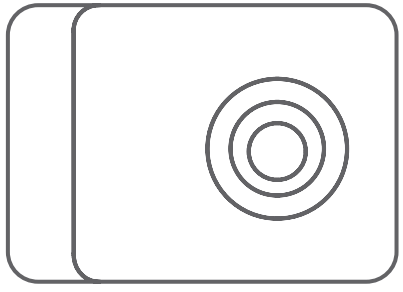


Auto Capsule

User Guide ver. 1.0

COWON AF2

+ Copyright Notice

+ Auto Capsule and COWON are the trademarks of COWON SYSTEMS, Inc.
+ All contents in this manual are protected under copyright law.
+ All the other product(s) and service(s) listed in this manual are registered trademark and service of the corresponding copyright owner(s).
+ All rights to this program are reserved by COWON SYSTEMS, Inc. and protected under copyright law.
+ This manual is based on the specifications of the product available at the point of publishing it. Note that the sample sentences, charts, pictures given as an example, detailed functions of a product, specifications of H/W and S/W recorded in this manual are subject to change without notice.

Precautions

This device is for recording the driving image of vehicles. Recording may fail depending on the given situation. The videos recorded with this product can only be used as a reference for examining the driving image.

+ This manual is based on the product available at the point of publishing it. It thus may contain errors or omissions in its technical editing.
+ Always back up any important video files.
+ COWON SYSTEMS, Inc, shall not be held accountable for any data loss, poor recording or recording error.

COWON AF2

CONTENTS

Before You Start 6

Precautions for Product Handling
Package Components
Names of Parts and Functions
Installation
Connection of Uninterruptible Power Cable
Connecting Rear View Camera and External GPS module
Detaching from a product holder

Basics 18

Getting Started
Live View
Main Menu
Settings
File Playback
Magic Touch

COWON AF2

CONTENTS

Basic Functions 31

LED Status Indicator
Button Operation
Protection From High Temperature
File Management

Additional Description 35

Product Specification
Troubleshooting

▪ Precautions for Product Handling

This section regards precautions to prevent users from compromising safety or experiencing property damage. Please read the followings carefully before use. (Company has nothing whatsoever to do with any accident caused by a user who failed to conform to warning and precautions.)

+ Changing the installation location of the product may result in a change in the camera angle. Adjust the camera angle after installing the product and test the recorded images. Normal recording cannot be guaranteed if the product is incorrectly installed.
+ Recording video is not available when this product is being booted. Drive safely after booting is completed.
+ Recording may be distorted when entering or exiting tunnels during daytime.
+ Avoid excessive car window tinting. It deteriorates the recording quality. The white balance of the video may vary depending on the degree of tinting.
+ In the event a product is damaged or disconnected from power due to a critical and impactful accident, the product may not work and fail to record the accident.
+ Do not disassemble or alter the product at your discretion. It may cause electric shock, product damage or loss of recorded data.
+ Always keep the front window clean and free from dust before recording to guarantee the most optimal recording quality.
+ Foreign matters (e.g. fingerprints) on the lens of the product may adversely affect the recorded videos. Always keep the lens clean and free from dusts.
+ Avoid inserting metals or flammables into the MicroSD card slot. It may cause a fire or electric shock.

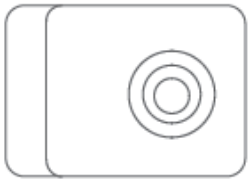
▪ Precautions for Product Handling

+ If liquid spills onto the product, disconnect the power immediately and contact the customer center.
+ Refrain from operating the product while driving. It may cause a car accident.
+ Do not use voltage other than the rated voltage specified by the product. It may cause an explosion, fire or mechanical failure.
+ Do not use the product in a place where there is flammable or explosive gas. Otherwise, ignition or explosion may ensue.
+ Keep the product away from the reach of babies, children, or pets.
+ Avoid high temperatures such as inside the closed car under hot weather or a place with direct sunlight. It may adversely affect the exterior or internal parts of the product, causing a fire.
+ Do not apply too much pressure to the lens and the exterior of the black box, or a mechanical failure may ensue.
+ Install the product in an area that doesn't disrupt a driver's visibility. Otherwise, it may cause an accident.
+ If you use the product for a long time, it will heat up. So be cautions not to get burned by touching it. Avoid touching the metal area when removing the MicroSD card after using the product for long hours.
+ Do not cover the product with a cloth or other type of cover. It may contain the heat inside the product, resulting in an exterior deformation or a fire.
+ Do not spray water or wax directly onto the product when cleaning the inside of a car. It may cause mechanical failure or electric shock.
+ Always use the genuine products and parts from COWON SYSTEMS, Inc. COWON SYSTEMS, Inc. shall not be held accountable whatsoever for failures or accidents caused by using the product and parts from other sources.

▪ Precautions for Product Handling

+ Memory card is an expendable item which needs to be periodically examined and changed. Use a COWON-authorized memory card.
+ Before removing the memory card from the product, press the button for more than three seconds. Removing the memory card without doing this, it may cause recording errors or product malfunction.
+ If storage space on the memory card is insufficient, previously-recorded files can be deleted in a pre-set order. You can also transfer important recorded files can be transferred for safe-keeping on a separate storage device.
+ The backup battery is an expendable item, and its life span can be affected by the environment around it. Replace it with a new one when operation becomes unstable.
+ Do not wipe the product with chemical substances or detergent. Wipe the product gently with a soft cloth.
+ If you don't intend to use the product for a long while, unplug the power cable of the product. Otherwise, it may cause electric discharge of a car battery or fire. The user shall be held accountable for any product damage or car damage.
+ Do not use wet hands when plugging/unplugging the cigar jack cable. It may cause an electric shock.
+ Plug in the power cord completely and firmly. Otherwise, it may cause a electrical short.
+ Do not use a damaged cigar jack cable. It may cause a fire or an electric shock.
+ In accordance with the Personal Information Protection Act and other relevant regulations, users are held liable for data stored using the product's video/audio recording features. You are advised to take due precaution in storing recorded data.

