COWON AW2

User Guide ver. 1.0

Auto Capsule

+ COPYRIGHT NOTICE

General

+ Auto Capsule and COWON are the trademarks of COWON SYSTEMS, Inc.
+ All content 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 to 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.

+ CONTENTS

Before You Start 6
- Product Overview
- Safety Precautions
- Package Components
- Names of Parts and Functions
- Installation
- Uninterruptible Power Connection

Basic Functions 20
- Start Recording
- Driving Recording
- Parking Recording
- End Recording
- Occurrence of Event
- Motion Detection
- LED Status Indicator
- Safe Removal and Formatting of Memory Card
- Button Operation
- More Functions
- File Management

+ CONTENTS

Other Functions 26

Wi-Fi Connection to Smart Manager
Smart Manager
PC Manager
Front and Rear View Recording Synchronization
Auto Shutdown Timer
Setting Parking Mode Voltage
Setting Auto Shutdown Voltage
Non-stop Recording While Parked
File Deletion Setting
Sensitivity of G Sensor
Motion Detection Sensitivity

Additional 34

Specifications

+ Product Overview

2 Channel Full HD High Quality Recording

+ Both the front and the rear view cameras have a 1/2.7" large image sensor with 1920x1080 resolution for recording 2 Channel Full HD / 30 fps / 16:9 wide video.

Intelligent image sensor algorithm optimized for black box

+ Operation is optimised by swift and stable adjustment to different conditions (daytime, night-time, entering and leaving a tunnel, etc.)

Wider recording angle

+ Diagonal angles of 140° are available for a wider field of vision.

Multiple recording options and easy search

+ There are multiple options for driving-mode and parking-mode recordings, and recorded videos can easily be searched by category of event or motion file.

Built-in G sensor

+ This detects the external impact via the 3-axis acceleration sensor for auto recording.

Built-in motion sensor

+ This detects motion during parking mode recording and starts recording automatically

+ Product Overview

Built-in backup battery

+ The last recorded file is safely saved thanks to a built-in battery, even with unexpected power outage.

Safe removal and formatting of memory card

+ "Safe removal and formatting of memory card" features are available to save recorded files safely.

Multiple indicators for smooth operation

+ Operational status of Auto Capsule is easy to monitor through voice messages, sound effects, and three-color LED indicators.

Smart Manager

+ The Smart Manager application lets you download or play recorded files using a Wi-Fi connection. Live View allows video footage to be viewed in real time, and users can set their preferences for various options.

PC Manager

+ With the PC Manager, you can manage and capture recorded videos and examine the intensity of an impact on the G sensor.

+ Product Overview

Automatic parking mode recording 1)

+ Automatically senses parking voltage and initiates parking mode recording.

Auto shutdown timer available during parking mode recording 2)

+ After a pre-set time, this automatically turns off the recording to protect the vehicle battery.

Auto shutdown voltage set-up option

+ If the vehicle battery power falls below a pre-set voltage, this automatically turns off the device.

Protection from high temperature

+ When the car's interior temperature rises above a certain level, recording is paused to protect the product. When the temperature goes down, recording resumes automatically.

Connection with external GPS

+ When connected with an external GPS receiver, vehicle location and speed information are recorded and can be checked later via the PC Manager.

1) 2) Available only under uninterruptible power connection.

+ Safety Precautions

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

1. Power Supply

+ 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.
+ Avoid inserting metals or flammables into the MicroSD card slot. It may cause a fire or electric shock.
+ 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.
+ 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.
+ 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. A user shall be held accountable for the product damage or car breakdown.

+ Safety Precautions

+ Do not use wet hands when plugging/unplugging the cigar jack cable. It may cause an electric shock.
+ Plug in the power cord completely with no looseness. Otherwise, it may cause a fire.
+ Do not use the damaged cigar jack cable. It may cause a fire or an electric shock.

2. Memory Card and Data Management

+ The memory card is an expendable item which needs to be periodically examined and changed to safely write data. It is recommended to format the memory card more than once a week.
+ 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 Auto Capsule, 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, reviously-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.

3. Installation and Operation

+ 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 wrongly installed.

