



CP4 CELLULAR ENABLED VEHICLE RECORDER

USER GUIDE

v1.0.2



WARNING: SmartWitness installations should be performed by a qualified individual or installation professional only. Working with a vehicle's power system can be dangerous to both you and your vehicle. This installation is intended only to be a guide since vehicle designs and power/input sources can vary significantly from vehicle to vehicle.

If you need to schedule a professional installation service in the USA for your SmartWitness device(s), please visit <http://smartwitness.com/scheduleinstall> and submit the online form.

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SAFETY ADVICE



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

Please make sure you follow the safety advice/instructions given in the user guide.

Caution

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.**

Battery for RTC(Real Time Clock) inside

Caution

Install the product where it does not block driver's visibility and where there is no airbag installed. This could cause an accident or might injure passengers in case of accident

Caution

Damages due to production malfunction, loss of data, or other damages occurring while using this product shall not be the responsibility of the manufacturer. Although the product is a device used for recording videos, the product may not save all videos in the case of a malfunction. In the case of an accident, the sensor may not recognize the shock when the impact is light and as a result it may not begin recording automatically.

WARNING:

TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

GPS RECEPTION

1. Activate the product in an area without large buildings to improve GPS reception.

The commercial purpose GPS has the average range error of more than 15 meters and the range error could be more than 100 meters due to environmental conditions like buildings, roadside trees etc.

2. The temperature range for optimum operation of the GPS receiver in your car is -10 ~ 50°C.

3. When using the product for the first time or after a long period (more than three days), it may take a little longer to recognize your current location.

It may take between five and thirty minutes to get GPS reception.

GPS reception may be impaired under the following circumstances

- 1) If there is an object at the end of the GPS antenna
- 2) If your vehicle has metallic elements on the windshields
- 3) If equipment generating electromagnetic waves that interfere with the GPS signal is installed in the vehicle e.g.: Other GPS devices such as a certain type of wireless activated alarms, MP3 and CD players and camera alarms using GPS.
- 4) If you are using a receiver connected by cable, electric interference can be avoided by simply changing the location of the receiver (antenna).
- 5) On heavily overcast or cloudy days, if the vehicle is in a covered location such as under a bridge or raised roadway, in a tunnel, an underground roadway or parking area, inside a building or surrounded by high-rise buildings.
- 6) If GPS signal reception is poor, it may take longer to locate your current position when the vehicle is moving than when it is stationary.