▪ Package Components

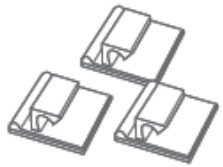


Auto Capsule AF2

Rear-view camera

Product holder (Front & Rear)

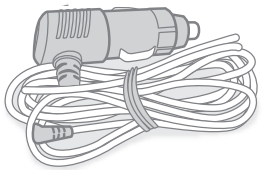
Memory card & card adapter



Cable holder clips (3EA)

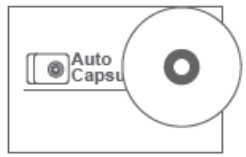
Double-coated tape

Rear-view camera connection cable



Cigar jack*

Hex wrench



Manual & PC viewer CD, Quick guide

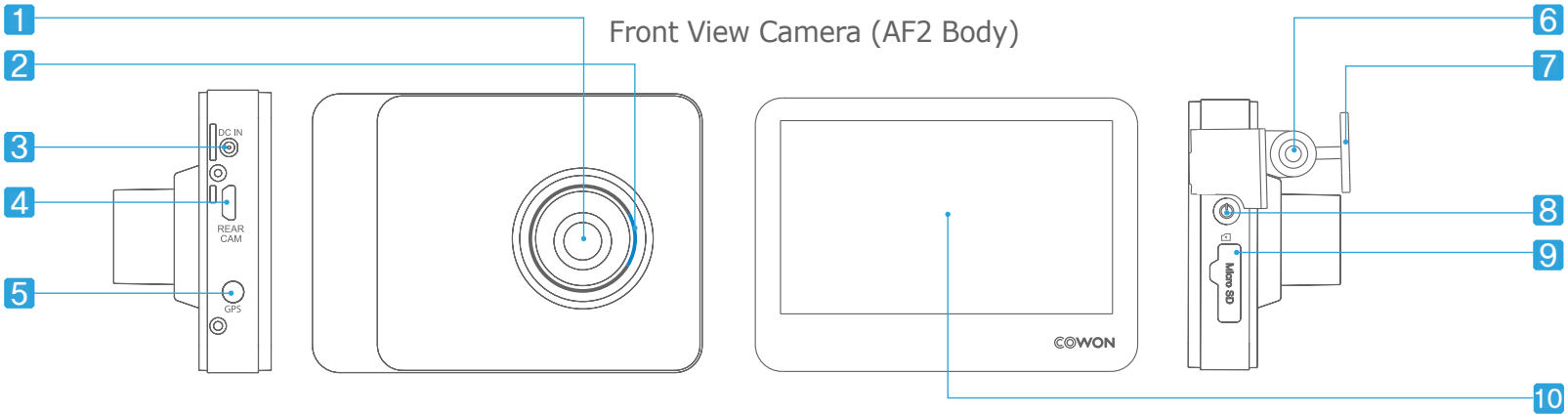
External GPS receiver (Optional)

Uninterruptible power cable (Optional)

- The product holder may come with double-coated tape already attached.
- Note that included items may vary according to the product specifications and may look different from the images provided in the manual.

* Cigar jack cable provided does not support Battery Discharge(by time and voltage setting) as well as Parking Recording. Uninterrptible power cable may be purchased for Parking Recording. Connection of the cigar jack power cable to an uninterrupted cigar jack power supply will drain battery. Ensure that the cigar jack power is off when the ignition is turned off.

▪ Names of Parts and Functions

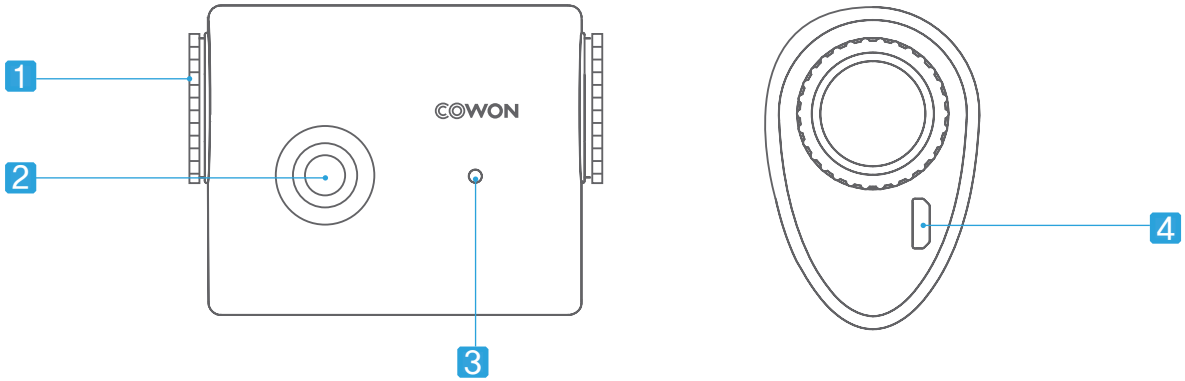


No.	Names	Functions
1	Camera lens	Records the front direction of a vehicle.
2	LED status indicator	Displays the operational status of the product.
3	Power terminal	Connects with cigar jack cable or with uninterruptible power cable.
4	Rear view camera terminal	Connects the rear view camera. 1)
5	GPS terminal	Connects with external GPS.
6	Screw	Secures COWON AF2 firmly onto the product holder.
7	Product holder	Secures COWON AF2 to your vehicle.
8	Power button	Press and hold while recording – ends recording and power is turned off. Long press again – power is turned on and recording starts.
9	Protective lid	Protects memory card inside the memory card slot.
10	LCD	Shows video being recorded or menu with which users can operate the black box.

1) This terminal is designed to fit the rear view camera only; it is not compatible with other devices.

