative cigarette lighter socket installation:

Turn on the engine and switch on the dashcam. 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**
- 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 when the engine is off. A low voltage power cut-off function protects the automotive battery from discharge.
Playing and Managing Videos

Playing video files on the LCD screen

LCD main menu composition

Tap the LCD screen anywhere when it is off to turn the LCD on.
Quick menu

- Access the settings menu
- Turn audio recording on/off
- Turn voice guidance on/off
- Exit
- Go to the video list
- Turn the security LED (front camera) on/off
- Displays your current mode (Normal mode or Parking mode)
- Turn the text overlay on/off
Playing video

Playing video files on the LCD screen

- Select the **List** button from the Quick Menu.
- Use the arrows to select a recording and press the **Play** button.

<table>
<thead>
<tr>
<th></th>
<th>Normal mode recordings</th>
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<tbody>
<tr>
<td>N</td>
<td>Normal</td>
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<tr>
<td>E</td>
<td>Event</td>
</tr>
<tr>
<td>P</td>
<td>Parking</td>
</tr>
</tbody>
</table>

Normal mode recordings:

- Normal mode recordings are saved when the dashcam is active.

Event mode recordings:

- When the dashcam detects an impact while in normal or parking mode, it switches to event mode and saves an event recording beginning 10 seconds before the event trigger.

Parking mode recordings:

- 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 10 seconds before the motion detection.
Note

- Video is not recorded while accessing the quick menu, video list and settings menu.
- Video recordings cannot be deleted using the LCD screen interface. To manage video recordings please use BlackVue Viewer on your computer.
- To record in parking mode the dashcam must be hardwired to your car’s fuse panel using the hardwire cable.
Playing and managing video files using your computer (Windows/Mac)

Removing the microSD card

1. Flick the power switch to the off position.

2. Open the cover of the microSD card slot.

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 cover.
Opening video files in BlackVue Viewer

1. Remove the microSD card from the dashcam.

2. Use the included microSD card adapter to connect the card to a computer.

3. Download BlackVue Viewer from [www.blackvue.com > Support > Downloads](http://www.blackvue.com) and install it on your computer.

4. Run BlackVue Viewer.
Viewer screen composition

Windows Viewer

When you launch the program you will see the Cloud Viewer window. Click the button to open the SD Card Viewer window.

Filter files by direction and recording mode
Click to change the folder
Recorded file list
Select file(s) to copy, delete or verify it
GPS data
Map screen
View full screen
Flip upside down
Flip horizontally
Print
Fit to playback screen
Capture
Settings
Format
Select card
Program info.
Playback screen
Playback speed control
Previous frame
Play/pause
Next frame
Stop
Timeline for hour/min/sec selection
G-Sensor information
Switch between SD card Viewer and Cloud Viewer
Select card

Note
- All images shown are for illustration purposes only. Actual program may differ from images shown.
When you launch the program you will see the Cloud Viewer window. Click the button to open the SD Card Viewer window.
## Playing video

### Playing back videos

In BlackVue Viewer double click a video file to play.

BlackVue Viewer shows by default the files in the microSD card. To see files in another folder click the button and browse to the folder.

### Identify video files by recording type

- **Recording type:**
  - N: Normal
  - E: Event
  - P: Parking mode motion detection

- **Example file name:** 20170104_150838_N
  - Date & time: 4th January 2017, 03:08:38 PM
  - Recording type: Normal
- Use the **N E P** buttons to filter the video list by recording type.

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>![car]</td>
<td>Normal</td>
</tr>
<tr>
<td>![car]</td>
<td>Event</td>
</tr>
<tr>
<td>![car]</td>
<td>Parking</td>
</tr>
</tbody>
</table>

**Note**
- To record in parking mode the dashcam must be hardwired to your car's fuse panel using the hardwire cable.
Checking the displayed time

If text overlay is on the camera displays the time at the bottom of the video. If the displayed time in the recorded videos is incorrect please see "Time settings" on page 48.

Using BlackVue Viewer

- Front/rear screen mode (2CH)
- Print image (paused)
- View full screen
- Flip upside down
- Flip horizontally
- Capture image (paused)
- Switch between the front and rear view (2CH)
- Print image (paused)
- View full screen
- Flip upside down
- Flip horizontally
- Capture image (paused)
- Switch between the front and rear view (2CH)
Exploring the timeline and G-Sensor graph

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

You can check the impact sensitivity (G-Sensor) information in the line graph.