CONTENTS



**CP4-NA-LTE
Vehicle Recorder**



**Remote Controller
(with double sided tape)**



GPS Antenna module



**Wire Splice clip, Velcro Sticker,
Torx Screw (x2), and Torx screwdriver**



Power Cable



Audio/Video out cable



Camera input cable



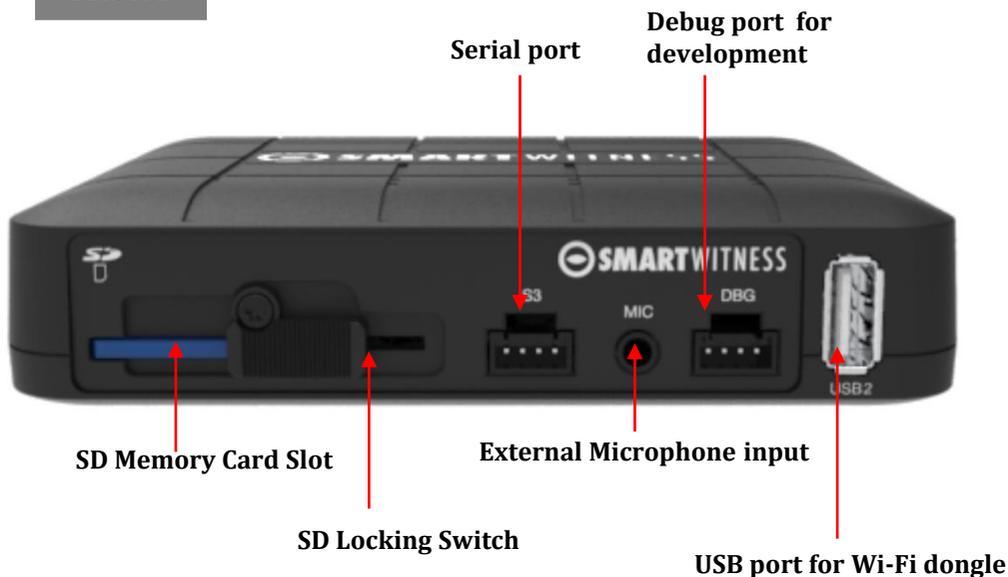
LTE Antenna



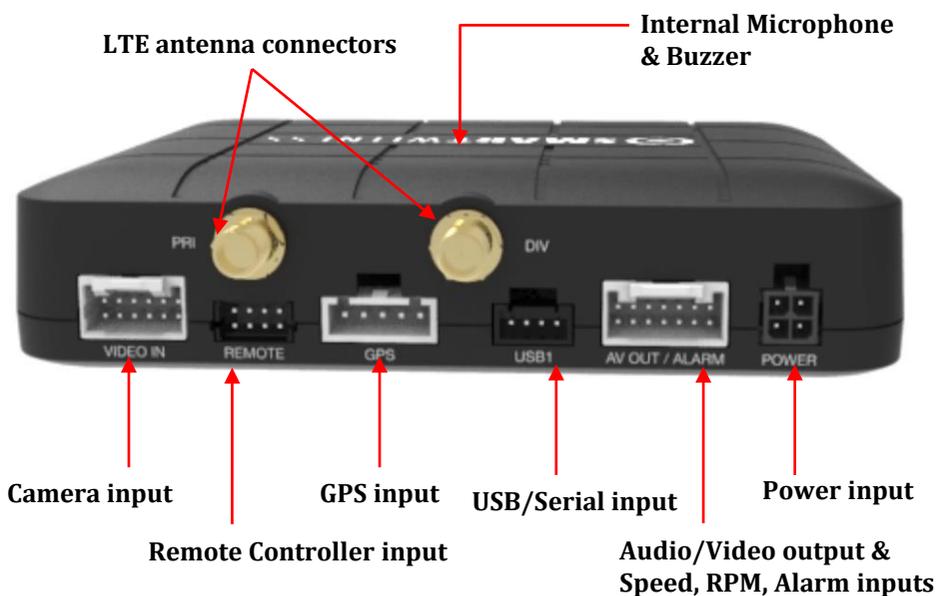
Audio Microphone

INTRODUCTION

FRONT



REAR



INTRODUCTION

Remote Controller



POWER CABLE

	Black (Ground/BAT -)
	Red (Power/BAT +)
	White (Power/IGN +)

Alarm in/out Cable

	White : Alarm In1, Voltage on/off (3~70V)
	Purple : Alarm In2, Voltage on/off (3~70V)
	Green : Alarm In3, Voltage on/off (3~70V)
	Orange : Alarm In4, NC/NO (open/close)
	Blue : Speed (TACHO)
	Gray : RPM (TACHO)
	Brown : Alarm Out, Low(0V) to High (5V)
	Black : Ground for Alarm In4 (NC/NO circuit)

FUNCTIONS

Automatic Booting

Make sure the main unit and all component are properly connected. Once the CP4 has been wired to your car power source the CP4 will be boot up, this will take around 30 seconds for the unit to be ready to record.

NOTE: The unit will not start recording immediately after power on. It takes around 30 seconds for the built-in power backup system to charge. Thereafter, the SD card will be ready to record.

Continuous Record (When Record mode set as “Continuous”)

This is the default mode for recording. In this setting the unit will begin recording after boot up and record the entire time the unit is powered.

The resolution and frame rates can be set as per your requirements. You can change the configuration of the recording using the CP4 configuration Tool. To do this, please see the ‘Settings’ section on page 21.

