-User Manual -

iDVR900
CDR9030
Connected DashCAM

ASKEY Computer Corp.

Revision History

Version Number	Revision Date	Description
1.0	January, 2021	Initial Release
1.1	April, 2024	Al function Revised

Important Notes to Read Before Use

- Manufacturers cannot assume responsibility for inconveniences caused by not observing the notes stated in the user manual. Incorrect usage of the product falls outside the scope of the warranty.
- The product operates on a voltage of 5 V DC. The CDR9030 is powered up by connecting hardwired power cable to the car's battery. Exercise caution while using either method of connection.
- The CDR9030 accepts SD cards formatted to EXFAT. For optimum results, always format the SD card before initial use with the CDR9030.
- The CDR9030 may not be able to use the Global Positioning System (GPS) in the following areas:
  - Parking lot of buildings
  - Tunnels
  - Two-layer highways
  - Between closely positioned high buildings and trees

Table of Content

1. Introduction

- The Askey Connected Car Cam+ CDR9030 represents a new generation of in-car accessories that make driving safer, smarter, and connected. This device, which can be mounted on the windshield of any vehicle, enhances vehicular safety with preventive diagnostics.
- The CDR9030 is equipped with a Full HD 1080p camera system with an F/2.0 aperture and a 136° wide-angle lens to facilitate real-time recording and live video streaming.
- The CDR9030 allows external camera to detect drowsiness and fatigue on the driver's face. This additional external camera is equipped with a face recognition detector to aware safety driving behavior.
- Gyro sensors help in sensing abnormal movement and trigger the emergency recording function to eventually save and upload the recorded video on to the cloud. This video can be later used for incident analysis.
- The Advanced Driver-Assistance System (ADAS), which includes the Lane Departure Warning System (LDWS) and the Forward Collision Warning System (FCWS), alters the driver on the identification of a risk, thus preventing accidents.
- Support for LTE provides in-car internet connectivity for all passengers, facilitates connection to service centers, and enables automatic firmware updates.

1.1. Safety Instruction

For users' attention, scenario-specific safety instructions are provided in the following three boxes throughout the document. Following these instructions will help prevent untoward incidents in the use of the CDR9030.

NOTE
Instructions provided under "Note" provides insights for prudent use of the product.

CAUTION
Failure to follow the instructions provided under "Caution" will lead to data loss.

WARNING
Failure to follow the instructions provided under "Warning" will lead to serious injury or death, and property damage.

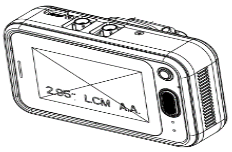
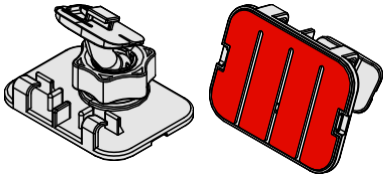
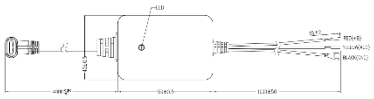
1.2. Intended User

This manual is intended for the user of CDR9030 as well as for service center customer support staff.

1.3. Features

1. The CDR9030 offers the following features:
    - Touch-screen control
    - 2.95-inch LCD 360 × 640 display
    - Tri-channel Full HD 1080p camera system with F/2.0 aperture and over 120° wide-angle lenses
    - Edge AI
    - ADAS
    - Built-in voice assistance with Alexa
    - Emergency call (E-Call) and live video streaming
    - Fleet Management
    - API (for Integration/Customization)
    - Built-in gyro sensor (accelerometer)
    - GPS powered by Quasi-Zenith Satellite System(QZSS)
    - Support for LTE and 3G, as well as Wi-Fi, Bluetooth.
    - Wi-Fi Wireless Access Point (WAP) or Hotspot
    - Event recording
    - Firmware Over-The-Air (FOTA)
    - 3.7 V, 720 mAh rechargeable Li-ion Non-Removable Battery
    - USB Type C support for powersupply
    - Supports up to 128 GB Micro SDXC Memory Card
2. The CDR9030 offers the following optionalfeatures:
    - User Authentication (Facial/Voice)
    - Optional feature for driver for drowsiness and fatigue detection

1.4. Package Content

Content	Overview
CDR9030	
Mount Bracket	
USB Type C to Power converter	
Quick Start Guide	
Micro SD card and SD Card Adaptor	

2. Overview

2.1. Device Overview

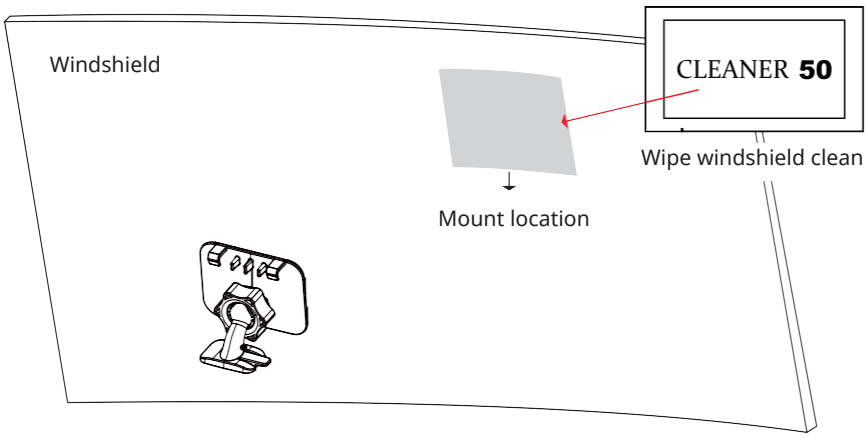
TOP View Side

Bottom View Side

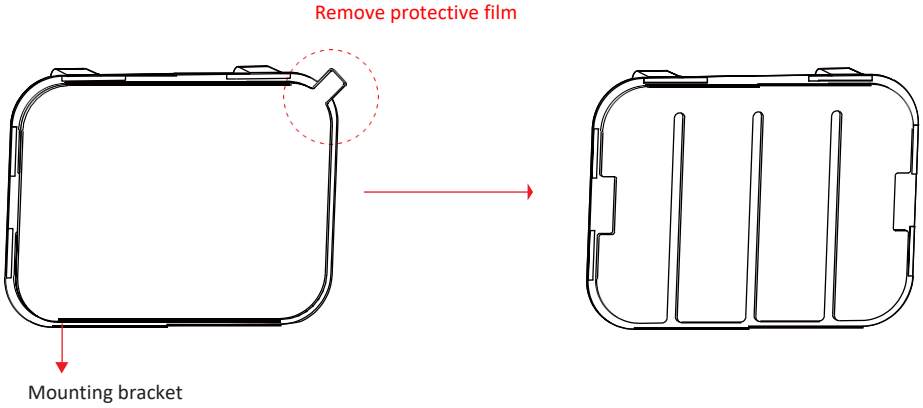
3. Getting Started

3.1. Installing the Mounting Bracket

Step 1: Remove alcohol wipe from pouch. Wipe the area (of the windshield) where the mounting rack will be mounted clean of dust or grease.



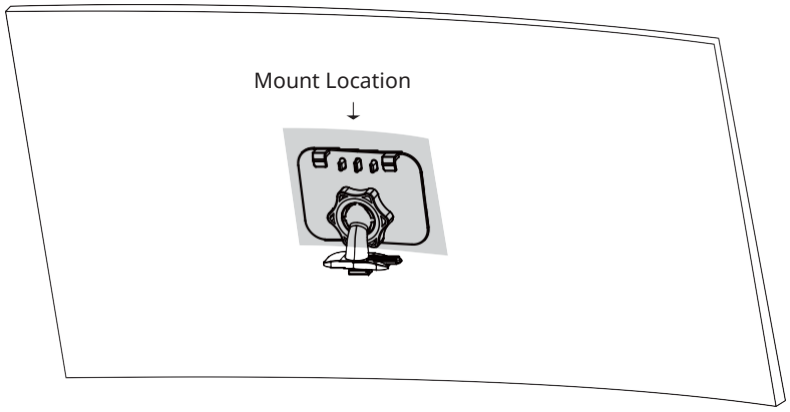
Steps 2: Remove the protective film from the mounting rack adhesive. Position the mounting rack over the location (on the windshield) where it's being wiped clean.



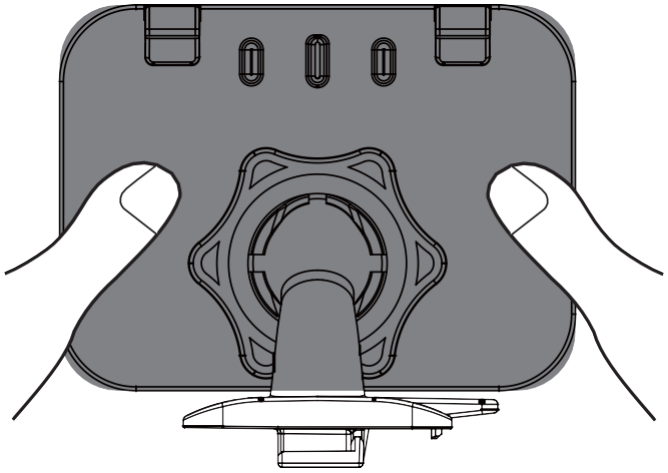
Note

- The adhesive is extremely sticky. Avoid touching the adhesive.
- The adhesive can't be reused if stained or removed from windshield.

Steps 3: Mount the Mounting Bracket on the windshield.



Steps 4: Press on the suggested pressure points with your thumbs.