▪ Names of Parts and Functions

Rear View Camera

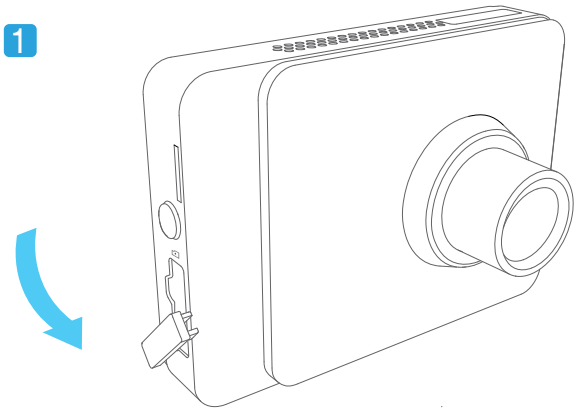


No.	Item	Description
1	Connector	Connects with the product holder.
2	Camera lens	Records the rear view of the vehicle.
3	LED status indicator	Displays the operational status of the product.
4	Front View Camera Terminal	Connects with the front view camera. 1)

1) This terminal is designed to fit the front view camera only; it is not compatible with other devices.

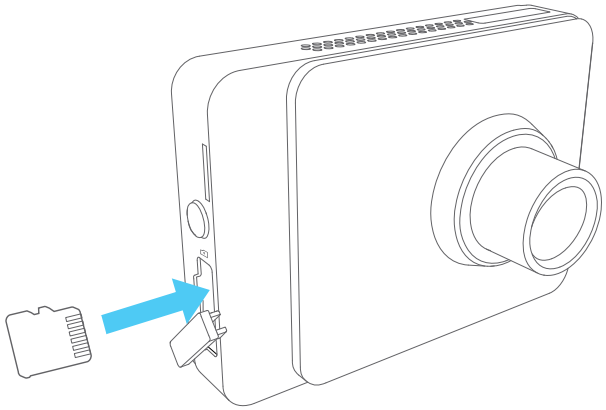
▪ Installation

1



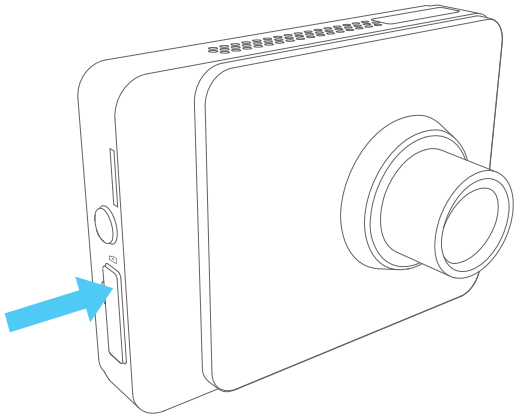
Open the protective lid as shown in the figure.

2



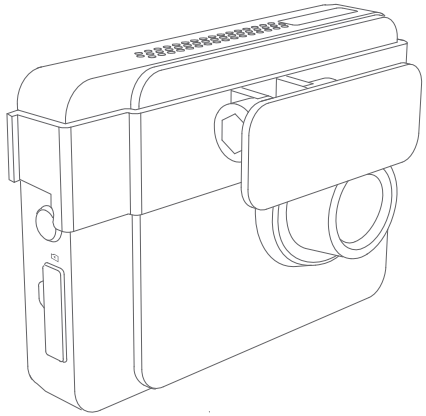
Insert the memory card into the product.

3



Push and close the protective lid.

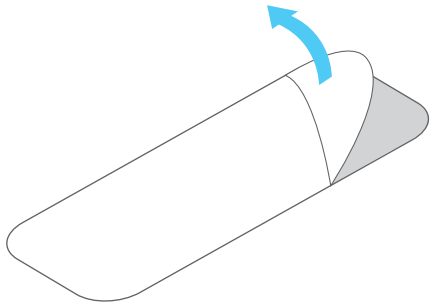
4



Place AF2 in the product holder.

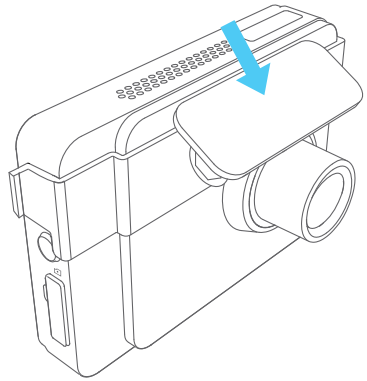
▪ Installation

5



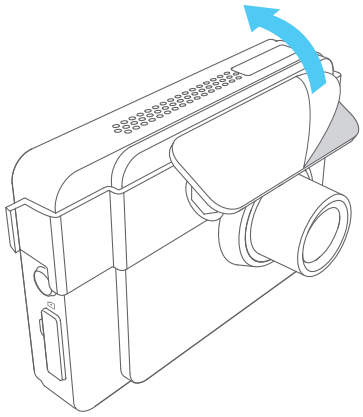
Remove the release paper from one side of the double-coated tape.

6



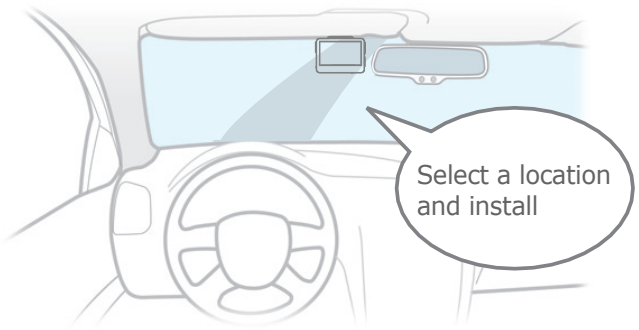
Attach the side that removed release paper onto the holder.