- Select month
- Timeline for hour/min/ sec selection
- Select date
  - Dates with recordings are black
  - Click a date to filter recordings (date changes to red and circled)
Zoom options

- Use the mouse scroll wheel zoom. Right clicking will restore the video to the default size.
- You can resize the playback frame or the BlackVue Viewer window by dragging the borders.
- **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.
Checking the GPS data

You can check the GPS data of the recorded video in BlackVue Viewer while video is playing back. The driving speed and coordinates are displayed above the map frame.

Note

- The external GPS receiver is required to obtain GPS data.
- GPS data is not recorded during parking mode. Map data cannot be displayed for parking mode recordings.
Managing videos

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

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 pause button to pause the video.
3. Select the capture button to capture the image or the print button to print directly.

Deleting videos

For Windows users

1. Select the video, or videos using the checkboxes, from the recorded video list.
2. Click Delete.
   - You can also delete individual files by clicking next to a video in the recorded video list and selecting 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. Click next to a video in the recorded video list.

2. Click Export.

3. If you want to extract a segment of a file select Save segment and edit the start and end second points. To export without audio select Sound Off. You can export the Front or Rear video separately or together.
4 Click the OK button.

5 Select the folder in which to save the file and enter the file name.

6 Click the Save button.

Copying videos

For Windows users

1 Click next to a video in the recorded video list.

2 Click Copy to.

3 Select the folder in which to copy the file and enter the file name.

4 Click the Select folder button.

- To copy multiple files at once check the boxes next to the file names and press the Copy to button
- When copying files the segment adjustment and sound off tools are not available.
For Mac users

1. Go to `\BlackVue\Record\`.

2. Select the video from the recorded video list.

3. Click Copy "file name".
Tips for optimal performance

Formatting the microSD card

⚠️ Caution

- Back up important video files such as event recording files before formatting the microSD card. If you format the microSD card, all the video files stored in the microSD card will be deleted. Your saved settings will not be affected.

Formatting the card in the BlackVue

Tap the screen to turn the LCD on. Tap again to access the Quick Menu. Select Settings > Other > Format (microSD card) > Yes to format the microSD card.

Format using BlackVue Viewer (Windows)

1. Insert the microSD card into the microSD card adapter and connect it to your computer.
3. Run BlackVue Viewer.
4. Click the Format button, select the card drive and click OK.
Format using BlackVue Viewer (macOS)

1. Insert the microSD card into the microSD card adapter and connect it to your computer.
3. Run BlackVue Viewer.
4. Click the Format button and 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 drop-down menu and click Erase.

**Note**
- 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**

Regularly upgrade the firmware for performance improvements and updated features. Firmware updates will be made available for download at [www.blackvue.com > Support > Downloads](http://www.blackvue.com > Support > Downloads).

When upgrading the firmware all settings will be reset to their defaults. Once you have upgraded the firmware please reconfigure your settings.
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) 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 computer.
3. Launch BlackVue Viewer and click on the About button.
   - For Mac users, click 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.
5. Format the microSD card. See "Formatting the microSD card" on page 38.
6 Go to the BlackVue website (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 the time etc.).
Changing settings

Adjusting the settings on the LCD screen

Tap the LCD screen anywhere when it is off to turn the LCD on. Tap the screen again to access the **Quick Menu**.

- **Access the settings menu**
- **Turn audio recording on/off**
- **Exit**
- **Turn voice guidance on/off**
- **Go to the video list**
- **Turn the security LED (front camera) on/off**
- **Displays your current mode (Normal mode or Parking mode)**
- **Turn the text overlay on/off**
From the Quick Menu select **Settings**.

![Menu Options](image)

**Note**

- Video is not recorded while accessing the quick menu, settings menu and video list.
- All images shown are for illustration purposes only. Actual product may differ from images shown.
Video settings

Brightness
You can adjust the recording brightness level of the cameras.

Saturation
You can adjust the color saturation level of the cameras.
Advanced Driver Assistance Systems (ADAS) settings

Lane Departure Warning System (LDWS)

You can adjust the Lane Departure Warning System (LDWS) activation speed (Off, 60km/h, 80km/h, 100km/h), turn the warning alarm on/off, and calibrate LDWS.