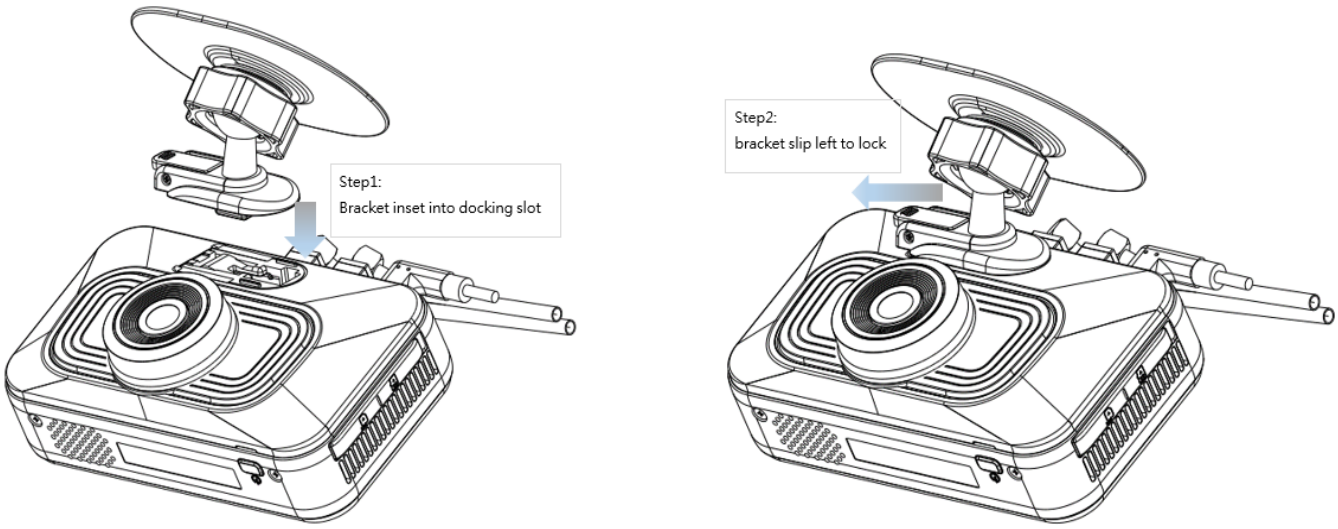


Steps 5: Press the mounting rack evenly to push out the air bubble.

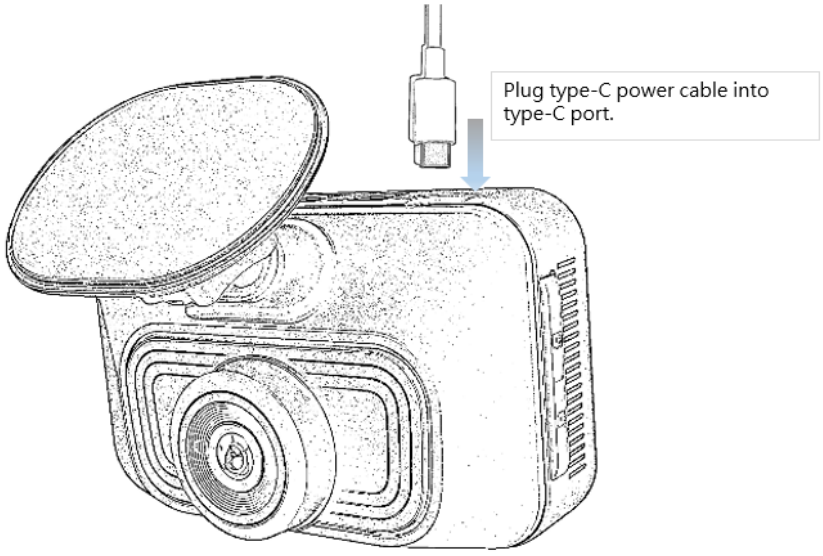
Leave the mounting rack on the windshield for up to 24 hours before installing the DVR.

3.2. Mounting the Bracket

Step 1: Mount the DVR onto the mounting bracket. Align the docking slot (on top of the device) with the docking arm (extended from the mounting bracket).



Step 2: Plug in the USB Type-C connector (extended from the car charger unit) to the DVR's USB port.

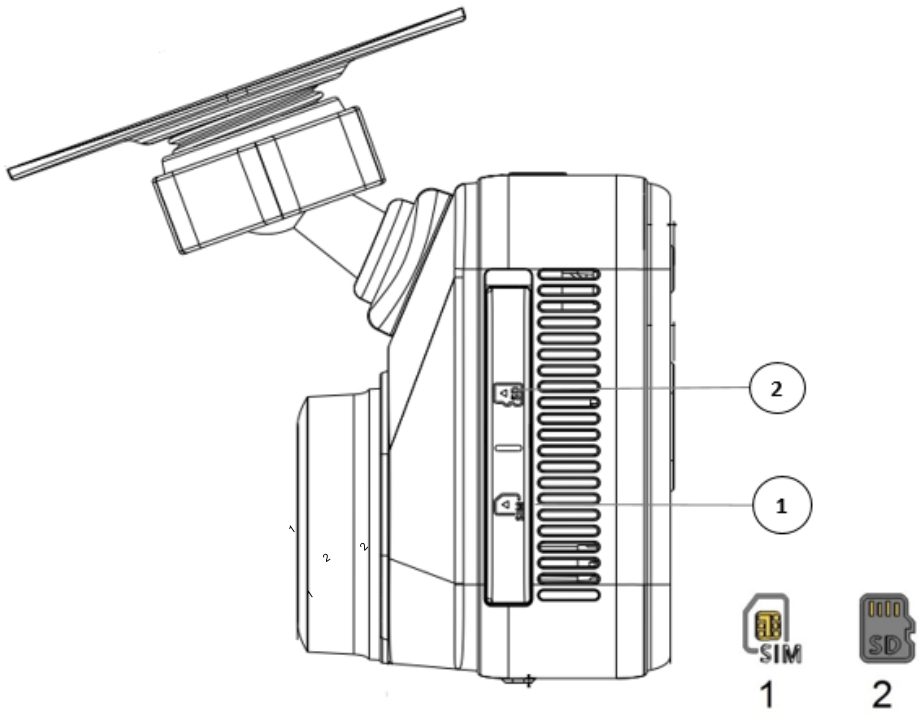


3.3. Insertion of SD Card and SIM Card

NOTE
• If the SD card is not inserted, the device will show error message. • The CDR9030 supports only Nano sim cards (LTE/3G).

To insert the **SIM** card (1) or **SD** card (2):

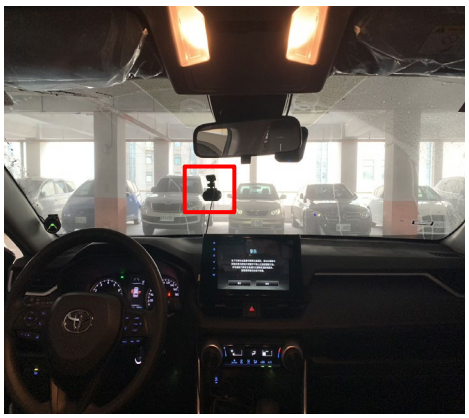
1. Open the card slots cover.
2. Place the **SIM card (1) or SD card (2)** in the slot per orientation marking.
3. Push the **SIM card (1) or SD card (2)** into the slot.
4. Close the card slots cover properly.

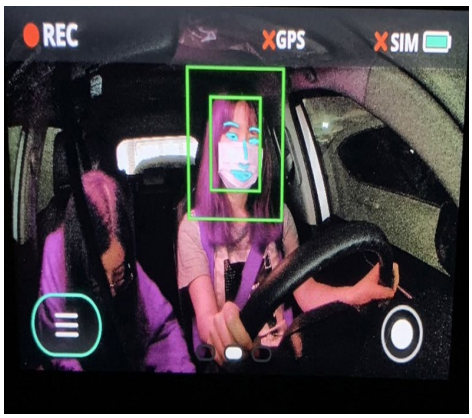


3.3.1 Accessory for External camera

CDR9030 main device can support 2 external cameras in max

1. Please find 2 fakra connectors to connect 2 external cameras on Top side of CDR9030 main device.
2. Please insert left fakra connector first to CDR9030 main device.
3. Please shift left and right screen to make sure display enable.
4. Please mount an external camera on the windshield for DMS. Another external camera can be rear camera. Make sure the green box can detect your face accurately.





Step 4:
Please mount an external camera on the windshield for DMS. Another external camera can be rear camera. Make sure the green box can detect face accurately.

3.4. Activation and BatteryCharge

NOTE
• Make sure that SD card is inserted on the CDR9030. If the SD card is not inserted, the device will show error message. For more information on insertion of SD card, refer to section 3.4. • Always use the attached power converter to activate and charge the CDR9030. • CDR9030 is mainly powered by car battery via hardwired power converter. The embedded Lithium-ion battery would be charged by the car battery to provide emergency power supply if any sudden shutdown happened. • The power converter mainly steps down the vehicle's electrical system (12V/24V) to 5V to provide power to CDR9030. • The power converter has low voltage protection to prevent car battery drainage.

Power converter:

To activate and charge the CDR9030:

1. Plug one end of the charger into device's USB Type C-Port.
2. Connect the hardwired end to the fuse box of vehicle. (Black: GND White: ACC Red: +B)
3. When the vehicle's engine is started, the CDR9030 turns on and the built-in battery begins to charge.

3.5. Manual Power Off

To turn off CDR9030 manually:

1. Press the "**Power Off**" button and Hold for 3 seconds. The "**Power off**" confirmation dialog box displays on touch screen.
2. On the confirmation dialog box:
   - Touch "**Power off**" to turn off the device.
   - Touch other areas on the display to cancel.

3.6. Reset and Initial Auto Calibration.

3.6.1 Reset:

1. If the CDR9030 fails to function normally due to unknown causes, hold the Power button for 3 seconds until the "**Power off**" confirmation dialog box appears on the display.
2. To turn off the device, follow the instructions provided in Section 3.4.