7



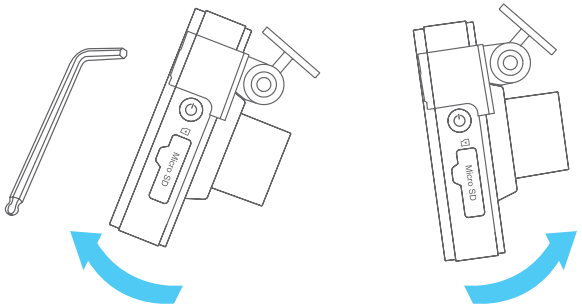
Remove the remaining release paper on the double-coated tape.

8

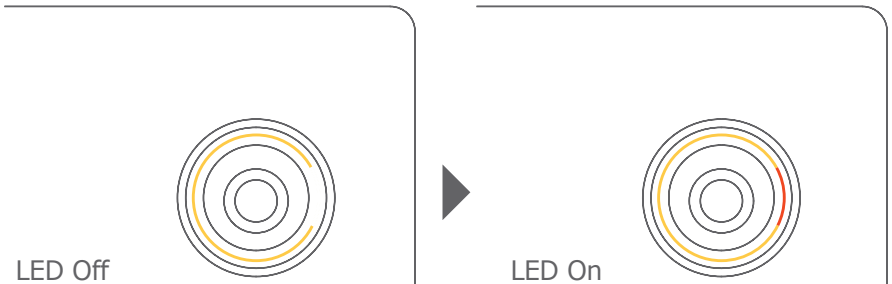


Select the position carefully as removing the product to reposition it will cause it to be significantly loose. Double-check the chosen position before fixing the product.
The product holder may come with double-coated tape attached.

▪ Installation

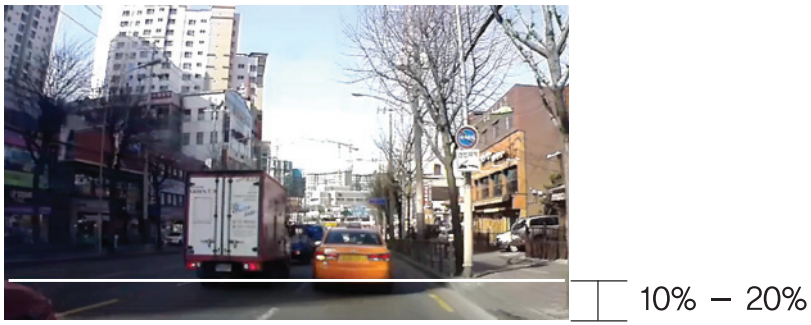


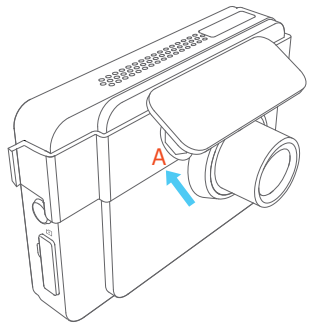
Adjust the direction of the camera lens.



- LED Off: LED turns off when disconnected from power or while the settings are modified after stopping driving recording.
- LED On: When the power is on, LED blinks to indicate that recording starts.

- Direction can be easily adjusted while looking through the LCD screen.
- Adjust the camera lens to make about 10-20% of your vehicle's hood to be appeard on the recording screen.
- Use a hex wrench to ensure the product is securely attached.





- Adjust the angle and press area A to secure the product in product holder.

▪ Connection of Uninterruptible Power Cable

When connected with uninterruptible power cable, recording continues even when the vehicle is parked and the engine is turned off.

- Be sure to fully understand how to set up uninterruptible power before connecting the device.
- Each wire must be fixed to a specific dedicated location.
  (Otherwise inverse voltage can be generated, seriously damaging the product.)

Black wire (GND)

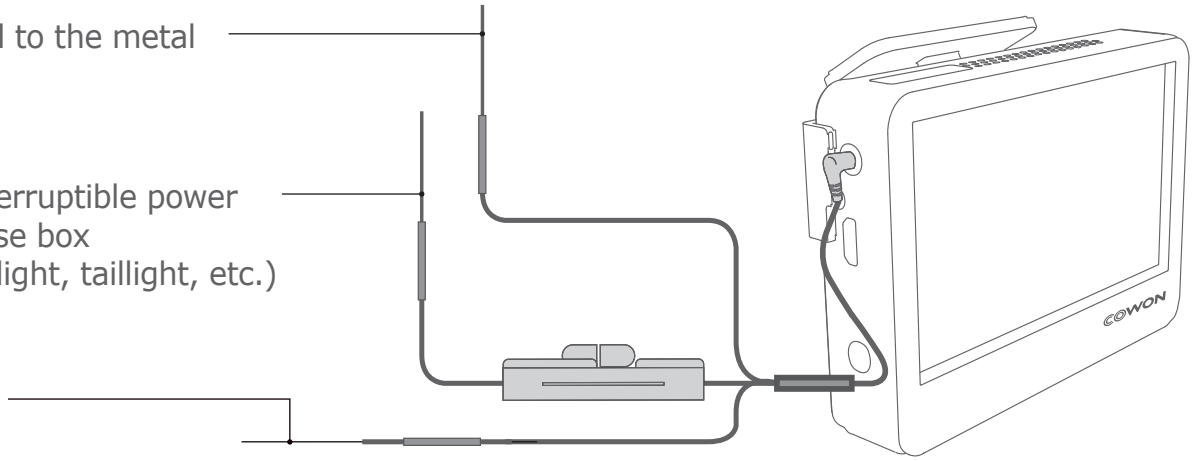
Fix it to a bolt attached to the metal of the vehicle's body.

Red wire (BATT+)

Connect it to the uninterruptible power fuse of the vehicle's fuse box (hazard flasher, dome light, taillight, etc.)