+ Safety Precautions

+ Recording does not start when Auto Capsule is booting. Please drive safely after booting is complete.
+ This product is a device that uses a camera to record video as you drive, therefore, the quality of the recorded videos may deteriorate when taken at the point of entering/exiting a tunnel, when the shadow contrast and counter light to the subject are severe in broad daylight, or when there is no light.
+ Install the product in an area that doesn't disrupt a driver's visibility. Otherwise, it may cause an accident.
+ The backup battery is an expendable item, and its lifespan can be affected by the environment around it. Replace it with a new one when operation becomes unstable.
+ 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.

4. Settings and Others

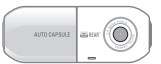
+ Avoid excessive car window tinting. It deteriorates the recording quality. The white balance of the video may vary depending on the degree of tinting.
+ Always keep the front window clean and free from dust before recording to guarantee the most optimal recording quality.
+ Foreign matters (e.g. fingerprints) on the lens of the black box may adversely affect the recorded videos. Always keep the lens clean and free from dusts.
+ Use caution not to apply too much strength to the lens and the exterior of the black box, or a mechanical failure may ensue.

+ Safety Precautions

+ 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.
+ If you use the product for a long time, it heats up inside. So use caution 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 black box 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.
+ Do not wipe the product with chemical substances or detergent.
+ 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

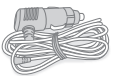
Front view camera



Rear view camera

Front product holder

Rear product holder



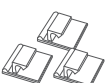
Cigar jack power cable

Rear view camera connection cable

MicroSD card (2EA)

MicroSD card reader

Manual & PC viewer CD, Quick Guide



Cable holder clip (3EA)

Double-coated tape (Front, Rear)

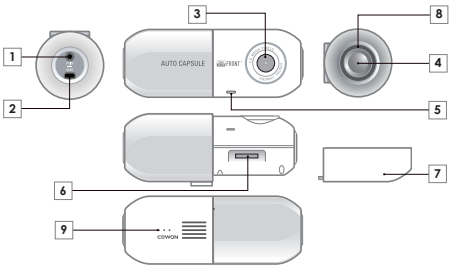
External GPS receiver (Optional)

Uninterruptible Power Cable (Optional)

- Note that the included items may vary according to the product specifications and may look different from the images provided in the manual.
- Always use the genuine cables from COWON SYSTEMS, Inc.

+ Names of Parts and Functions

Front view camera



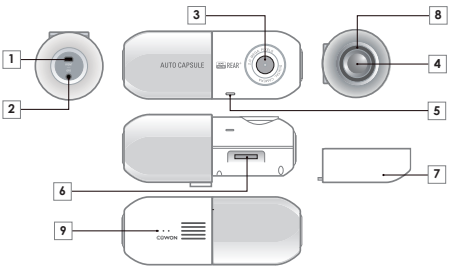
Front product holder

No.	Names	Functions
1	Power terminal	Cigar jack cable / Uninterruptible power cable terminal
2	Rear view camera terminal	Connects with the rear view camera. 1)
3	Camera lens	Records the front direction of a vehicle.
4	Buttons 2)	Press once – Turns on/off sound recording (Default setting), or used for manual recording when an event occurs 3) Press twice – Wi-Fi On/Off Press three times – Connects to Remote Monitoring 4) Press and hold for 3 seconds – Allows safe removal/ formatting of memory card 5)
5	Microphone	A microphone for sound recording
6	Memory card slot	Slot for inserting or removing a memory card.
7	Rear lid	Use it to insert or remove memory card.
8	LED status indicator	Displays the operational status of the device
9	Speaker	Plays voice guides and sound effects.

1) This terminal is designed to fit AW2 rear view camera only; it is not compatible with other devices.
2) When pressing the button, the front and rear view cameras are synchronized and perform the same task. (Safe Removal/Formatting is performed separately)
3) Go to Settings 〉Sound 〉Sound Recording and deselect Sound Recording by Button to switch to Event occurence.
4) Select Settings 〉Device 〉Remote Monitoring 〉Use Remote Monitoring Connection to activate the remote monitoring connection.
5) Press and hold the button for more than 3 seconds, and then press and hold it for more than 3 seconds again to format the memory card.