3.6.2 Initial Auto Calibration.

A. ADAS will auto calibration, when driving on road. Please note below road scenario limitation.

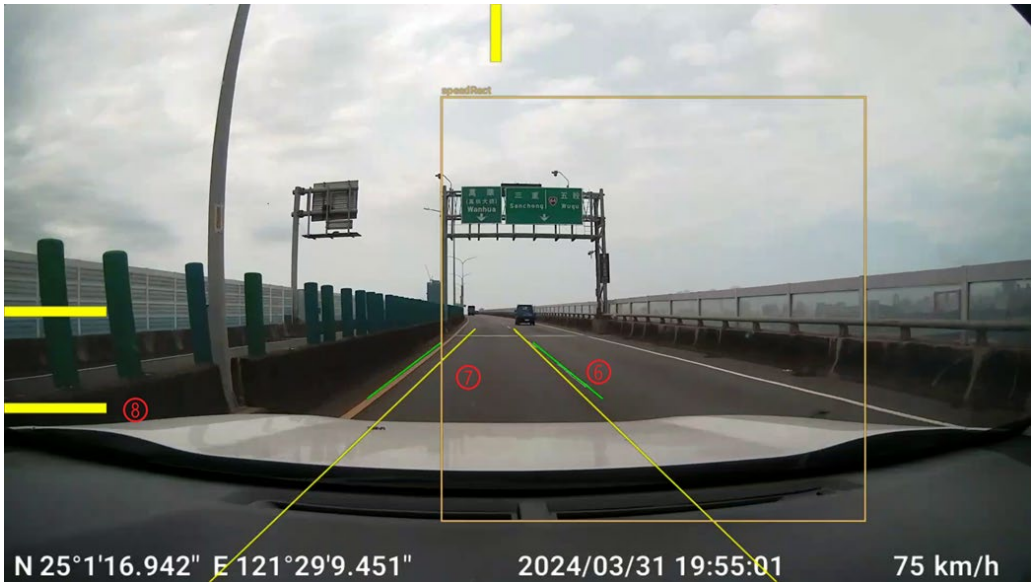
- Vehicle speed must over 60 km/hr.
- Lane line is mandatory to detected to CDR9030 device.
- Curve lane can't get auto calibration accurately.
- Auto calibration can't workable, when vehicle in turning status.

B. CDR9030 will finish Auto Calibration in 1 to 3 minutes (depends on the road status), when device detect scenario accurately.

- Initial Auto Calibration: 3 mins
- The last values will be saved before the shutdown. If the installation position remains unchanged, the value can be applied directly when rebooting.

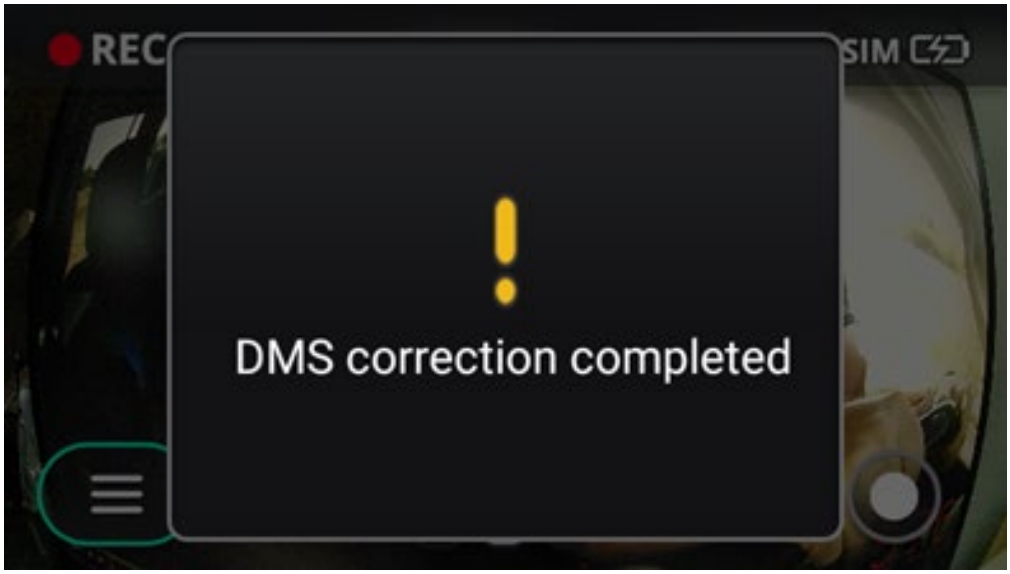
C. Auto Calibration Screen indicator:

- Initial Screen and Indicator color as below:
    1. The center line of vehicle- Yellow (located in the upper center of the display, automatically generated)
    2. Horizon line- Yellow (Located on the left side of the display close to the horizon, automatically generated)
    3. Front edge of the hood- Yellow (should be above the front edge of the hood)
    4. ROI for pedestrian and stop sign- Green (detection is only within this range)
    5. Speed ROI- Yellow (detection is only within this range)
    6. Lane lines- Green
    7. Lane departure threshold- Yellow



D. DMS automatically calibrates when the power is turned on while driving. Please note the following road scenario limitation:

- Calibration can be done at 0 km/h
- Calibration should be done in a normal driving posture as much as possible.
- DMS Correction Completed Notification will be shown on the display.

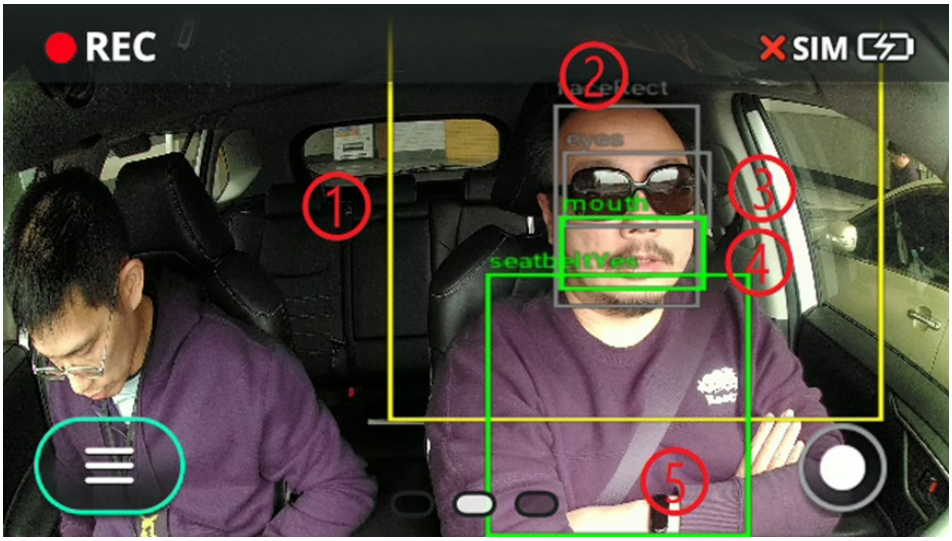


- The last values will be saved before the shutdown. If the installation position remains unchanged, the value can be applied directly when rebooting

E. Auto Calibration Screen indicator:

1. Face ROI- Yellow (primary calibration range for automatic calibration; the face must be within this range for detection, also affecting the detection range of the cellphone)
2. Face Rect- Gray (lens blocking detection range)

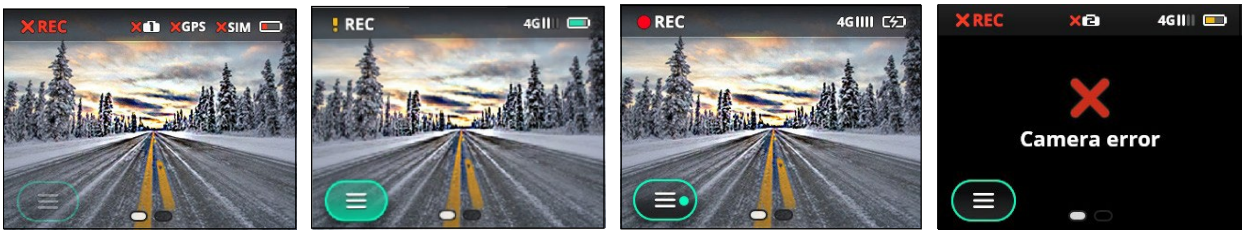
3. Eyes - Gray (eye detection range)
4. Mouth - Green (mouth detection range
5. Seatbelt - Green (seatbelt detection range)



3.7. Date and Time

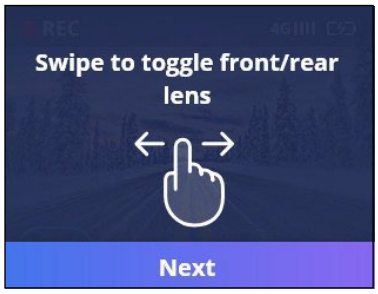
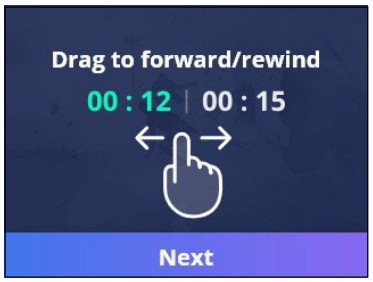
- The local date and time are automatically updated upon connection to an LTE/3G (or above) network or GPS.
- The date and time display in the recorded video as shown below.

3.8. Screen Icons/Buttons



Icons/Buttons/Indicators	Description	Icons/Buttons/Indicators	Description
	Main menu		Pause button
	Firmware update available (dot on Main menu)		Battery Charge Level, 25%, 50% and 75%
REC	Recording ON icon		Battery Charge in progress
REC	Recording error/OFF icon		Broken cameras
REC	Recording event icon		Impact
SIM	No **SIM** card		E-Call Answer/End buttons
No SD card	No **SD** card		Wi-Fi connection status with signal strength
GPS	No GPS signal		Bluetooth on/off
3G 4G	3G/4G Cellular connection		Hotspot on/off
	Front cam recording icon		Rear cam recording icon
	Back button		Play button

3.9. Touch Screen Operations

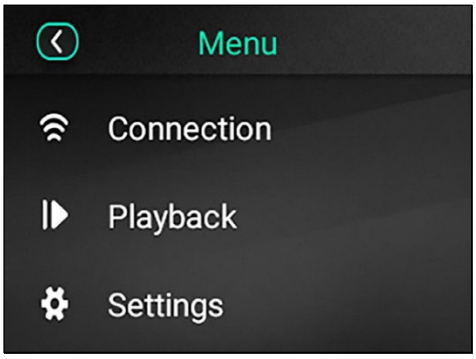
Description	Operation Example	Action
Volume Adjustment (from Default Recording Screen)		Swipe up to increase the volume. Swipe down to decrease the volume.
Toggle between Cameras (from Default Recording Screen)		Swipe right to use the rear cam. Swipe left to use the front cam.
Forward or Rewind Video (from Playback option)		Swipe right to forward. Swipe left to rewind
Screen Brightness Adjustment (from Display option)		Swipe up to increase the brightness. Swipe down to decrease the brightness.