Event Record (When Record mode set as “Event”)

The unit will record when triggered by an impact(G-Sensor) or a push of the ‘PANIC’ button or Over speed or Alarm In1~3. Each event file contains up to 20 seconds prior & up to 20 seconds post event.

And the event file can be extended by 2nd trigger during event record.

When events are triggered continuously, for every event, 20 seconds post-recording from the time of the event will be added to the event data file with a maximum recording time of 3 minutes. When this 3 minutes is reached, the file will be split and a new file will be created but the data will be continuous.

Dual Record (Continuous & Event Record)

The continuous record fps is 1fps and the file will be stored on the “Normal” folder. Event record will work according to the Fps setting for example 30frames per second recording and the file will be stored on the “Event” folder

Do not Record

The DRV (Drive Data) file will be recorded during driving at “Do Not Record” mode. And the unit can send limited API like live track to Server.

NOTE: The DRV file consists of GPS and G-sensor data and it helps to find specific data or driving behaviors. The DRV file overwrites the oldest data. The DVR files will be made every 10 minutes.

FUNCTIONS

G-Sensor Calibration

G-Sensor Calibration is needed after installing the CP4.

1. Set G-Sensor Axis using the configuration tool.
2. "selfadj.ini" should be in the config folder of the SD card.
3. Install the unit and park the vehicle on a flat surface .
4. Turn on the unit and wait until it start record.
5. Press and hold the "M1" button more than 2 seconds.
6. You will hear "beep" when you press "M1" button and then you will hear another "beep" after 2seconds. Then release "M1" button.
7. Then calibration will be done within 2 seconds.

Built-in power backup (Super Capacitor)

When power to the unit is interrupted, CP4 creates the last file using the internal Super Capacitor.

Time and Date

Set your time zone using the configuration tool then CP4 get's time from the GPS satellite's.

SD Memory Card Format

Please format [initialize] the SD card using the "Configuration Tool CP4" software.

Safely Removal SD Card

Power off vehicle and take out SD memory card

Turn off the power and then check the BLUE LED light. Once the LED light is not on, you can now safely remove the SD memory card.

FUNCTIONS

Parking Mode Recording

With parking mode activated and on normal recording mode, the CP4 will change to parking mode when the vehicle is not moving for more than 5 minutes, recording at 1 FPS.

Live Screening

With an external monitor attached, the CP4 offers the option to screen video live.

Delayed Power Shutdown

Control the duration of time using the configuration tool. CP4 stays powered and recording/networking after shutdown.

Precautions for SD cards

To optimize use and prolong life of your SD cards please follow the below instructions.

1. Use only compatibly tested SD cards.
2. Only use dry and clean SD cards.
3. Format SD cards at least once every month or when the SD card seems corrupted. This will wipe all data, images, and file names on the card reducing recording errors.
4. Insert or remove SD cards only when the device is completely powered off. Wait until the blue LED is completed off before removing SD card.
5. SD cards used for continuously recording equipment such as a drive recorder, typically last only 6~12 months. Exchange SD cards periodically

LEDS & BUZZER SPECIFICATION

Status/Step		LED			Buzzer	Voice [Remark] To hear the Voice, please audio output cable to speaker.	
		Warning	Record	Network			
		(Red)	(Blue)	(Green)			
							