Check the BlackVue website for any updated features. Firmware updates will be made available for download at www.blackvue.com > Support > Downloads.
**Time settings**

**If you do not connect the GPS receiver:**

To manually set the time select **Settings** from the Quick Menu and press the **Time** button. Enter your date (year, month, day) by selecting each field and using the up/down buttons. Tap **Set date** to change to **Set time** and enter your time (hour, minute, second). Tap **Exit** and save the settings.

![Image of time setting interface]

**If you connect the GPS receiver:**

If you run the dashcam with the GPS receiver connected, it is possible to sync with GPS time. To sync with GPS time select **Settings** from the Quick Menu and press the **Time** button. Tap the top right button (**Set date**) twice to get to **GMT (Time zone)**. Enter your GMT time zone by selecting the field and using the up/down buttons. Tap **Daylight saving time** to turn it on or off.

![Image of GMT setting interface]
Some examples of time zones are:

<table>
<thead>
<tr>
<th>Time zone</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>-08:00</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>-05:00</td>
<td>New York</td>
</tr>
<tr>
<td>+00:00</td>
<td>London</td>
</tr>
<tr>
<td>+01:00</td>
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<tr>
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<tr>
<td>+09:00</td>
<td>Seoul</td>
</tr>
<tr>
<td>+10:00</td>
<td>Sydney</td>
</tr>
</tbody>
</table>

If you are unsure of your time zone please look up your city on [https://greenwichmeantime.com/](https://greenwichmeantime.com/)
Cut-off voltage

The dashcam will be powered in parking mode until your vehicle's battery voltage drops below the configured low voltage cut-off value for more than 5 minutes. The cut-off value can be configured to:

**Car (Heavy vehicle)**

<table>
<thead>
<tr>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
</tr>
<tr>
<td>11.8V (23.2V)</td>
</tr>
<tr>
<td>11.9V (23.6V)</td>
</tr>
<tr>
<td>12.0V (24.0V)</td>
</tr>
<tr>
<td>12.2V (24.4V)</td>
</tr>
<tr>
<td>12.4V (24.8V)</td>
</tr>
</tbody>
</table>
Screen timeout
Adjust the screen timeout duration.

Language
Select your preferred language for the BlackVue (English, Simplified Chinese, Russian and Japanese supported). The audio announcements by the dashcam will be in the selected language.

High temperature cut-off
This prevents the dashcam from overheating. When the cut-off is enabled, the dashcam will automatically shut down if its temperature reaches around 70 °C (158 °F).

Volume
You can adjust the volume of the voice guidance/alarms. Turn voice guidance ON in the Quick Menu first.
**Recording settings**

<table>
<thead>
<tr>
<th>Exit</th>
<th>Back</th>
<th>1/2</th>
<th>Night vision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image quality (Front) Highest</th>
<th>Image quality (Rear) Highest</th>
<th>N/E/P modes</th>
<th>Rear camera recording</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Exit</th>
<th>Back</th>
<th>2/2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mic Volume 1</th>
<th>Motion detection (Parking mode)</th>
<th>G-sensor (Normal mode)</th>
<th>G-sensor (Parking mode)</th>
</tr>
</thead>
</table>

- **Night vision**
  Turning on night vision will brighten the image when recording in low-light environments.

- **Image quality**
  You can adjust the recording image quality (bit rate). Choose between:
  - Highest (Front: 11 Mbit/s, Rear: 11 Mbit/s)
  - High (Front: 9 Mbit/s, Rear: 9 Mbit/s)
  - Normal (Front: 7 Mbit/s, Rear: 7 Mbit/s)

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

- N/E/P modes
All three recording modes (Normal / Event / Parking) will be enabled.

- Event mode
When the dashcam is on and the G-sensor detects an impact the dashcam will save an “Event recording”.
“Normal recording” and “Motion detection (Parking mode)” will be disabled.

Rear camera recording

You can enable or disable rear camera recording.

Mic Volume

When turned off the dashcam does not record audio.
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.

G-Sensor (Normal mode) / G-Sensor (Parking mode)

The G-sensor measures the movement of your vehicle. 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 off.
**Other settings**

- **Camera info**
  You can check the model name and firmware version.