4. Menu Operations

NOTE
To access the **Main menu**: • Ensure the CDR9030 is activated and battery charging is in progress • Ensure the CDR9030 is registered on an LTE/3G or Wi-Fi network • Ensure the automatic video recording mode (default screen) is on. 

A. Touch the **Menu** icon on the recording screen to access all the operational functions of the CDR9030.

B. The **Menu** is displayed on as shown below.



The **Menu** contains Connection, Playback, Settings, & Legal.

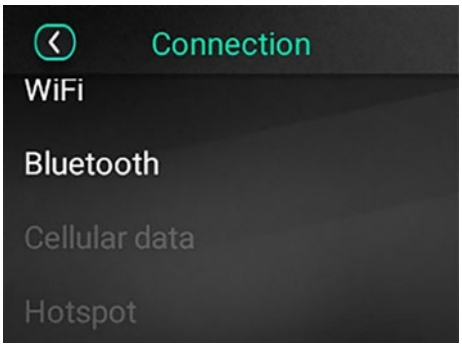
C. To go back to the previous (recording) screen, touch the **Back** icon .

4.1 Connection Menu

- The connection menu allows user to setup (Wifi, Cellular data), APN, Bluetooth, and Hotspot connections. This section explains you on how to connect/ disconnect the CDR9030 to/ from the network **(Wifi, Cellular data)** APN, Bluetooth, and share **Cellular data** to co-passengers through **Hotspot** option.
- The set connectivity options, open the default recording screen and go to menu icon **> Connection.**

NOTE

The Cellular and Hotspot options become unavailable when the CDR9030 is disconnected from an LTE/ 3G network.



With Wi-Fi Connection

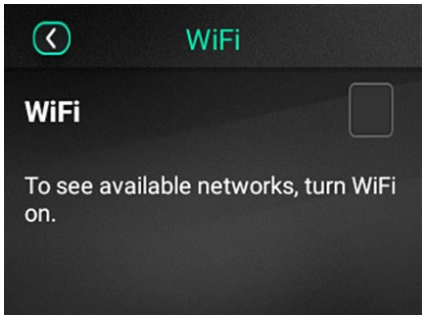
With LTE/3G Network

4.1.1 WiFi

The CDR9030 supports IEEE_802.11a/b/g/n/ac, 2.4GHz and 5GHz Wi-Fi connections. Perform the following steps to access the Wi-Fi connectivity option:

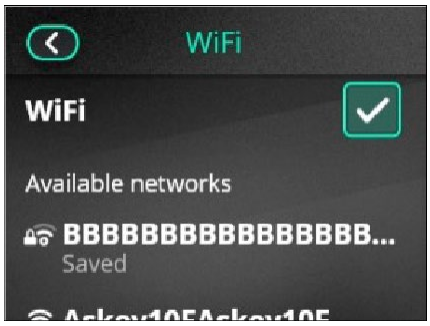
A. To find and register the CDR9030 on the available Wi-Fi network, go to Menu > Connection >WiFi.

B. **WiFi** screen displays on touch screen.



C. Select the WiFi check box .

D. On selecting the WiFi check box , a list of Available networks is displayed on the screen.



E. Select the required network from the Available networks list and enter the password to connect to the network if required.

F. To go back to previous screens, touch the Back icon .

G. If you want to disconnect the CDR9030 from the Wi-Fi network, clear the WiFi check box or touch the cross icon , to disconnect the current WiFi connection.

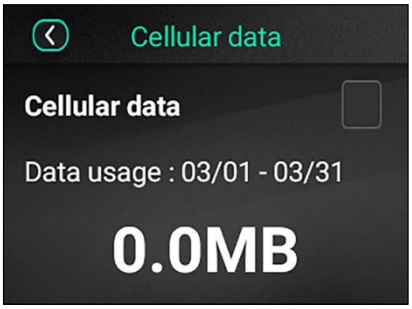
4.1.2 Cellular Data (LTE/3G)

NOTE
To enable Cellular Data, make sure that SIM card is inserted and connected to a service provider's network.

To use Cellular Data on the CDR9030:

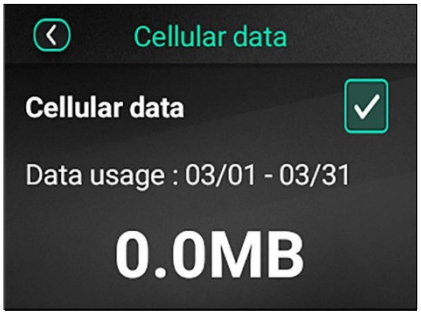
1. Go to **Menu** **> Connection > Cellular data.**

   Cellular data screen displays on touch screen.



2. Select the **Cellular data** check box .

•On selecting the **Cellular data** check box , CDR9030 connects to Cellular data and shows the Data usage for the current month.



3. To go back to the previous screens, touch the **Back** icon .

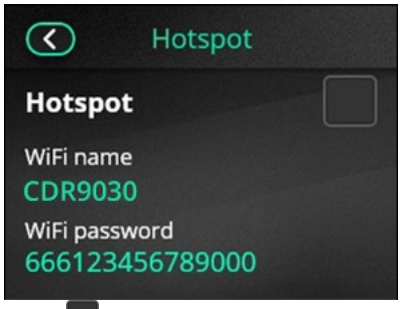
4. To turn Cellular data off, clear the **Cellular data** check box .

4.1.3 Hotspot

NOT
The CDR9030 acts as a Wi-Fi hotspot access point only when Cellular data is enabled.

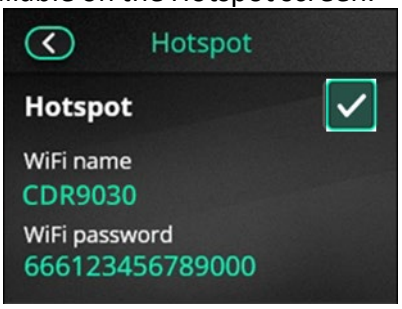
A. To activate Hotspot on the CDR9030:

• Go to **Menu> Hotspot** screen displays on touchscreen.

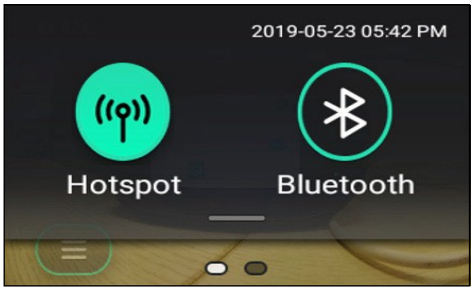


B. Select the**Hotspot** check box ☐.

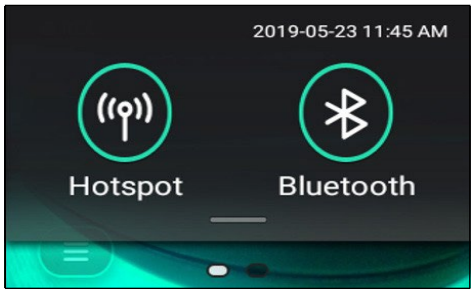
• On selecting the **Hotspot** check box ☑ , Co-passenger will now be able to find the CDR9030 listed on their phones and connect to the Wi-Fi network by entering the associated password, which is available on the Hotspot screen.



C. To turn Hotspot off, clear the **Hotspot** check box or from the default recording screen, swipe down and clear the Hotspot icon selection.



Hotspot ON



Hotspot OFF

4.1.4 APN

NOTE
APN is a gateway from your carrier's cellular network to another network, in most cases, the Internet.

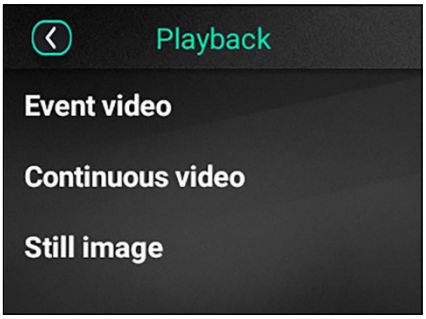
- Select New APN
  Most case APN will be automatically programmed but some case you need to configure your cellular modem to connect your carrier.
- Edit access point
  Filling in with access point information logs in your APN service. This information should be provided by your carrier.

4.2 Playback Menu

The Playback provides access to all the Event and Continuous Videos and to view Still images stored on SD card.

- To access the **Playback menu**, go to **Menu** **> Playback** on the default recording screen.

NOTE
If the SD card does not have sufficient memory, the older files are overwritten automatically by newly recorded files.



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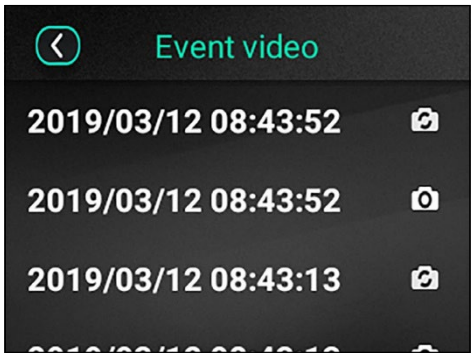
NOTE
• CDR9030 records videos using 1front and 2external cameras simultaneously. • The CDR9030 stores the recorded video clips in the following location: Event: \\sdcard\event\event_data_video Continuous: \\sdcard\NORMAL_data_video • Videos recorded by the front camera are indicated by , those recorded by the external camera are indicated by

4.2.1 Event Video

The CDR9030 interprets any unusual movement or shaking as an "**Event**". The CDR9030 saves clips captured in such instances as an "**Event Video**". The CDR9030 records clips for a maximum of 20 sec. To play the recorded eventvideo clips:

1. Go to **Menu > Playback > Event Video.**
2. A list of front and external cameras video with their respective timestamps is displayed on the screen.
3. Touch the required video to play. The subsequent videos will be played sequentially.