+ Names of Parts and Functions

Rear view camera



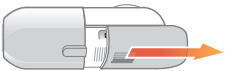
Rear product holder

No.	Names	Functions
1	Front view camera terminal	Connects with the front view camera. 1)
2	GPS terminal	Connects to an external GPS module.
3	Camera Lens	Records the vehicle's rear view.
4	Buttons 2)	Press once – Turns on/off sound recording (Default setting), or used for manual recording when an event occurs 3) Press twice – Wi-Fi On/Off Press three times – Connects to Remote Monitoring 4) Press and hold for 3 seconds – Allows safe removal/ formatting of memory card 5)
5	Microphone	A microphone for sound recording
6	Memory card slot	Slot for inserting or removing a memory card.
7	Rear lid	Use it to insert or remove memory card.
8	LED Status Indicator	Displays the operational status of the device
9	Speaker	Plays voice messages and sound effects.

1) This terminal is designed to fit AW2 rear view camera only; it is not compatible with other devices.
2) When pressing the button, the front and rear view cameras are synchronized and perform the same task. (Safe Removal/Formatting is performed separately)
3) Go to Settings 〉Sound 〉Sound Recording and deselect Sound Recording by Button to switch to Event occurence.
4) Select Settings 〉Device 〉Remote Monitoring 〉Use Remote Monitoring Connection to activate the remote monitoring connection.
5) Press and hold the button for more than 3 seconds, and then press and hold it for more than 3 seconds again to format the memory card.

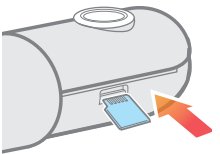
+ Installation

1



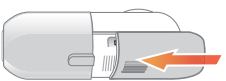
Press and push the protective lid to the side as shown in the figure.

2



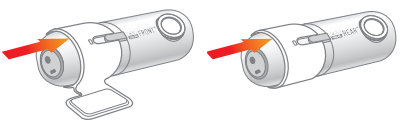
Insert the memory card into the device. *

3



Push and close the protective lid in the direction of the arrow.

4



Front view camera

Rear view camera

Place AW2 in the device holder.

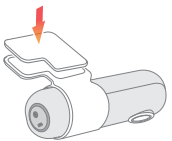
* If you forcibly insert the card in a wrong direction, it is likely to cause damage or failure. Note that you may need to receive paid repair service to fix this.

+ Installation

5

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

6

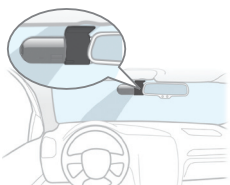


Attach the side with no release paper onto the holder.

7

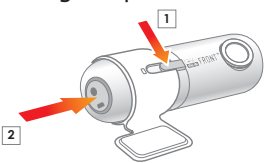
Remove the remaining release paper on the double-coated tape.

8



Choose the location where you want to attach the device to the vehicle. Wipe any foreign matter or moisture completely from the location before installing the device.

+ Separating the product



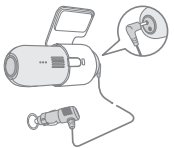
Press and hold the number 1 area of the Auto Capsule body and push the power terminal (number 2) to separate it more easily.

- Align the camera lens with number 1 to separate it easily.

* A space behind the rearview mirror is recommended for installation.
* Select the position carefully as removing the device to reposition it will cause it to significantly lose adhesiveness. Double-check the chosen position before fixing the device.

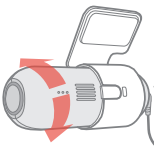
+ Installation

9



Press and push the protective lid to the side as shown in the figure.

10



Adjust the direction of the camera lens. 1) 2) 3)

11

A purple LED rotates when power is turned on. The LED turns red when recording starts.

1) Direction can be easily adjusted by using Live View in the Smart Manager.
   It can also be adjusted while checking recorded video footage with the PC Manager.
2) Adjust the front view camera lens so that about 10-20% of your vehicle's hood is visible at the bottom of the recording screen.
3) Adjust the rear view camera lens so that about 20-30% of the top of the recording screen shows the sky.

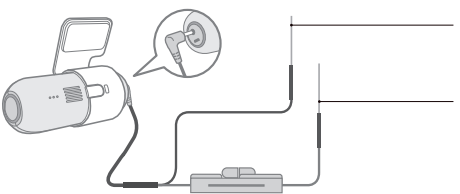
Recommended Angle for Front View Camera

Recommended Angle for Rear View Camera

+ Uninterruptible Power Connection (Uninterruptible Power Cable may be purchased separately.)

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

- Make sure you 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 happen, seriously damaging the device.



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.)