Start-up	Bootting step1 (0~20)		On	Off	Off		
	Bootting step2 (20~30)		On	On and Off	Off		
	Bootting Finished (30, 1second)		On	On	On	[Beep] (1000Hz, 200msec)	「Beep」(1time)
	Power off	During Power off		Off	Simultaneous Flashing(Blink rate: fast)		
Power off finished		Off	Off	Off	[Beep] [Beep] (500Hz, 150msec)		
Record	Continuous Record	Recording		On			
	Event record	Stand by		On			
		Recording		Flashing(Blink rate: fast)			
	Dual record	Continuous recording		On			
		Event recording		Flashing(Blink rate: fast)			
No record	Not record		Off				
Network	3G Network Device Ready				On		
	Communication				On		
Function	SD Initialize (Format)		Off	On and Off	Off and On	(Beep, 1time) continuously	
	G-Sensor Calibration					「Beep→(after 2 seconds) Beep、 Beep」	
	FW Upgrade			On and On and Off and Off	Off and Off and On and On		
	Button Press					[Beep] (2000Hz, 200msec)	「Beep」
Warning	System Warning	SD Card Full	Flashing(Blink rate: fast)	Off		「Beep x 4」(3times)	
		Video loss Video STD error	On				
Error	Record Error	SD error, No SD, Write fail	Flashing(Blink rate: Slow)	Off		「Beep x4」(3times)	
	Network Error	3G Network Device error SIM error			Off		
		Data Network connection error			Flashing(Blink rate: Slow)		
		DMS communication error			Flashing(Blink rate: Slow)		
Event Trigger	G-Sensor, Panic Button, Alarm-In					「dingdong x2」(1time)	
	Over Speed					「beep, beep x2」(1time)	

INSTALLATION

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Installation Guides can be viewed/downloaded at:
install.smartwitness.com

Operation – On Screen Display

The following displays can only be seen when a monitor is connected.

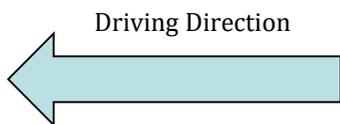
The default display is 2*2 with all cameras shown, to change, press [M2] button to select which camera to view. Each press will change the camera on display with the last option being all camera views.



4Cameras(2x2) => Camera1 => Camera2 => Camera3 => Camera4

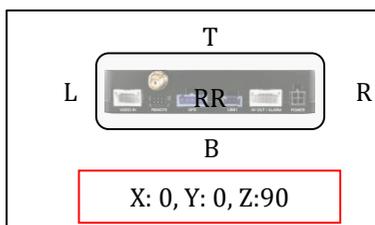
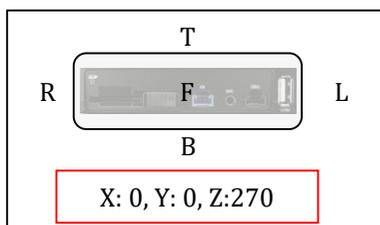
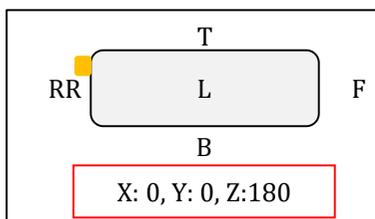
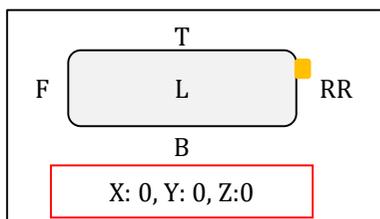


Axis Adjustments by Device Positions

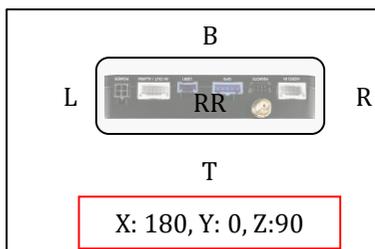
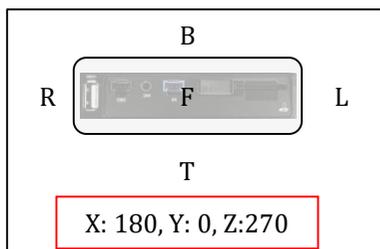
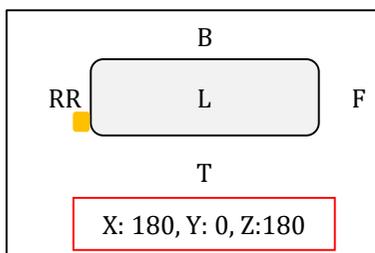
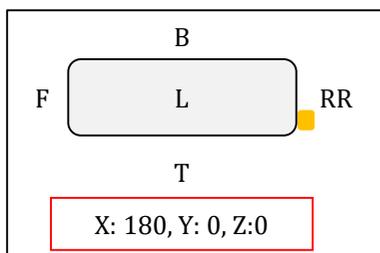