- **Storage allocation**
  Please backup any important recordings before adjusting the storage allocation. The dashcam may delete some recordings when you save the settings.

  You can adjust the percentage of the microSD card storage allocated to Event and Parking mode recordings (10% up to 80%). The remaining space will be allocated to Normal mode recordings.

- **Calibrate touch**
  You can re-calibrate the touch screen.
Format (microSD card)

Formatting the microSD card will delete all files stored on the microSD card. Please backup any important videos/data to a computer before formatting the card.

Reset settings

Reset settings (excluding the time and firmware language) to their defaults.
Changing settings using your computer (Windows/Mac)

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

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

☐ Speed unit on map
Change the speed unit displayed on the map.

☐ Select map service
Change the mapping service used.
**Firmware settings**

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

Video settings

- **Image quality**
  You can adjust the recording image quality (bit rate). Choose between:
  - Highest (Front: 11 Mbit/s, Rear: 11 Mbit/s)
  - High (Front: 9 Mbit/s, Rear: 9 Mbit/s)
  - Normal (Front: 7 Mbit/s, Rear: 7 Mbit/s)
  Increasing the image quality will increase the size of the video files. Loading and copying time will increase accordingly.

- **Night vision**
  Turning on night vision will brighten the image when recording in low-light environments.

- **Brightness**
  You can adjust the recording brightness level of the cameras.

- **Saturation**
  You can adjust the color saturation level of the cameras.
Recording settings

- **Recording mode setting**
  - N/E/P modes
    All three recording modes (Normal / Event / Parking) will be enabled.
  - Event mode
    When the dashcam is on and the G-sensor detects an impact the dashcam will save an “Event recording”.
    “Normal recording” and “Motion detection (Parking mode)” will be disabled.

- **Voice recording (Mic Volume)**
  When turned off the dashcam does not record audio.

- **Text overlay**
  Turn the text overlay on/off.

- **Rear camera recording**
  You can enable or disable rear camera recording.
**Sensitivity settings**

- **G-Sensor (Normal mode) / G-Sensor (Parking mode)**
  The G-sensor measures the movement of your vehicle. 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 off.

- **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.
System settings

- **Security LED (Front camera)**
  You can turn the front security LED on/off.

- **Cut-off voltage**
  The dashcam will be powered in parking mode until your vehicle's battery voltage drops below the configured low voltage cut-off value for more than 5 minutes. The cut-off value can be configured to:
## Car (Heavy vehicle)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>(V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.8</td>
<td>23.2</td>
</tr>
<tr>
<td>11.9</td>
<td>23.6</td>
</tr>
<tr>
<td>12.0</td>
<td>24.0</td>
</tr>
<tr>
<td>12.2</td>
<td>24.4</td>
</tr>
<tr>
<td>12.4</td>
<td>24.8</td>
</tr>
</tbody>
</table>

### Screen timeout
Adjust the screen timeout duration.

### Volume
You can adjust the volume of the voice guidance/alarms.

### Storage allocation
Please backup any important recordings before adjusting the storage allocation. The dashcam may delete some recordings when you reinser the microSD card into the dashcam.

You can adjust the percentage of the microSD card storage allocated to Event and Parking mode recordings (10% up to 80%). The remaining space will be allocated to Normal mode recordings.
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 (except for the time and language settings) to their defaults press the **Reset** button at the bottom of the settings panel.
Optional accessories

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.

Note

- If you purchased the product without an external GPS receiver, please visit the BlackVue website (www.blackvue.com) for information about purchasing a GPS receiver separately.
## Product specifications