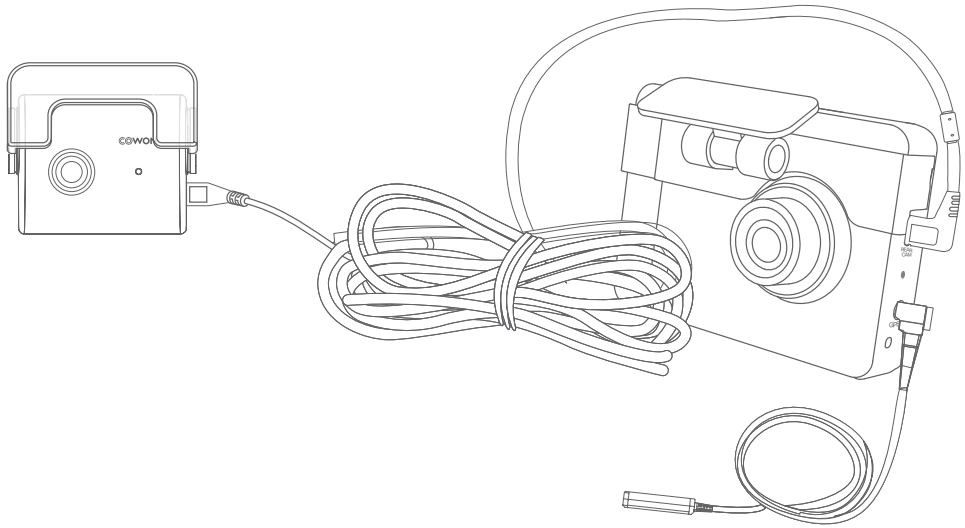
Yellow Wire (IGN)

Connects to Power Unit (IGN) for engine ignition



- Connect the yellow wire to ACC (cigarette lighter, etc.) for vehicles such as the Chevrolet Cruze, because Parking Mode is unavailable if the cable is powered by IGN in these models.
- Uninterruptible power cable must be installed using wires from the fuse box inside the car.

▪ Connecting Rear View Camera and External GPS Module

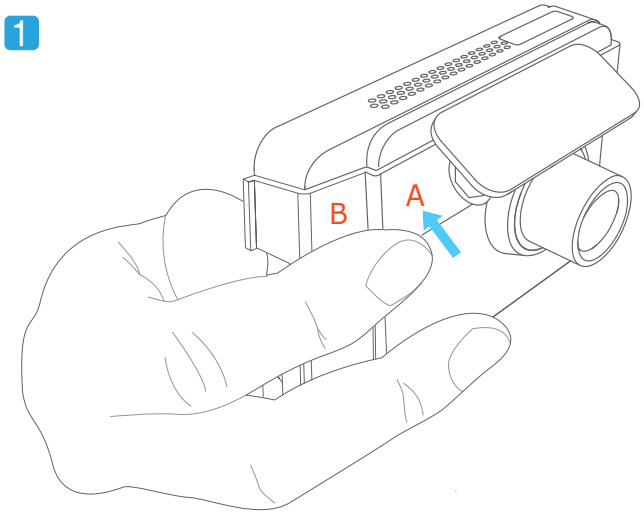


Connecting Rear View Camera and External GPS Module

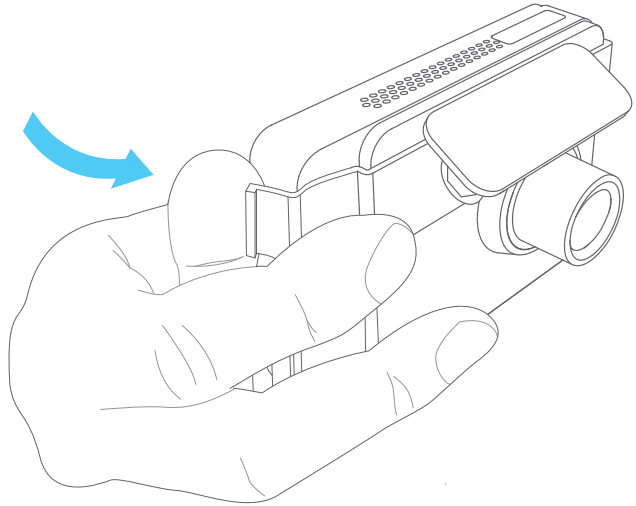
- The rear view camera's LED turns on once connected, indicating that the camera is ready for simultaneous 2-channel recording of both the front and rear areas.
- Connecting an external GPS module allows PC Manager to show recorded places on the map.
- External GPS is available for purchase.

▪ Detaching from a product holder

1



2



Push the back of the product holder (Picture 2) with your thumbs while holding the AF2 (See A, Picture 1) for easy removal.

Make sure to press area A (not to be confused with area B).

1 Booting

When the car is started or the power button on the right-hand side of the product is pressed, the black box's power turns on. As soon as booting is completed, the product automatically switches into driving mode recording. The LCD screen will display live video footage of the driving mode recording. Touch the Home button to display Main Menu.

2 Live View screen

Video being recorded by the product's camera appears on the LCD screen.

3 Home (Main Menu)

Main Menu appears when the Home button on the left-hand side is touched.

4 Switch View

Press the Switch View button while the rear view camera is connected to toggle between Front and Rear Live View. The Front/Rear Live View screen will only display the front view if the rear view camera is not installed. (Disconnecting the rear view camera connection cable will pause recording.)

5 Screen Off

Touch the Screen Off button to turn the LCD screen off. Touch the LCD screen to call up Live View screen again.

6 Anti-fog

Allows clear live/recording view in a foggy environment.
(Can be turned on/off on demand, and automatically turns off after 1 hour from turing the function on.)

▪ Live View

1 Recording Indicator

The REC icon displays when recording begins.

2 Recording Modes.

Displays recording mode.

- REC: Driving recording
- EVT: Event recording(an event occurred)
- Parking: Parking recording

3 Time Indicator

Displays current recording time.

4 Sound Recording Indicator

Sound recording is deactivated.