* Uninterruptible power cable can be installed using wires from the fuse box inside the car.
* In a high-temperature environment, this product will automatically stop recording to protect product functions.
* When recording is automatically stopped, the Purple LED will flicker repeatedly, and if the temperature decreases, operation will automatically resume.

+ Start Recording

When power is turned on, the LED status indicator will rotate in purple while the voice message announces the start-up of Auto Capsule. The LED indicator turns red while the voice message announces the start of driving mode recording; recording begins.

+ Driving Recording

When power is connected, the indicator LED turns red, the voice message announces driving mode recording, and recording begins.
Driving mode recording files are stored as normal files or event files.

+ Parking Recording 1)

When the car engine is turned off and battery voltage drops to parking mode, the device's driving mode recording stops and switches into a standby mode. It automatically starts recording for a certain period of time only when external impact or motion is detected. 2)

+ End Recording

When the car engine is turned off or the power cable is unplugged during the operation of Auto Capsule, the last recording file is stored using the backup battery and the device is powered off. 3)

1) Uninterruptible power connection is needed for parking mode recording.
2) When "non-stop recording" mode is selected in the Settings menu, the product can stay in recording mode even when the vehicle is parked.
3) The last recorded file may not be stored if backup battery is low.

+ Occurrence of Event

When one of the events described below takes place, it records for a total of 1 minute (including approximately 5 seconds before the occurrence of the event) and stores it as an event (EVT) file.

1. When an impact is detected during driving/parking mode recording.
2. When the button is pressed once briefly during driving/parking mode recording. 1)

+ Motion Detection

When a motion is detected during parking mode recording, it records a total of 1 minute (including approximately 5 seconds before the moment of detection) and stores it as a motion (MOT) file. 2)

1) Go to Settings → Sound → Sound Recording and deselect Sound Recording by Button to activate Event Setting.
2) If motion files are created continuously during parking mode, as indicated by the LED, go to Settings → Device → LED On During Parking Recording, OFF

+ LED Status Indicator

Category	Operating mode	Status	Color	Blinking cycle
Recording	Wi-Fi Off	Driving mode recording/parking mode non-stop recording	Red	Stays solid
		Standby during parking mode driving	Red	Slow blinking
		Event (impact, button) / motion	Red	Fast blinking
		Wi-Fi is being turned off	Red	Rotates
	Wi-Fi On	Driving mode recording/parking mode non-stop recording	Blue	Stays solid
		Standby during parking mode driving	Blue	Slow blinking
		Event (impact, button) / motion	Blue	Fast blinking
		Wi-Fi is being turned	Blue	Rotates
System		Booting; Format	Purple	Rotates
		Protection from high temperature; No memory car	Purple	Slow blinking
		Error; Alert (safe removal, etc.)	Purple	Fast blinking
		Firmware upgrade	Alternates between red and blue	Fast blinking

+ Safe Removal and Formatting of Memory Card

- Safe removal and formatting of memory card

If the memory card is removed without due caution during recording, the file being recorded will not be saved and it may cause critical damage to the memory card. Always make sure the card is removed safely.

* It is recommended that the memory card is formatted on a regular basis for stable use of the device.

Press and hold for more than three seconds

1. When the button located on the side of the device is pressed and held for more than three seconds during recording, the indicator LED will blink rapidly in purple alongside a sound effect and the voice message "Memory card is removed safely." 1)
2. When the protective lid is opened and the memory card is removed, the indicator LED will turn purple alongside the voice message "There is no memory card."
3. When the memory card is re-inserted again into the device, the indicator LED will blink rapidly in blue alongside the voice message "Press the button to start formatting the memory card."
4. When the side button is pressed and held for more than three seconds, it will start the formatting process alongside the voice message "Formatting starts."
5. When completed, the format process ends alongside the voice message "Format is completed."

1) Press and hold the button for more than 3 seconds again to format the memory card while it is not removed.

* You can also format the memory card through the PC Manager and Smart Manager.
* To format on PC, choose "FAT32" for the File System (F) and "32KB" for the Cluster Size (A).

+ Button Operation

See the table below for button operations while using the Auto Capsule.

Press the button briefly	Press the button twice	Press three times	Press and hold the button
Turns on/off sound recording 1)	Turns Wi-Fi On/Off.	Turn on/off the Remote Monitoring feature. 2)	Initiates process for safe removal of memory card. Initiates format process when memory card is inserted.