<table>
<thead>
<tr>
<th><strong>Model Name</strong></th>
<th>DR490L-2CH</th>
</tr>
</thead>
</table>
| **Color/Size/Weight** | Front: Black/Width 99.5 mm x Height 60.1 mm x Thickness 31.8 mm/93 g  
Rear: Black/Width 51.3 mm x Height 29.7 mm x Thickness 29.2 mm/18 g |
| **Memory** | microSD Card (16 GB/32 GB/64 GB/128 GB) |
| **Recording Mode** | Normal Recording, Event Recording (Impact Detection), Parking Mode Recording (Motion & Impact Detection) |
| **Camera** | Front: CMOS Sensor (Approx. 2 megapixels)  
Rear: CMOS Sensor (Approx. 2 megapixels) |
| **Viewing Angle** | Front: Diagonal 130°, Horizontal 113°, Vertical 58°  
Rear: Diagonal 130°, Horizontal 110°, Vertical 62.5° |
| **Resolution/Frame Rate** | <Front - Rear>  
Full HD (1920x1080) @ 30 fps - Full HD (1920x1080) @ 30 fps |
| **Image Quality** | Highest, High, Normal |
| **LCD** | 3.5 inch touch LCD |
| **Video Compression Mode** | AVI |
| **GPS** | External |
| **Microphone** | Built-in |
| **Speaker (Voice Guidance)** | Built-in |
| **LED Indicators** | Front: Front Security, GPS, REC  
Rear: Rear Security |
| **Switch** | Power Switch |
| **Sensor** | 3-Axis Acceleration Sensor |
| **Backup Battery** | Built-in super capacitor |
| **Input Power** | DC 12 V–24 V (DC Plug(Ø3.5 x Ø1.1) to Wires (Black: GND/Yellow: ACC/Red: BATT)) |
| **Power Consumption** | Max. 370 mA (4.81 W at 13 V, when GPS and LCD are On)  
Max. 280 mA (3.64 W at 13 V, when in parking standby mode)  
* Actual power consumption may vary depending on use conditions and environment. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation Temperature</strong></td>
<td>-20 °C–70 °C (-4 °F–158 °F)</td>
</tr>
<tr>
<td><strong>Storage Temperature</strong></td>
<td>-30 °C–80 °C (-22 °F–176 °F)</td>
</tr>
<tr>
<td><strong>High Temperature Cut-Off</strong></td>
<td>Approx. 70 °C (158 °F)</td>
</tr>
<tr>
<td><strong>Low Voltage Cut-Off</strong></td>
<td>Configurable: OFF/11.8 V (23.2)/11.9 V (23.6)/12.0 V (24.0)/12.2 V (24.4)/12.4 V (24.8)</td>
</tr>
</tbody>
</table>
| **Certifications** | Front: FCC, CE, RoHS  
Rear: FCC, CE, RoHS |
| **Software** | BlackVue Viewer  
* Windows XP or higher (Windows 8 supported) and Mac Yosemite OS X (10.10) or higher |
| **Advanced Driver Assistance Systems (ADAS)** | Lane Departure Warning System (LDWS) |
| **Other Features** | Format-Free Technology for Stable Recording |
Recording time

Your dashcam will automatically start recording when it is switched on.

<table>
<thead>
<tr>
<th>Camera</th>
<th>Memory Capacity</th>
<th>Image Quality</th>
<th>Total Recording Time (Normal + Event + Parking)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front + Rear</td>
<td>16GB</td>
<td>Highest</td>
<td>1 HR 38 MIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>2 HR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal</td>
<td>2 HR 33 MIN</td>
</tr>
<tr>
<td></td>
<td>32GB</td>
<td>Highest</td>
<td>3 HR 16 MIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>4 HR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal</td>
<td>5 HR 7 MIN</td>
</tr>
<tr>
<td></td>
<td>64GB</td>
<td>Highest</td>
<td>7 HR 28 MIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>8 HR 2 MIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal</td>
<td>10 HR 20 MIN</td>
</tr>
<tr>
<td></td>
<td>128GB</td>
<td>Highest</td>
<td>13 HR 11 MIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>16 HR 7 MIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal</td>
<td>20 HR 44 MIN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Camera</th>
<th>Image Quality</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>Highest</td>
<td>11 Mbit/s</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>9 Mbit/s</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>7 Mbit/s</td>
</tr>
<tr>
<td>Rear</td>
<td>Highest</td>
<td>11 Mbit/s</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>9 Mbit/s</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>7 Mbit/s</td>
</tr>
</tbody>
</table>
Note

- If the microSD card is full, the oldest files of the same recording mode type 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, image quality and storage allocation settings.
- You can adjust the percentage of the microSD card storage allocated to Event or Parking mode recordings (minimum 10%; maximum 80%). The remaining space will be allocated to Normal mode recordings. See "Storage allocation" on page 55 or 64 for details.
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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