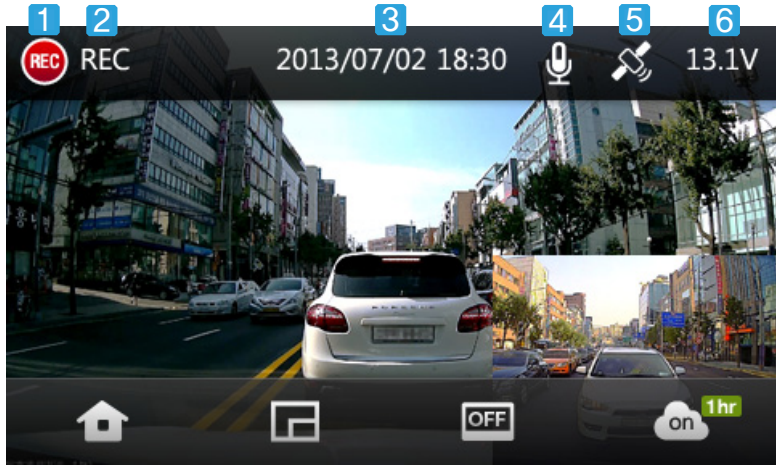
Sound recording is activated.

5 GPS Connection

GPS connection is indicated by the GPS Connection Icon , which disappears when disconnected.

6 Vehicle Voltage Indicator

Displays the vehicle battery's current voltage.



▪ Main Menu

Main Menu appears when Home button on the Live View screen is touched.

1 Recording

Displays what is being recorded on the LCD screen.

2 AF2 Information

Shows the model name, firmware version and storage use.

3 Settings

Moves to Black Box Settings screen.

4 Playback

Recorded video files can be watched.
Touch a file on the playlist and the selected video file will be played back automatically.

▪ Settings

The Touch Settings button on the Menu screen will display the following.

1. Screen Setting

   Set brightness, LCD Off, and rear view camera recording options.

2. Sound Setting

   Set volume, sound recording, and beep.

3. Auto Capsule Setting

   Battery Discharge Time Setting, Impact Sensitivity, and Recording Quality options can be set.

4. System Setting

   Set time, memory card, and coordinate options.

Screen Setting

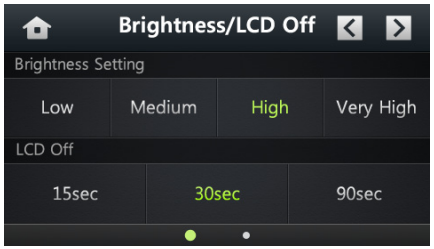
1 Brightness/LCD OFF

Change LCD brightness (4 levels) or set time for LCD to turn off (3 options).

2 Rear View Camera Settings (Rotate (L/R) View)

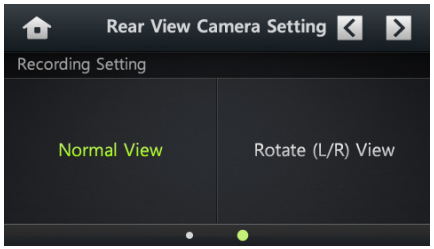
You can set the rear view camera's recording screen.
Rotate (L/R) View is comfortable because of the same direction between recordings in the rear view and the rear view that a driver look through a rear view mirror.

1



Brightness/LCD OFF

2



Rear View Camera Settings (Horizontal Flip)

▪ Rear View Camera LCD Screen Options

Original

Rear View Mirror

Rotate (L/R) View

Screen Setting

3 Language Setting

한국어 / English / 日本語 / русский

Language Setting

Sound Setting

1 Volume

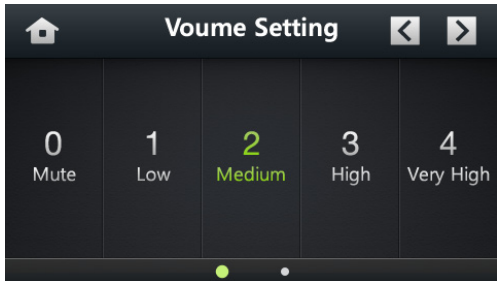
Adjusts speaker volume including voice announcements.

2 Sound Recording/Beep

Decides whether to include sound in recording. Camera will only record video without sound when set to OFF.

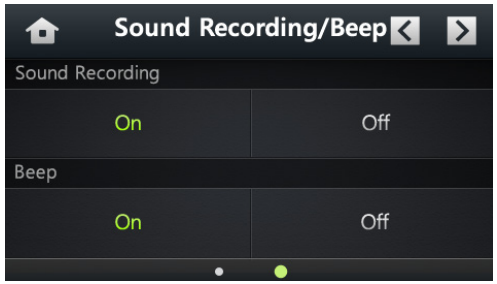
Selects whether or not to activate sound when the screen is touched.

1



Volume

2



Sound Recording/Beep

Auto Capsule Setting

1 Battery Discharge Setting

When the vehicle's battery voltage falls below the pre-set voltage value, the product's power shuts down.

2 Auto Shutdown Timer

Time limit for parking mode recording can be set.

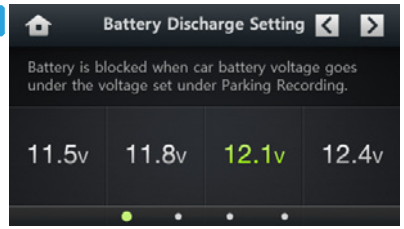
3 Impact Sensitivity

The shock detection sensor can be set at 5 sensitivity levels, and Bike Mode is also available.
When set to Bike Mode, the sensor does not report detected impact as an event.

4 Parking Recording Quality

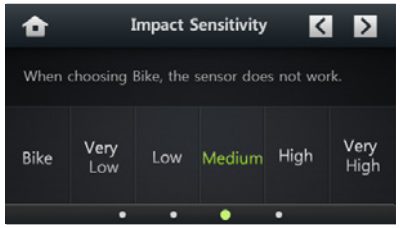
Set the recording quality for Parking Mode.

1



2

3



4

System Setting

1 Time Setting

Date and time can be set.

2 Memory Card Setting

- Formatting: Integrated formatting feature for memory card stability.
- Schedule: Formatting Reservation
- Safe Removal: Safely remove memory card.