F: Front	RR: Rear	T: Top
B: Bottom	R: Right-side	L: Left side

1) When device is in an upright position

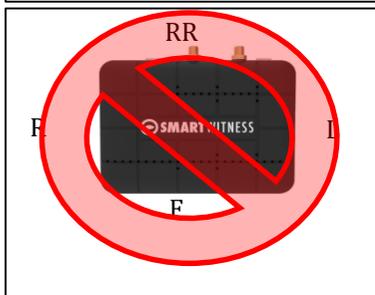
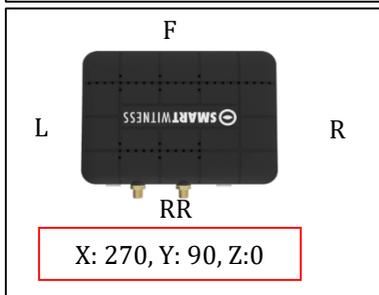
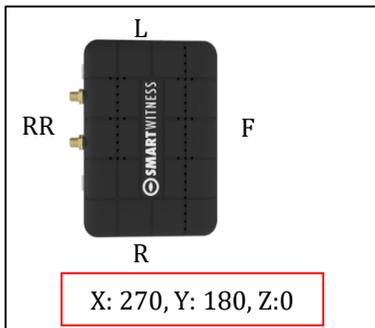
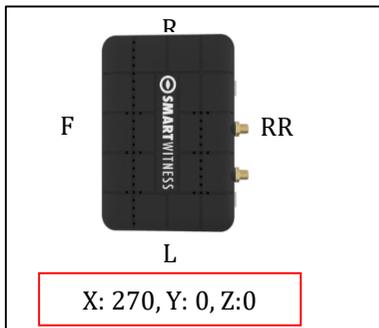


2) When device is in an upside down position

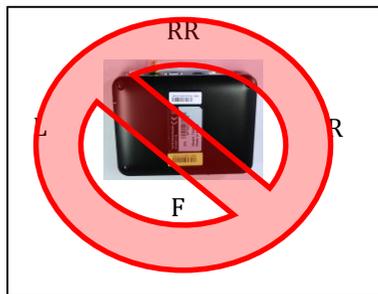
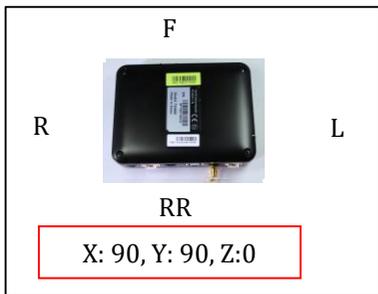


Axis Adjustments by Device Positions

3) When device is in a sideway position with the TOP to the left

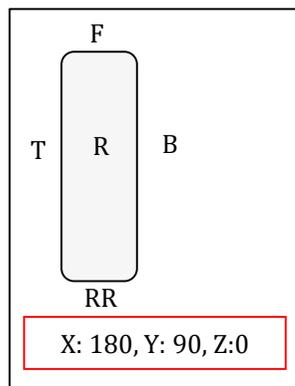
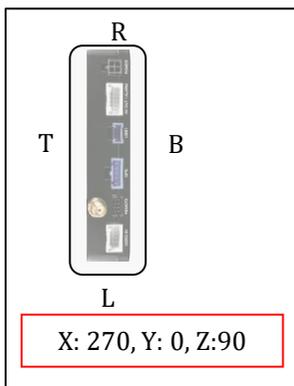
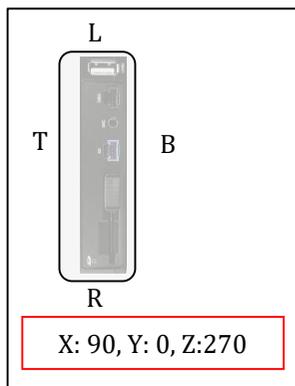