1) Go to Settings → Sound → Sound Recording and deselect Sound Recording by Button to record manually as an event file.
2) Select Settings → Device → Remote Monitoring Connection → Use Remote Monitoring to activate the remote monitoring.

+ More Functions

- Protection from high temperature

If the temperature inside of the vehicle rises too high, recording automatically stops to protect the device.
When this happens, the LED indicator blinks slowly in purple alongside the voice message "Recording is paused to protect the product from high temperature." When the temperature goes down, recording resumes automatically.

- Reset

If a problem happens to Auto Capsule and an abnormal state persists for more than five minutes, unplug the power cable and completely switch off Auto Capsule before plugging it again.

+ File Management

Recorded files are saved in the Recordings folder on the memory card.

The file is named as 'yyyymmdd_hhmmss_file type_recording mode_front/rear.MP4' based on the specific time it was recorded.

Recording mode and status	Name of file
Driving mode recording (normal)	yyyymmdd-hhmmss_NOR_D_F / yyyymmdd-hhmmss_NOR_D_R
Driving mode recording (event)	yyyymmdd-hhmmss_EVT_D_F / yyyymmdd-hhmmss_EVT_D_R
Parking mode recording (motion)	yyyymmdd-hhmmss_MOT_P_F / yyyymmdd-hhmmss_MOT_P_R
Parking mode recording (event)	yyyymmdd-hhmmss_EVT_P_F / yyyymmdd-hhmmss_EVT_P_R
Parking mode recording (non-stop recording)	yyyymmdd-hhmmss_NOR_P_F / yyyymmdd-hhmmss_NOR_P_R

* NOR: normal file / EVT: event file / MOT: motion file

* D : driving mode recording / P : parking mode recording

* F : front / R : rear

* EX) Normal front file created on Nov 8, 2013 at 9:56:09 a.m. while driving ▶ 20131108-095609_NOR_D_F.mp4
Event rear file created on Nov 9, 2013 at 11:07:35 p.m. while parked ▶ 20131109-230735_EVT_P_R.mp4
Motion front file created on Dec 23, 2013 at 4:32:50 p.m. when parked ▶ 20131223-163250_MOT_P_F.mp4

+ Wi-Fi Connection to Smart Manager

Recorded videos can be quickly and easily checked through a smart phone application Smart Manager via built-in Wi-Fi. Videos can be checked in real time through Live View, and various options can be set easily. 1)

+ Turning Auto Capsule Wi-Fi on and off

When the side button is pressed twice, the indicator LED rotates in blue alongside the voice message announcing the start of Wi-Fi connection. When the Wi-Fi connection is established, the indicator LED stays on solidly. Wi-Fi can be turned off by ending Smart Manager or pressing the button twice.

+ Connecting from smart phone for the first time

When Smart Manager is used for the first time, you need to follow a network registration procedure.

* Android : Settings → Wireless and network → Turn on Wi-Fi → Select 'COWON-AW2' from Wi-Fi networks → Enter password

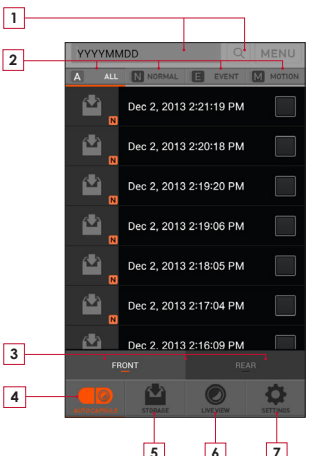
* iPhone, iPad : Settings → Wi-Fi On → Choose a Network → Select 'COWON-AW2' → Enter password

Initial network name: COWON-AW2
Initial password: 1234567890 2)

1) Recording quality may fall during Wi-Fi operation.
2) Change the password to protect private information and use the Auto Capsule securely. The password can be changed in the Settings menu of the PC Manager.

+ Smart Manager

- Android smart device users can download the application from Google Play Store.
- iPhone and iPad users can download the application from Apple App Store
- It can also be downloaded easily by entering keywords such as COWON, Auto Capsule, Smart Manager, and AW2 in the search field.