4. To go back to the previous screens, touch the **Back** icon .

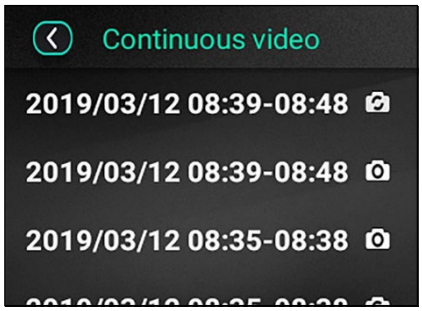
4.2.2 Continuous Video

The CDR9030 starts recording events into the clips of up to 60 seconds as soon as it is turned on. In the normal mode of operation (e.g., absence of any abnormal movement), the CDR9030 captures 10 video clips at a time and stores them as “continuous” videos.

To play the recorded Continuous video items:

1. Go to **Menu** **>** Playback > continuous Video.

• A list of front and external camera videos with their respective timestamps is displayed on the screen.

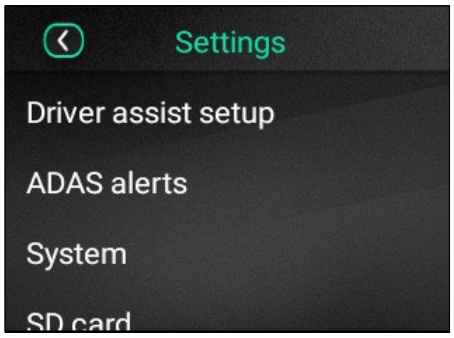


2. Touch the required clip from the list. “**Continuous**” videos are played sequentially once stared.

3. To go back to the previous screens, touch **Back** icon .

4.3 Settings Menu

To access the Settings menu, go to **Menu** > **Settings**.

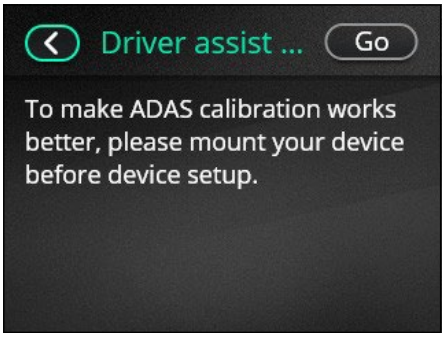


4.3.1 Driver Assist Setup

To access the Driver Assist Setup option, go to **Menu** > **Setting** > **Driver Assist Setup**.

NOTE
• For accurate ADAS calibration, first mount the device and then select the **Driver Assist Setup**.

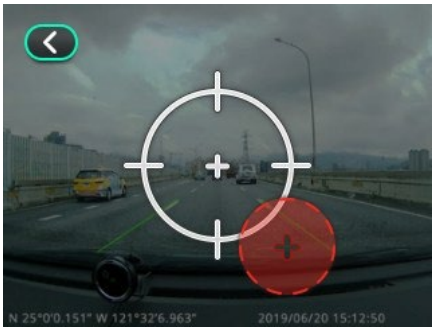
A. Touch Go



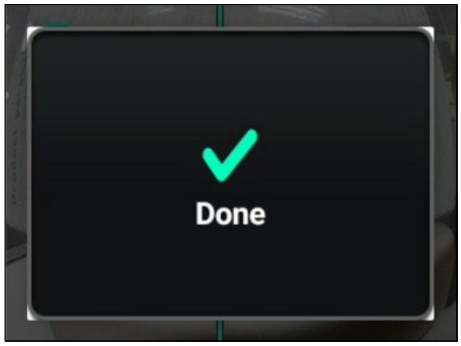
B. Select the type of vehicle to be driven: **Sedan, SUV, or Truck.**

C. Touch Next

D. Central Calibration: Adjust the smaller circle to align with the center circle. When the color of the smaller circle changes to green it indicates calibration is complete.



E. Touch Done



4.3.2 Advanced Driver-Assistant System Alerts

The ADAS helps detect dangerous driving conditions such as a Forward Collision and Lane Departure. In slow-moving traffic and tailbacks conditions, the Stop & Go function examine the distance between the
host vehicle and other vehicles in the front, and triggers an alert for the driver to move carefully with the traffic.
The ADAS generates a voice alert if:

- The vehicle is too close to the moving vehicle in the front. The vehicle deviates from the original lane.

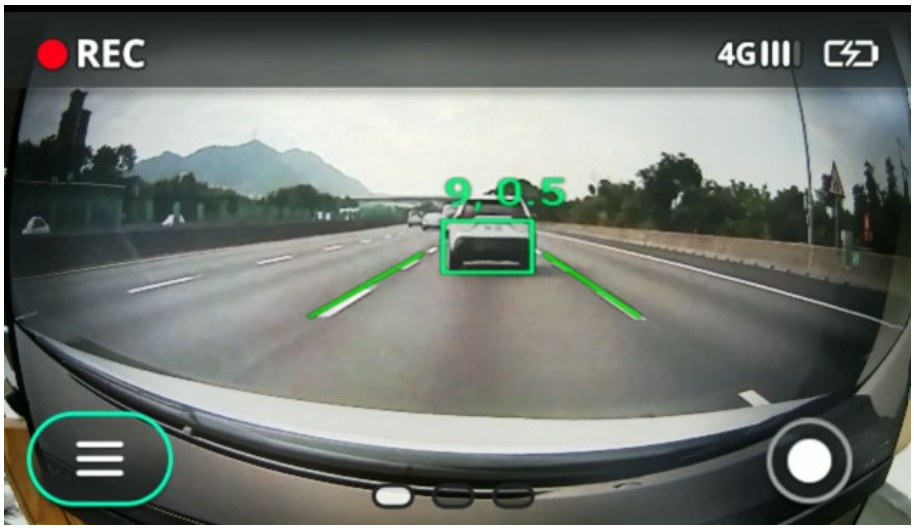
NOTE
If ADAS alerts are auto turned on, the CDR9030 fails to trigger an alert when the vehicle faces a risk, which will eventually lead to accidents.

4.3.2.1 Forward Collision Warning System

The FCWS, with the help of GPS, calculates the distance between the host vehicle and the vehicle in its front, as well as headway time.

Under normal circumstances, the FCWS highlights the front vehicle in a green square wireframe with the calibrated distance and headway time on the touch screen.

The driver can change the course of the vehicle with reference to this information.



WARNING

- If the headway time between the vehicles is less than 2.5 seconds, the system generates a voice alert and displays the vehicle in the front in a red square wireframe with the distance and headway time.
- The driver of the host vehicle shall immediately act on this alert and maintain a safe distance from the front vehicle to avoid a collision.

4.3.2.2 Lane Departure Warning System

The LDWS verifies whether the host vehicle has deviated from its course with respect to the vehicle in the front.

Under normal circumstances, if the host vehicle is following its predetermined lane, the system uses green lines to indicate the lane boundaries and a green wireframe to display the vehicle's headway with respect to the front vehicle.

The LDWS generates a voice alert and display the vehicle in the front in a red wireframe with the distance and the headway time.

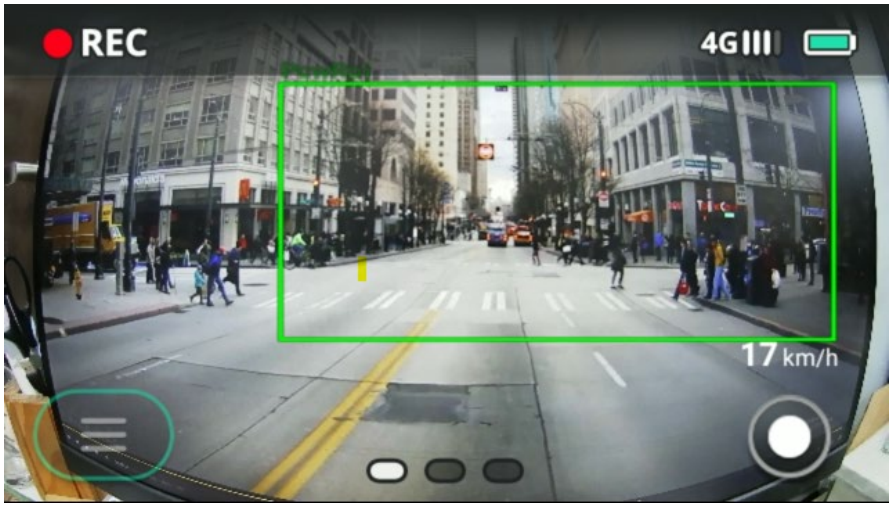
WARNING

- If the system detects a lane departure, the lane boundary from which the deviation has occurred is displayed in red.
- The driver of the host vehicle shall immediately act on this alert and change the vehicle's course to follow the correct lane. Failure to this may lead to accidents.

4.3.2.3 Pedestrian Collision Warning

PCW detects if there are pedestrians in front of the user's vehicle and potential collisions.

If the driver maintains a certain distance, the system will outline the detection area with frames.



PCW generates a voice alert and display the vehicle in the front in a red wireframe with the distance and the headway time.

4.3.2.4 Rolling Stop

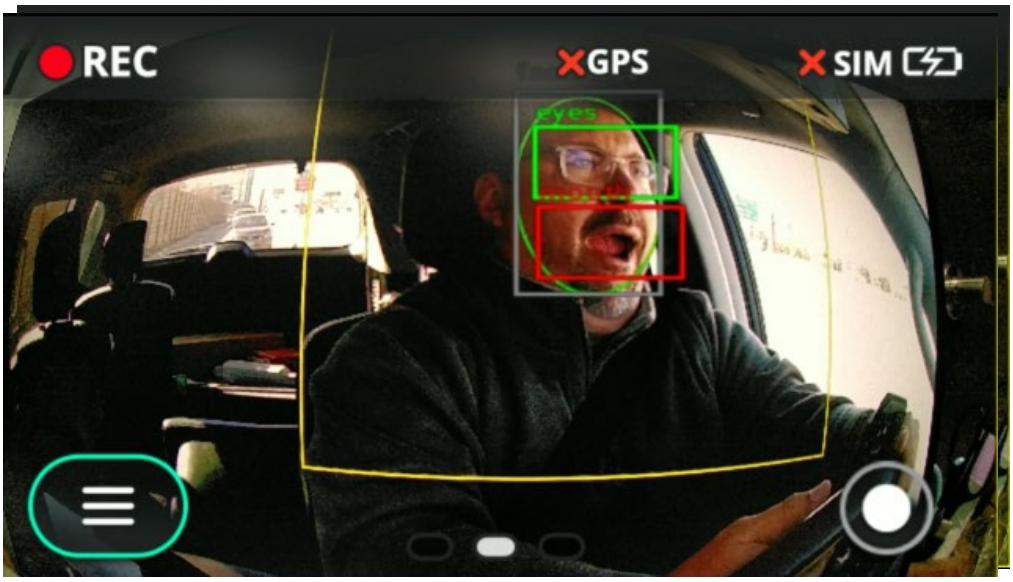
Rolling Stop detects whether there is a stop sign on the right side using a yellow box and determines whether the driver has stopped as required by the regulations, rather than rolling slowly past or ignoring the signal warning.