4) When device is in a sideway position with the TOP to the right

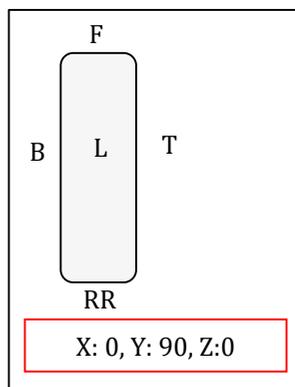
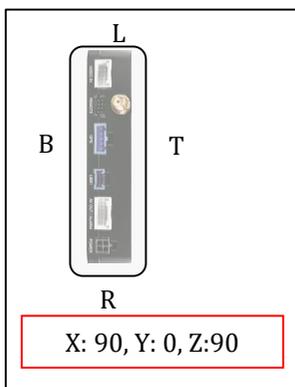
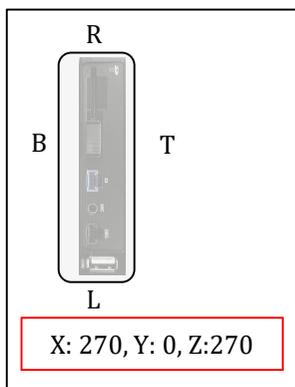


Axis Adjustments by Device Positions

5) When device is in a sideway position with the TOP facing front



6) When device is in a sideway position with the TOP facing rear



REMARK: Do not install the device with the Front facing down position.

Configuration Tool CP4 Software



PC SYSTEM REQUIREMENT

Recommended PC specifications for Configuration Tool Software

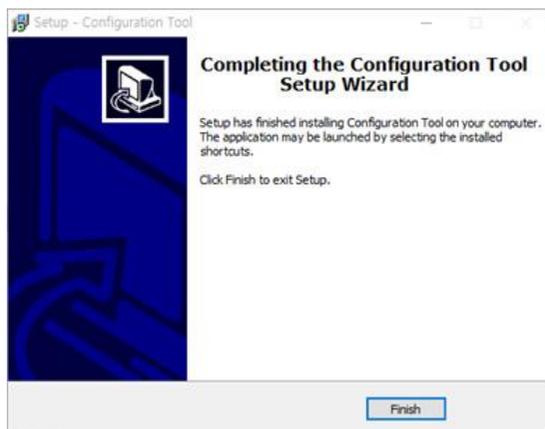
OS	Windows Vista. Windows 7, Windows 8/8.1
CPU	Core 2 Duo 2.5GHz or Higher
RAM	2GB or Higher
Interface	SD Memory Card Reader
HDD Free space	Install : 55MB or Higher Backup : 4GB or Higher
Display	1024 x 768 pixel/True Color or higher

If the PC does not meet the minimum system requirement, the Configuration Tool Software may not function properly.

SOFTWARE INSTALLATION

Please ask the Configuration Tool CP4 Software to your distributor.

1. Double click [setup.exe]
2. Select the language
3. Select destination location
4. Select Start Menu Folder then follow the dialog box prompts.



5. The "Configuration Tool CP4" icon will be displayed on your desktop.



NOTE: To Un-install the Configuration Tool CP4 Software

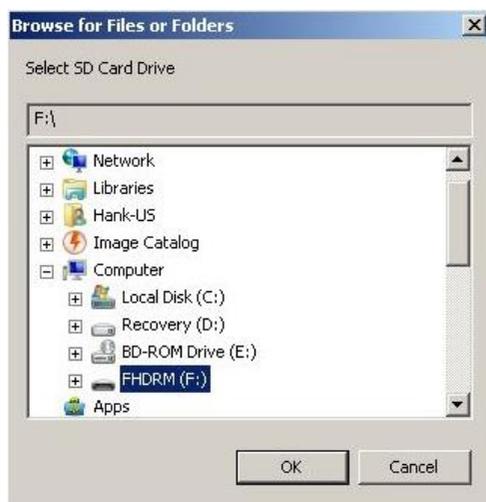
Make sure the program is not running and open the 'Control Panel'
Select 'Remove Program' and remove the Configuration Tool CP4 Software.