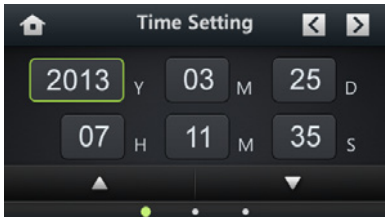
3 Coordinate Setting

This feature allows you to correct the position of the LCD screen touch area.

4 GPS Time Setting

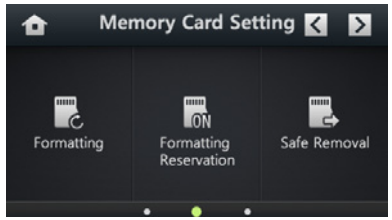
Set time zone to any region with the external GPS module.

1



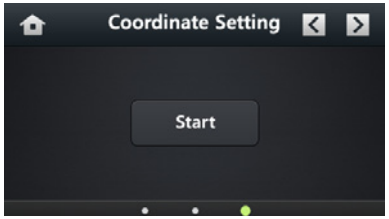
Time Setting

2



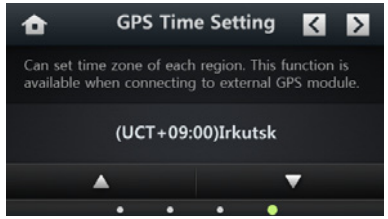
Memory Card Settings

3



Coordinate Setting

4



GPS Time Setting

▪ File Playback

This screen appears when the Recording Mode Switch button on the Menu screen is touched.

1 Previous/Next buttons

When there are many recorded files, touch these buttons to move to the previous or next page.

2 Playlist

The list shows recorded files in consecutive order.
Each page of the list shows four video files. When the name of a file is touched, that video file will be played immediately.

3 Home Button

Returns to Main Menu.

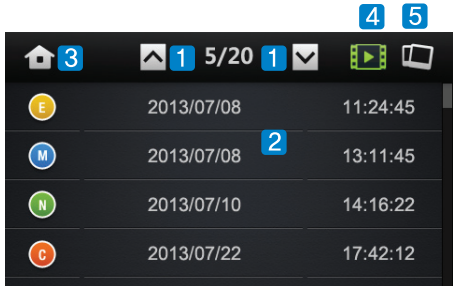
4 Video Select Button

Displays the list of recordings.
View videos by All (A)/ Normal (N)/ Event (E)/ Motion (M).

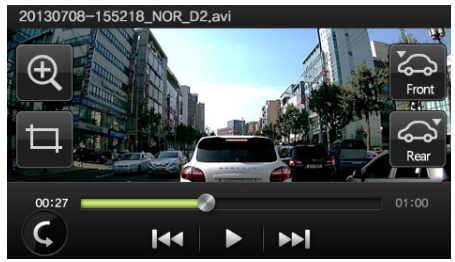
5 Image Select Button

Displays the list of captured images.

View by Type



List of Recordings



Play Screen

▪ File Playback

Touch the recording from the Play List to immediately play the video.

1 File Name
Displays the file name of the currently playing video.

2 Play Screen
Plays the recording on the LCD screen. The next video is played when the current file ends.

3 Zoom Screen
Pause the playback and zoom in the screen.

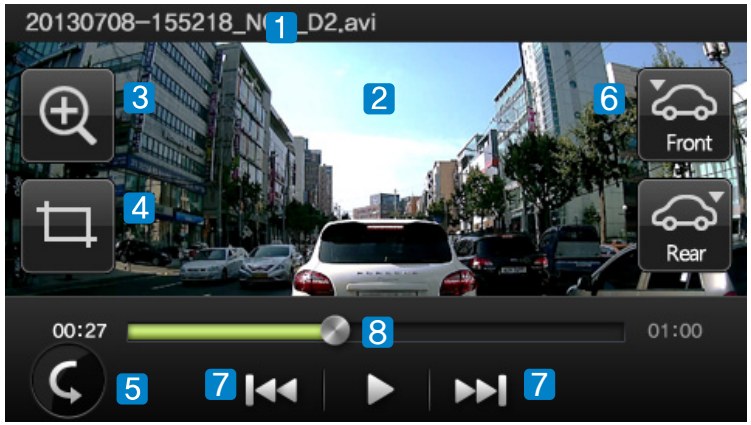
4 Screen Capture
Captures playing screen.

5 Back
Moves to the previous menu (Play List).

6 Select Front/Rear View
If the recording has both front and rear views, touch one of the buttons to play the video in front or rear view.

7 Player Key
Play/pause the current video or move to previous/next video.

8 Progress Bar
Moves to the preferred time using the bar. (Displays played time in the video being played together.)

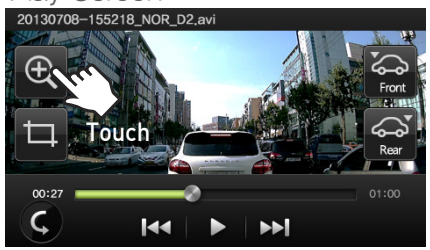


▪ File Playback (Zoom Screen)

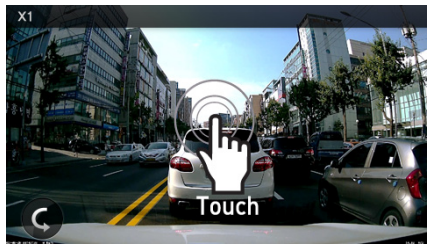
Pause the playback and zoom in the screen for a better view.

1. Zoom the screen at 4 levels.
2. The feature is available during playback. You can also zoom the captured image.
3. Touch to adjust zoom in/out levels.
4. The image zooms in, centering on where you touched.

Play Screen



X1



X2

X3

– Level Zoom Image

X4

X1

X2

▪ Magic Touch

Magic Touch allows you to manually record event files and capture video images during recording by using simple touch gestures. This feature is only available only with LCD OFF or in Live View.