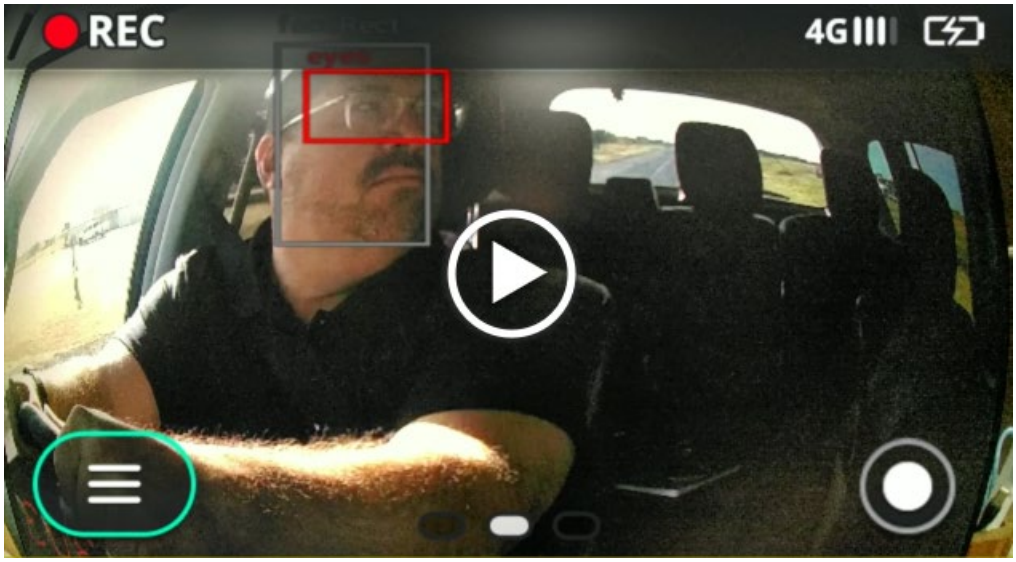
4.3.2.5 Speeding Detection

Speeding detection uses a yellow box to detect whether there is a speed limit sign on the right side and determines whether the driver's current speed exceeds the speed limit specified by that sign.

4.3.2.6 Fatigue / Yawning / Distracted detection

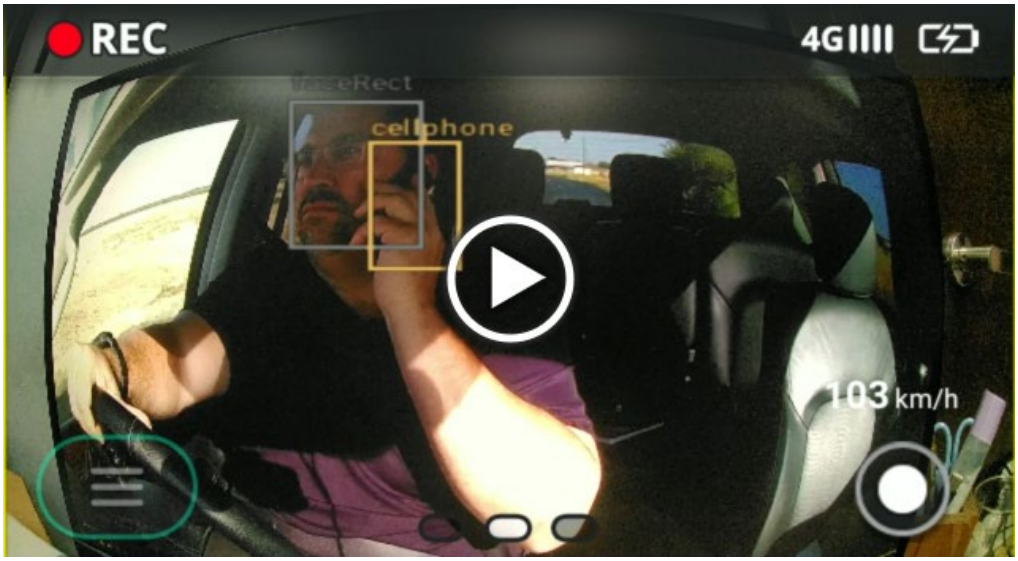
Fatigue / Yawning / Distracted detection uses two zones, one for the eyes and one for the mouth, to detect whether the driver's behavior is dangerous, and provides warnings within a certain time period and number of occurrences.





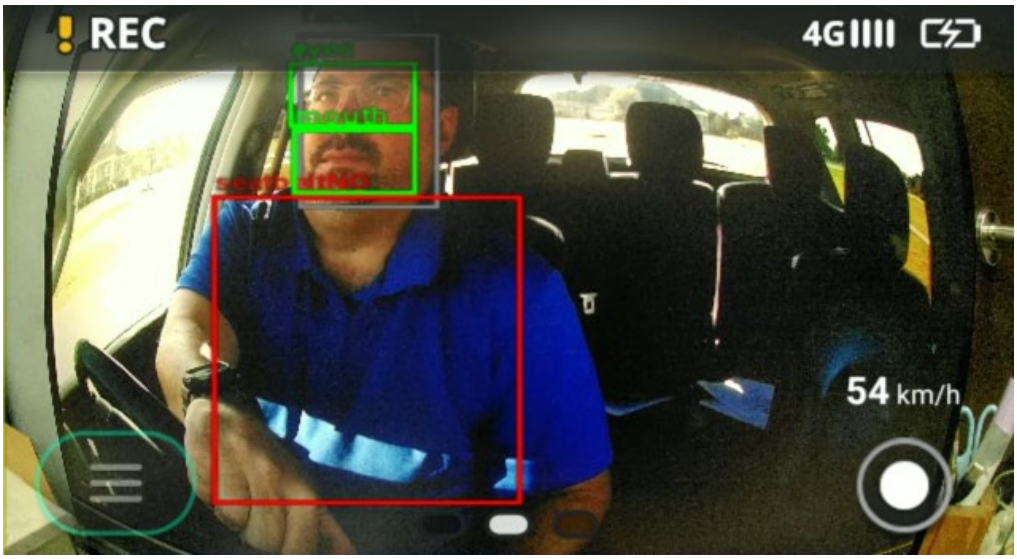
4.3.2.7 Cellphone Detection

Cellphone uses a yellow box to indicate the area where the cellphone is being detected. If the driver is not focused on driving and is using a cellphone within this area, an alert will be issued to warn the driver to stop using the phone.



4.3.2.8 Seatbelt Detection

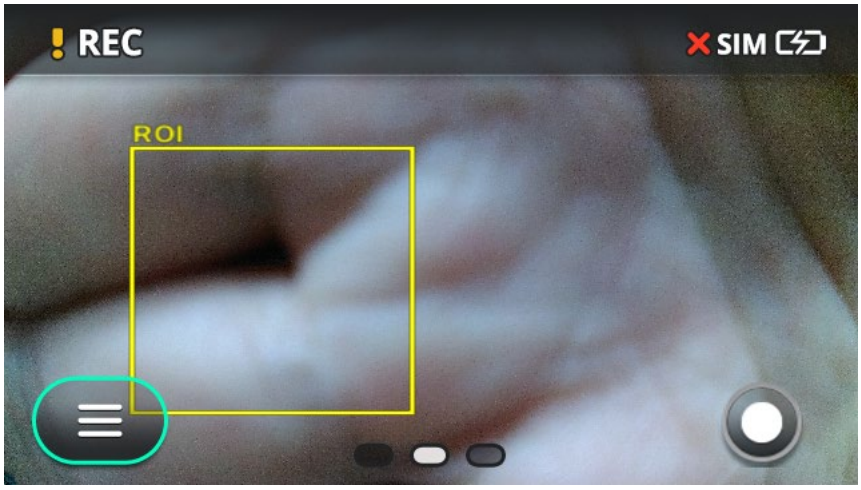
Seatbelt Detection uses a box within the range of body to detect whether the driver has fastened the seatbelt. If the driver has not fastened the seatbelt as required, an alert will be issued to remind the driver to fasten the seatbelt.



Note
• The seatbelt detection may be prone to false alarms if the driver's clothing is too similar to the seatbelt, leading to misjudgment.

4.3.2.9 Lens Blocking

Lens Blocking detects the angle of the lens placement and whether the driver is obstructing the lens, preventing intentional obstruction or rotation of the lens by the driver.

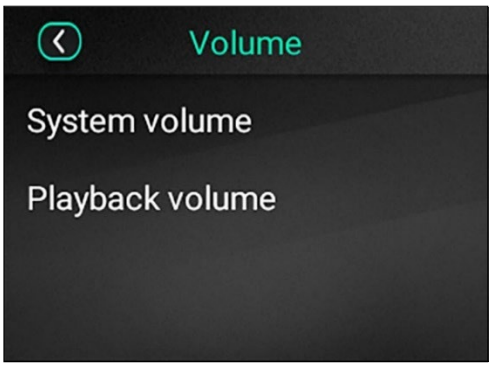


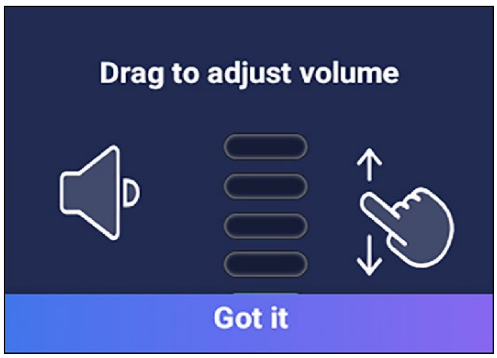
4.3.3 System

The System option provides a series of control.