INITIALIZE SD CARD

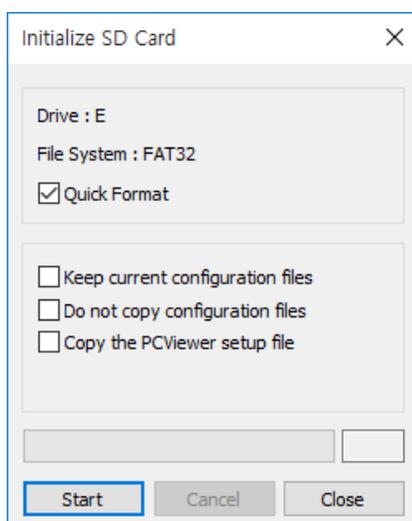
Initialize SD Card

Click!

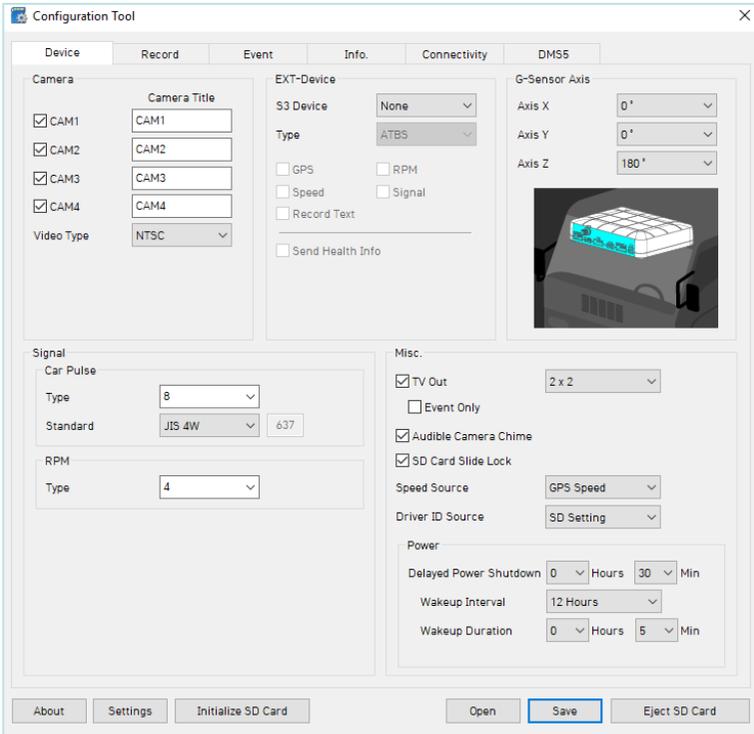
To initialize the SD card quickly, click on the above icon and you will be presented with the following screen to choose the SD card to initialize. Click 'OK' when selected.



On the following screen, check the 'Quick Format' button and uncheck the 'Keep current configuration files' and Click 'Start' to begin initialization.



DEVICE SETTINGS



Camera check box

Check all the cameras you wish to use.

Camera Title

Use the alphabet and numbers to rename (max 10 digits) the cameras. The new names will be displayed on the all recordings.

Video Type: Set the video type "NTSC or PAL"

Car Pulse Type: Select the vehicle's car pulse type.

Car Pulse Standard: Select the vehicle's car pulse standard.

RPM Type: Select the vehicle's RPM type.

G-Sensor Axis: Refer to page 14 in this manual and set Axis.

TV out: Check it to see live screen.

Audible Camera Chime: Turn the Chime on or off

Buzzer On: Turn the Buzzer on or off

Speed Source: Choose the speed source "GPS or Pulse" to use it on the unit.