1 Activate Manual Event

During recording, drag the Live View screen from left to right to activate Manual Event for manual recording.

2 Capture Screen Image

During recording, drag the Live View screen downward to capture the current image.

1

Activating Manual Event

2

Capturing Screen Image

▪ LED Status Indicator

Category	Operating mode	Color	Blinking cycle
Recording	Drive Record	Orange	Blinks
	Parking Mode Standby	Orange	Slow blinking
	Event	Orange	Fast blinking
	Motion	Orange	Fast blinking
System	Booting, No memory card	Orange	OFF
	Firmware Upgrade	Orange	Fast blinking
	Format	Orange	OFF
	Safe Memory Card Removal	Orange	OFF
	Play File, Settings Mode	Orange	OFF
	Heat Protection	Orange	OFF

▪ Button Operation

▪ Protection From High Temperature

LCD Protection

In high temperature environments, the product records without turning on the LCD screen to protect the LCD. When activated, you will hear a voice announcement, "Operating with LCD screen off to protect against high temperature." and the LED will blink orange based on the mode. The LCD screen will automatically turn on when the temperature is stabilized.

System protection

If the car's interior temperature continues to rise, the product's power will turn off automatically and you will hear a voice message: "Stopping Recording to protect Auto Captsule against high temperature." When the temperature goes down, the power will resume on automatically. Even with this system protection function activated, the power can be turned back on by pressing and holding the power button.

▪ File Management

Recordings are saved in the AUTOCAPSULE – Recordings folder, and images are saved in the AUTOCAPSULE – Images folder in the memory card.
The Recordings folder contains normal, event, and motion files.
The Images folder contains captured images.

Folder	Type	File Name	Memory Allocation
Images	Capture	yyyymmdd–hhmmss_IMG_C1.jpg (1 channel) yyyymmdd–hhmmss_IMG_C2.jpg (2 channel)	1%
Recordings	Event	yyyymmdd–hhmmss_EVT_D2.avi	20%
	Normal	yyyymmdd–hhmmss_NOR_D2.avi	75%
	Motion	yyyymmdd–hhmmss_MOT_P2.avi	

Ex) A normal file recorded on May 1st 2013, 12:10:10(H:M:S): 20130501-121010_NOR_D2.avi
An event file recorded on May 1st 2013, 12:10:10 (H:M:S): 20130501-121010_EVT_D2.avi
A motion file recorded on May 1st 2013, 12:10:10 (H:M:S): 20130501-121010_MOT_P2.avi
A image file captured on May 1st 2013, 12:10:10 (H:M:S): 20130501-121010_IMG_C2.jpg

- When the Normal+Motion or Event file storage is full, the oldest files will be deleted.

▪ Product Specification

Item	Specification	Note
Lens	Front: F2.2 All Glass/Rear: F2.0 All Glass	
Image Sensor	Front: 2 megapixel CMOS Image Sensor/Rear: 1 megapixel CMOS Image Sensor	1/3 Inch
ISP	60fps Super WDR, 3D Noise Reduction, Defog Function	
LCD	3.5 Inch Wide Full Touch LCD	16:9 Wide (480 X 272)
Recording Resolution	1 Channel - Front: Full HD (1920 X 1080P), 30fps 2 Channel - Front: Full HD (1920 X 1080P), 23fps/Rear: HD (1280 X 720P), 23fps	
Recording Angle	Front – Diagonal: 126 ° / Rear – Diagonal: 120 °	
Video Encoding	H.264 (MPEG-4 AVC)	
Recording File Types	Normal, event, motion, and capture files 1)	
Audio Recording	PCM	
Battery Voltage Management	Integrated voltage detection circuit	Auto shutdown voltage setting, Auto shutdown timer
Software	PC Manager (for Windows PC)	File playback, Screen Capture, Save Recordings, Driving Speed 2), View on Map 3)
Dimension and Weight	93.0 X 67.0 X 18.5mm/Front: 134g, Rear: 40g	
Storage	Support up to 32GB memory card	
Operating Temperature	–20 ° C ~ 60 ° C	
Power	DC 12V ~ 24V	
Others	G Sensor, Speaker (Voice Guide), Front/Rear LED Indicator, External GPS Module	

1) Motion file can be used only when the product is connected with uninterruptible power cable.
2)~3) Only files recorded with external GPS module can be viewed.

▪ Troubleshooting

- Video is not recorded.

  Check memory card. Since memory cards have a limited life span, they may not operate normally if they are used beyond their lifespan.
  Periodic re-formatting is recommended for memory cards.

- Voice is not recorded.

  Check if voice recording is disabled. If voice recording function is active, make sure the microphone of the black box is not blocked.

- LCD screen does not come to life.

  When you start the ignition, the LCD screen automatically turns on but the screen is programmed to automatically go off after a while. When this happens, touch any place on the LCD screen and the screen will turn back on. If the screen remains black even after multiple touches, contact your local service center.

- PC manager does not display map.

  This device supports connection with external GPS. Check if the external GPS cable is firmly connected with the main body of the product. If the problem remains unsolved, make sure the external GPS has a clear, unobstructed view of the sky so that its signal reception from the satellite is not blocked.
  (External GPS receiver is optional.)

- Image is blurry.

  Clean camera lens. Always keep the front glass of your car clean.

- Power is not turned on.

  If power is not turned on in spite of using the included cigar jack cable, separate the power cable from the device and reconnect it. If power remains off, contact your local service center.

▪ Troubleshooting

- Image is shaky while driving.

  Make sure the device holder is secured firmly. If the device is shaky, use a transparent double-coated tape to secure it firmly.

- The screen is dark.

  The screen may appear dark due to the level of glass tint on your car. If this is the case, install the black box in a lightly tinted area or adjust the brightness of your screen on the Settings menu on the LCD screen.

- File cannot be copied on memory card.

  Try again after formatting. If file cannot be copied even after formatting, contact your local service center.

DIGITAL PRIDE.

COWON