4.3.3.1 Volume

To access the Volume function, go to **Menu** > **Settings** > **System** > **Volume**.



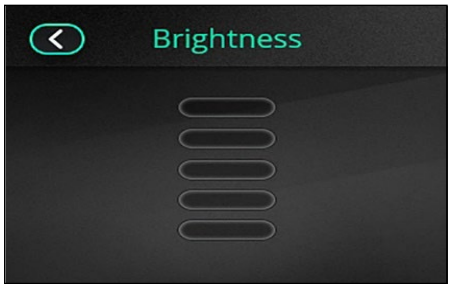


4.3.3.2 Display

Brightness

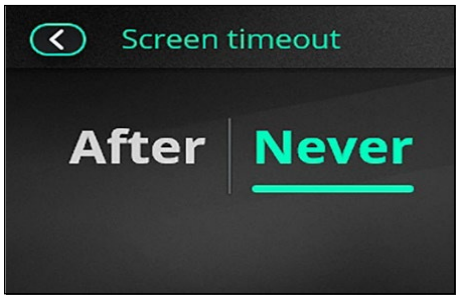
To adjust the system Brightness:

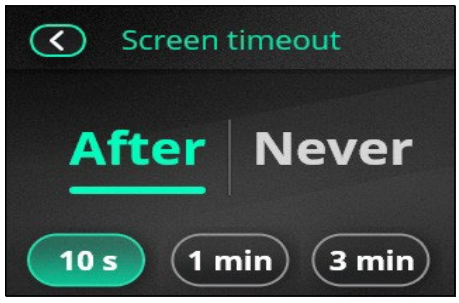
- Touch **Menu** > **Settings** > **System** > **Display** > **Brightness**.
- Swipe up on the touch screen to increase or swipe down to decrease.



Screen Timeout

To set Screen timeout, touch **Menu icon** > **Settings** > **System** > **Display** > **Screen timeout**.





4.3.3.3 About

Device Information

The Device information tab provides users with the following information:

- Carrier
- Version
- WiFi Mac
- Bluetooth
- Model
- Serial Number
- International Mobile Equipment Identity(IMEI)
- ADAS Key

Software Information

The Software update tab displays the current version of the software and available updates if any.

- To update software, touch **Menu** > **System** > **About** > **Software update**. For more information, refer 6.1.

Legal Information

From Legal, you can check General terms & conditions, Privacy policy, and Regulatory.

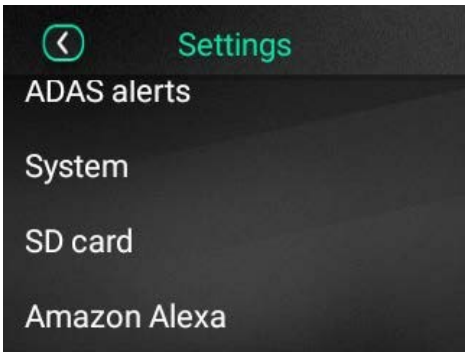
Restore factory settings

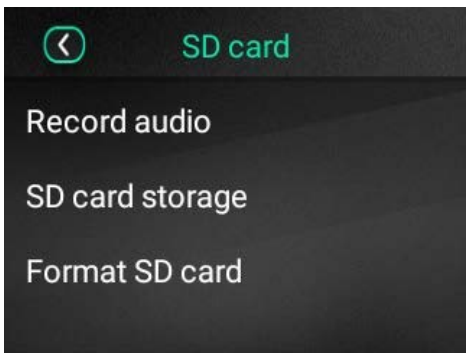
The Restore factory settings, options erases all the settings and software updates introduced in the device since it purchases.

- To reset the CDR9030 to factory settings, go to **Menu** > **System** > **About** > **Restore factory settings**.

4.3.4 Recording

To access the Recording option, go to **Menu** > **Settings** > SD Card





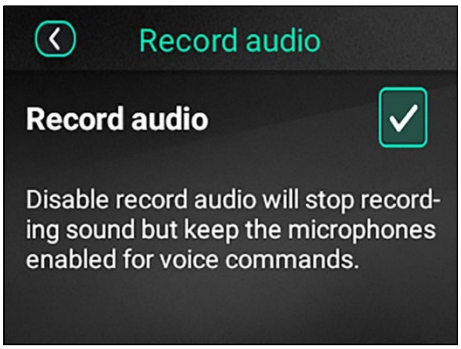
4.3.4.1 Recording Audio

The Recording audio option provides users with the choice between enabling and disabling audio recording while the CDR9030 records a footage.

To use the recording audio feature:

- Go to **Menu** > **Settings** > **S**D Card > R**ecording audio**.

1. Clear the **Record audio** check box to exclude audio in your recordings.
2. Select the **Record audio** check box to include audio in your recordings.

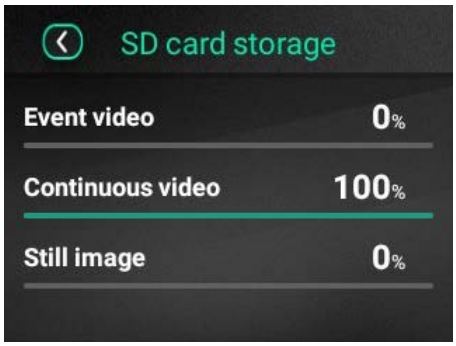


4.3.4.2 SD Card Storage

CAUTION
• If the SD card does not have enough memory, it automatically overwrites the older files with new files. There is chance of losing files if you have not taken any backup on cloud or hard drives. • Backup necessary files periodically and maintain enough memory on SD card always.

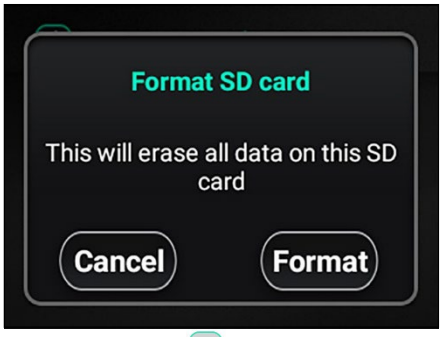
1. To access SD card storage, go to **Menu** **> Settings > SD Card > SD card storage.**

2. This feature provides users with the percentage of memory available for recording event videos, continuous videos, and still images.



4.3.4.3 Format SD Card

NOTE
The CDR9030 accepts SD cards formatted to FAT32 only. No other format is accepted. Formatting an SD card erases all the data available on it.



To use the Format SD card option, go to **Menu** > **Settings** > **SD Card** > **Format SD card**.

5. Firmware Upgrade

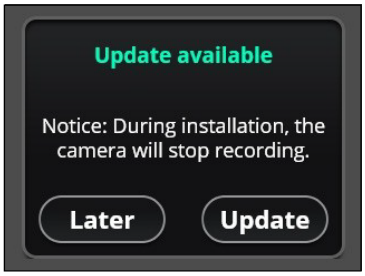
CAUTION
• Before upgrading the firmware, connect the CDR9030 to the fuse box. • Do not remove the cable or stop the vehicle engine during the firmware upgrade. Important service and support communication are sent over the network during the upgrade. • Do not update the software while driving. The recording function stops during the upgrade.

• Firmware Upgrade throughFOTA

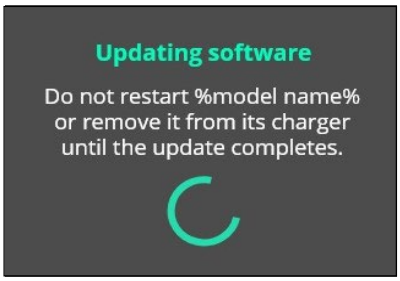
When a software update is detected by the system, a dot icon appears on the **Menu** icon .

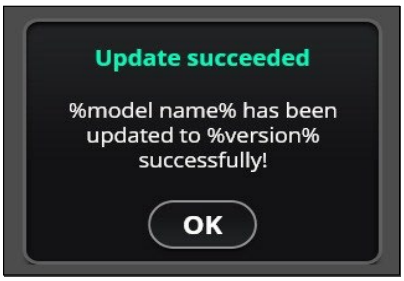
To update the software:

A. Go to **Menu** icon **> Settings > System > About > Software update**. The “Update available” screen pops up on the screen.



B. Select **Later** to defer the updatedownload.



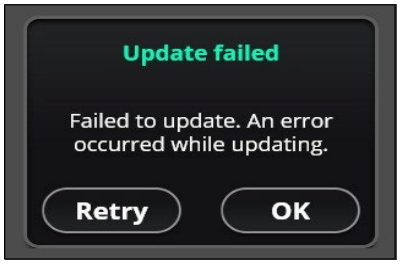


C. Select **Update** to start thedownload.
D. After downloading the **update**, the system prompts installation.
E. While Firmware package download done, the system can auto enable upgrade process.

NOTE
The software update process may continue for a while.

CAUTION
• Do not restart or disconnect the CDR9030 from charging. • Do not stop disconnect the hardwired power cable as that disconnects the CDR9030 from charging.

If the software update fails, the CDR9030 displays Update failed screen with Retry and OK options. If Retry does not work, the software version rolls back to the older version automatically.



6. Network Settings

The CDR9030 equipped with LTE/3G, Wi-Fi and GPS module. Ensure the SIM card is inserted into the CDR9030 before power on. Refer to section 3.4. for instructions on insertion of a SIM card.

6.1 Frequency Band Widths Supported

Check your local operator for LTE and 3G frequency band widths. CDR9030 supports below list of bandwidths:

1. LTE Frequency Band widths - EU/JP/TW/APAC requirement
   - 1 (2100MHz)
   - 3 (1800MHz)
   - 7 (2600MHz)
   - 8/19 (800 MHz)
   - 20 (800 MHz)
   - 28 (700 APT MHz)
   - 38 (TD 2600)
   - 40 (TD 2300)
2. LTE Frequency Band widths - NA SKU (US) requirement:
   - 2 (1900 MHz)
   - 5 (850 MHz)
   - 4 (1700MHz)
   - 12 (700MHz)
   - 13 (700MHz)
   - 17 (700MHz)
   - 26 (850MHz)
3. The 3G band-width supported by the CDR9030 are as follows:
   - WCDMA 1(2100 MHz), 8 (900 MHz)
4. The data transfer rates supported by the CDR9030 are as follows:
   - HSPA+ Downlink: 42Mbps
   - HSPA+ Uplink: 5.76Mbps
   - LTE CAT4 Downlink: 150Mbps
   - LTE CAT4 Uplink: 50Mbps

7. Emergency Call (E-Call)

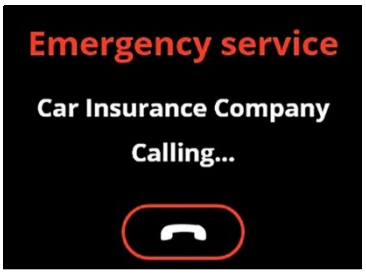
When the CDR9030 detects an abnormal incident (e.g., a car crash), triggers a voice call to the service center automatically. The user receives a call from the service center for resolution.