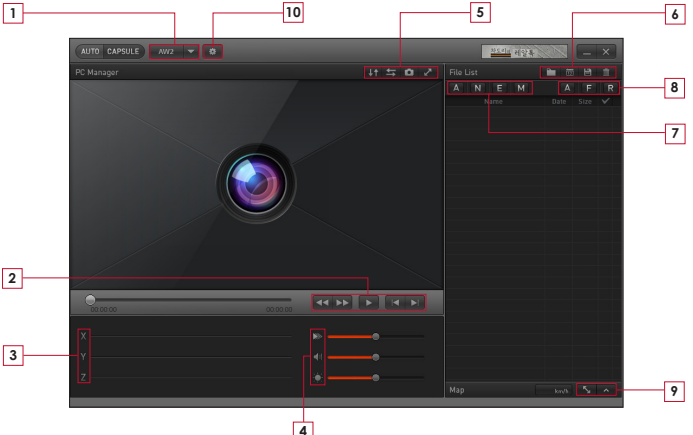
1	Enter yyyymmdd with smart phone keyboard to search files Ex) Search files recorded on Nov 8, 2012 → Enter 20121108
2	Files of selected types are shown on the list. ALL : All / NORMAL : Normal / EVENT : Event / MOTION : Motion
3	ALL : Files recorded from both the front and rear view cameras are displayed in the list. FRONT : Files recorded from the front view camera are displayed in the list. REAR : Files recorded from the rear view camera are displayed in the list.
4	Files recorded on the Auto Capsule are shown on the list.
5	With Smart Manager, downloaded files can be played or 1) can be directly uploaded to You Tube, etc. through the Share.
6	Check video being recorded in real time with Live View
7	Users can set their preferences and check Auto Capsule information.

* On iPhone and iPad, an additional Log-in/Log-out tab exists at the bottom. Press the Log-in tab for normal connection.

1) If files cannot be played back with the default video player, download and install a professional media player from Google Play or App Store. (Ex: MX player, etc.)
The quality of file playback may depend on the specification of smart device.

+ PC Manager

The PC Manager can be downloaded from the bundle CD.



* In order to change the setting of front or rear view camera with PC Manager, connect the memory card from the camera to a PC, select the Front or Rear View Camera Setting tab on the PC Manager setting screen, and then save the following settings. Smart Manager allows you to immediately apply settings for the front/rear view camera.

+ PC Manager

1		Selects your AW1/AW2.
2		Rewinds/fast forwards the video during playback.
		Plays a selected file.
		Plays the previous/next file.
3		Displays intensity of impact on the X,Y,Z axis of G sensor.
4		Sets playback speed.
		Adjusts the volume.
		Adjust the brightness of the video during playback.
5		Rotates video footage upside down during playback.
		Flips the video currently playing on the screen.
		Captures the screen during playback.
		Switches into a full screen mode.

6		Finds a folder of recorded video files.
		Sorts files recorded on the selected date.
		Saves selected video files on a PC.
		Deletes selected video files.
7		Displays all recorded files on the list.
		Displays normal files only on the list.
		Displays event files only on the list.
		Displays motion files only on the list.
8		Displays videos from the front and rear view cameras in the list.
		Displays videos from the front view cameras in the list.
		Displays videos from the rear view cameras in the list.
9		Shows the map in full size if a GPS file exists.
		Shows the map if a GPS file exists.
10		Users can set their preferences.

+ Front and Rear View Recording Synchronization

In the ordinary recording status, the front and rear view cameras are synchronized by the front view camera setting.
If one of the cameras stops recording due to high temperature protection or safe removal of memory card, then the other camera autonomously runs by its own setting.

- Items like file name, recording file save cycle, parking voltage, and termination voltage are determined by the front view camera setting.
- Wi-Fi On/Off, Remote Monitoring On/Off, and Sound Recording by Button On/Off are always applied to both the front and rear View cameras.

+ Auto Shutdown Timer

After parking recording commences, the device operates for a pre-set time, after which the power is turned off automatically.

Auto Shutdown Timer can be set through the Smart Manager and the PC Manager.

* Go to Settings → Recording → Auto Shutdown Timer

+ Setting Parking Mode Voltage

Parking mode voltage can be set through the Smart Manager and the PC Manager.

* Go to Settings → Recording → Set voltage

- Set the voltage value lower if the device goes into parking mode recording while driving.
- Set the voltage value higher if the device does not automatically go into parking mode recording while parked.
- If the output voltage of vehicle battery is higher or lower than the parking voltage setting range, then go to Settings → Record Setting → Parking Recording and turn off Use Parking Voltage. Afterward, the device detects the movement of the vehicle to start the parking recording.

+ Setting Auto Shutdown Voltage

When battery voltage falls below the pre-set voltage value after going into parking mode recording, power is turned off automatically to protect the battery.
Shutdown voltage value can be set through Smart Manager and PC Manager.

* Go to Settings → Recording → Setting Voltage

- When standby operation time becomes shorter in parking mode recording, set the range of auto shutdown voltage lower.
- The lower the pre-set voltage value, the longer the standby time in parking mode recording, and the higher the pre-set voltage value, the shorter the standby time in parking mode recording.
- If voltage falls below the pre-set auto shutdown voltage value during operation while auto shutdown timer is set, power is turned off regardless of the auto shutdown timer.
- If you do not wish to use the auto termination voltage setting feature, then go to Settings → Record Setting → Parking Recording and turn off Termination Voltage. If the auto termination voltage setting feature is not in use, then the vehicle battery may be discharged. This may result in a faulty ignition start or engine stop. It is recommended to only use this feature when absolutely necessary.

* Parking mode recording, auto parking mode voltage, and auto shutdown voltage settings are accessible only during uninterruptible power connection.

* The lower the pre-set auto shutdown voltage value, the greater the risk of battery discharge; the higher the pre-set auto shutdown voltage value, the more effective it is for preventing battery discharge.
Set the voltage value to suit your vehicle battery condition before use.

+ Non-stop Recording While Parked

Non-stop recording occurs while the car is parked, and the recorded files are stored as normal (NOR) files.

* Go to Settings → Recording → Parking Recording

+ File Deletion Setting

Deletion can be selected when recorded files exceed the available memory card storage space.

* Go to Settings → Recording → File Deletion Settings

Deletion method	Description	Note
In the order of time	The oldest file is deleted first, regardless of file type.	
Normal, event, motion	Deletes in accordance with storage space quota set for each file type.	50%, 30%, 20% 60%, 30%, 10% 70%, 20%, 10%
Normal + motion, event	Deletes in accordance with storage space quota set for normal + motion/event files.	70%, 30% 80%, 20%

+ Sensitivity of G Sensor

Sensitivity of the G sensor's detection of external impact when driving or parked can be adjusted.

* Go to Settings → Device → G Sensor Sensitivity

- X axis: to the right and left of the driving direction, measured from the center of the vehicle
- Y axis: to the front and back of the driving direction, measured from the center of the vehicle
- Z axis: Up and down, measured from the center of the vehicle

+ Motion Detection Sensitivity

Sensitivity of motion detection made by the device while parked can be adjusted. 1)

* Go to Settings → Device → Motion Sensor

1) If light reflected by the LED indicator causes motion files to be created continuously during parking mode recording, go to Settings → Device settings → LED On During Parking Recording, OFF

+ Specifications

Item	Specification	Note
Lens	Full HD wide angle lens, 6 Glass structure	
Image sensor	1/2.7" wide True Full HD CMOS sensor, 1920x1080 pixel	
Recording resolution	1 CH - Front : Full HD (1920 X 1080P), 30fps 2 CH - Front : Full HD (1920 X 1080P), 30fps / Rear : Full HD (1920 X 1080P), 30fps	
Recording angle	Diagonal angles of 140°	
Video encoding	H.264 (MPEG-4 AVC)	
Recording file type	Normal file (NOR), event file (EVT), motion file (MOT) 1)	
Wireless connection	Built-in Wi-Fi	Wireless connection with smart devices
Audio recording	Microphone	
Battery voltage management	Built-in voltage detection circuit	Auto shutdown voltage setting, auto shutdown timer Implement auto parking mode recording 2)
Software	Smart Manager (supported by Android and iOS)	Live View, download, playback, share (Android), wireless firmware upgrade, wireless format, settings, etc.
	PC Manager (for Windows PC)	File playback, screen capture, settings, map display 3)
Dimension and weight	38Ø X 102mm / Front view camera 78g, Rear view camera 77g	
Storage memory	Support up to 64GB front/rear dual memory	
Operating Temperature	-20℃ ~ 60℃	
Power	DC 12V ~ 24V	
Others	G sensor, speaker, LED status indicator, external GPS terminal	

1) Motion file is available in uninterruptible power connection mode only
2) Available only when connected with uninterruptible power cable.
3) Only files recorded with external GPS receiver can be viewed.

DIGITAL PRIDE.

COWON