NOTE
• To use **E-Call** feature, ensure that the CDR9030 is connected to the cloud. • Local operator charges apply ifactivated.

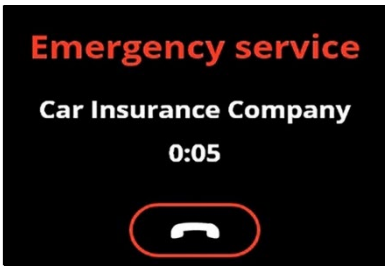
In the event of any emergency, if the CDR9030 be unable to detect an incident.

1. Press the**E-Call** button available on the screen side.

2. When you press the **E-Call** button, CDR9030 launches the Emergency calling service on touch screen.



E-Call Connecting



E-Call In Progress

3. You can answer or decline/hang up the Emergency incoming calls received from Service center.

8. Technical Specifications

Category	Specification	Details
Design	Length	110 mm
	Width	66 mm
	Height	39.45 mm
	Weight with Cradle	227.5 g
Display	Screen Size	2.95-inch
	Screen Resolution	QVGA 360 × 640 pixel
	Display Type	LED backlight TFT panel
	Brightness	200 nits
	Touch Screen	Capacitive Touchscreen, Multi-touch
Performance	Operating System	Android 9.0
	Processor	Qualcomm SDM660
	Main Memory	On board 4 GB LPDDR3 and 64 GB eMMC (eMCP)
Storage	SD Card Slot	Single Micro-SD
	Expandable Memory	Support up to 128 GB SDXC
Camera (Main and CH2)	Resolution	2 MP
	Physical Aperture	2.0
	Video Recording	Camera angle: Horizon FOV 120° Video recording 1080p 30fps
Special Features	Sensors	G-Sensor (Accelerometer) Gyroscope GPS, GNSS, A-GPS, Galileo, Glonass, and QZSS
Battery	Capacity	720 mAh
	Type	Lithium-ion
	Removable	No

Category	Specification	Details
Network and Connectivity	LTE/4G Bands (EU/JP/TW/APAC requirement)	1 (2100 MHz) 3 (1800 MHz) 7 (2600 MHz) 8/19/26 (800 MHz) 20 (800 MHz) 28 (700 APT MHz) 38 (TD 2600) 40 (TD 2300) 41 (TD 2500)
	LTE/4G Bands (NA (US) requirement)	2 (1900 MHz) 4 (1700 MHz) 5 (850 MHz) 12 (700 MHz) 13 (700 MHz) 17 (700 MHz) 26 (850 MHz)
	3G Bands	WCDMA 1 (2100 MHz), 5/19 (850 MHz) TD-SCDMA 34 (TD2000 MHz), 39 (TD1900 MHz)
	Wi-Fi	IEEE802.11 a/b/g/n/ac, 2.4 GHz and 5 GHz
	Wi-Fi Features	Mobile Hotspot
	Bluetooth	version 4.2 Profile: HFP- AG, HSP - AG, PAN - NAP, PANU, HID - Host, A2DP - Source, BNEP, SDP, SPP, GATT, AVRCP
	GPS	GNSS, AGPS, Beidou, Galileo, GLONASS, QZSS
	USB Type-C	Yes, USB charging
Multimedia	Audio	1x Built-in high-quality speaker (normal 1 W, max 1.5 W)
	Microphone	3x Digital Microphone
	Voice Function	Amazon Alexa

Category	Specification	Details
WLAN	**Frequency**	2.4 GHz: 802.11 b/g/n (1~13ch) 5 GHz: 802.11 a/n/ac, W52 (36/40/44/48ch), 56 (100/104/108/112/116/120/124/128/132/136/140ch)
	Security	SSIDMAC Address filtering, Multi-SSID WPA (TKIP/AES)/WPA2-PSK (TKIP/AES), WEP (128 bit)
	Captive portal	Coovachilli, frontend www server for Wi-Fi user
WWAN	**WWAN**	HSPA+ DL: 42Mbps, UL: 5.76 Mbps, LTE Cat4 DL: 150Mbps, UL: 50Mbps 2x2MIMO The CDR9030 shall support 2 WWAN skus. RoW LTE: B1, B3, B7, B8, B20, B28, B38, B40, B41 WCDMA: B1, B5, B8, B19

- ## Environmental Conditions

Condition	Range
Operation	-10 to 40 °C
Mechanical	-10 to 85 °C
Storage	-20 to 85 °C
Humidity	95 % at 50 °C

- ## Input Parameters

Condition	Range
Voltage	Low: 12VDC Max:24VDC
Current	1.5 RMS max at low line input and DC output at full load
Protection	3A Fuse

- ## LEDs and Buttons

Condition	Range
LED Status	1x Dual color LED (Power Button) 1x Red LED (E-Call button) 1x Light Guide (Alexa's Mute)
Buttons	3x Function Keys (Power, E-Call, and Mute)

- ## LED Status of an E-Call

Description	Status
Red light keeps flashing	Connecting to the Service Center and Waiting for the E-Call to be Answered
Red light on	E-Call Answered

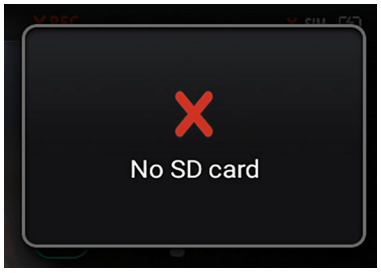
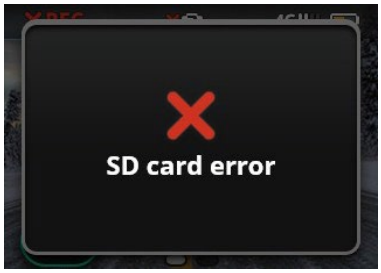
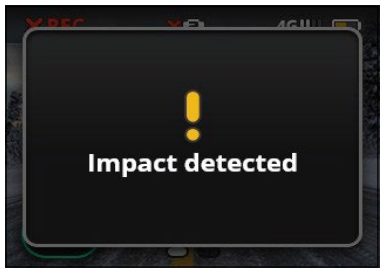
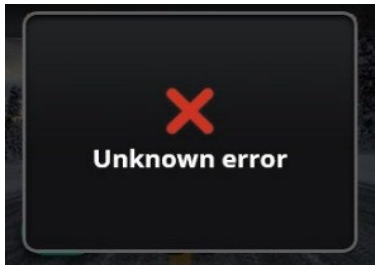
- **LED Status for SD Card**

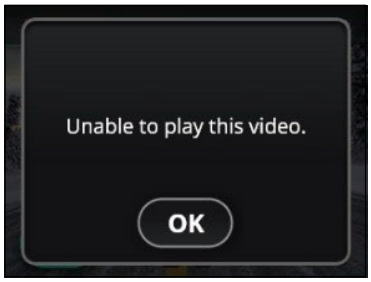
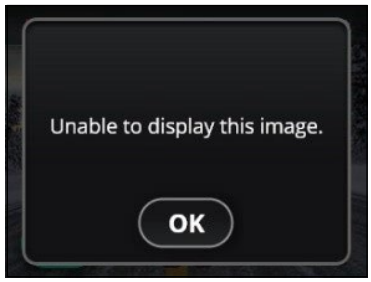
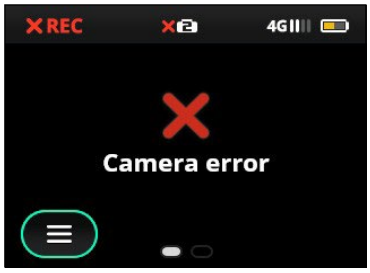
Description	Status
SD Card not inserted or SD Card is broken	Blinking red
SD card is inserted and recording video	Green light

- **Certifications**

Description	Certification
Radio Act	CDR9030: NCC (Taiwan), JRF/JPA (Japan), CE (EU) CDR8011: FCC (NA)
Conducted Immunity e/E/CE Mark	CI_ISO7637-2
Conducted Emission e/E/CE Mark	CE_ISO7637-2
Radiated Emission e/E/CE Mark	RE_CISPR25
Safety (on request)	CDR9030: EU: IEC/EN62368-1 TW: CNS14336-1
	CDR8011: US: DoE CoC NRcan
SD Card	Self-verification
Carrier Type Approval	CDR9030 for JP: DOCOMO
ARIB	CDR9030: STD-T66
Only Test (No Certification)	Wi-Fi Alliance

9. Troubleshooting

Description	Sample Screen	Rectification
No SD Card		Insert SD card
SD Card Error		Remove SD card
Impact Detected		
Format Incomplete		Retry format again or replace SD card with another SD card
System Unknown Error		Reset the device

Description	Sample Screen	Rectification
Unable to Play Videos		Reset the device
Unable to View Still Images		Reset the device
Camera Error		

10. Compliance

10.1 FCC for CDR9030

LTE and 3G Frequency Bands
Please make sure the LTE frequency bands with your operator in local before you insert the SIM card into the device.

•Support LTE Band
FCC requirement:
2 (1900 MHz)
4(1700 MHz)
5(850 MHz)
12(700 MHz)
13(700 MHz)
17(700 MHz)
26(850 MHz)

•Peak Downlink/Uplink
HSPA+ DL: 42Mbps, UL: 5.76Mbps, LTE Cat4 DL: 150Mbps, UL: 50Mbps

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

Contact Us

Contact us if you have any questions or cannot use the CDR9030 normally.

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