Delayed Power Shutdown: Set delayed power shutdown time.

RECORD SETTINGS

Device	Record	Event	System	Network	DMS5
Channel					
	Resolution	NTSC FPS	Quality		
CH1	FHD	10	Standard		
CH2	HD	10	Standard		
CH3	HD	10	Standard		
CH4	D1	10	Standard		

Resolution

NTSC: D1 (720x480), HD (1280x720), FHD (1920x1080).

PAL: D1 (720x576), HD (1280x720), FHD (1920x1080).

FPS (Frame Rate)

Adjust the frame rate from NTSC: 30fps, 15fps, 10fps, 5~1fps
PAL: 25fps, 12fps, 10fps, 5~1fps

Quality

Adjust the picture quality from Standard, High, Super

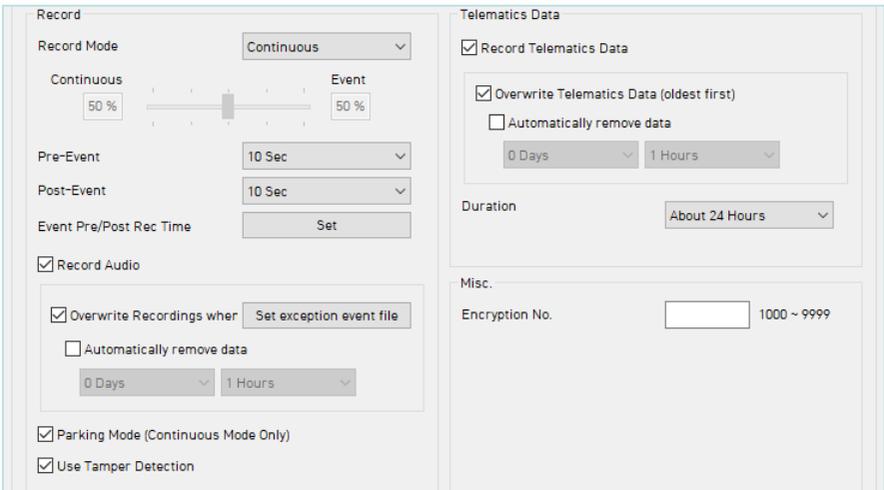
Record Frame Rate (FPS) Rules & Bitrates

1. FHD: 2Channels total max 30fps(NTSC) or max 25fps(PAL)
2. HD: 3Channels total max 60fps(NTSC) or max 50fps(PAL)
3. D1: 4Channels total max 120fps(NTSC) or max 100fps(PAL)
4. Channel 3 (Camera No.3): Support HD or D1 camera
5. Channel 4 (Camera No.4): only support D1 camera.
6. Total FPS calculation
NTSC: $(\text{FHD total fps} \times 4) + (\text{HD total fps} \times 2) + (\text{D1 total fps}) \leq 120\text{fps}$
PAL: $(\text{FHD total fps} \times 4) + (\text{HD total fps} \times 2) + (\text{D1 total fps}) \leq 100\text{fps}$

Maximum bitrates (Video Quality)

Resolution	FPS	Bitrates (bit/sec)		
		Super	High	Standard
Full HD	30	6Mbps	5Mbps	4Mbps
HD	30	3Mbps	2.5Mbps	2Mbps
D1	30	2Mbps	1.5Mbps	1Mbps

RECORD SETTINGS



Record

Record Mode: Continuous

Continuous: 50% | Event: 50%

Pre-Event: 10 Sec

Post-Event: 10 Sec

Event Pre/Post Rec Time: Set

Record Audio

Overwrite Recordings when: Set exception event file

Automatically remove data: 0 Days / 1 Hours

Parking Mode (Continuous Mode Only)

Use Tamper Detection

Telematics Data

Record Telematics Data

Overwrite Telematics Data (oldest first)

Automatically remove data: 0 Days / 1 Hours

Duration: About 24 Hours

Misc.

Encryption No.: 1000 ~ 9999

Record Mode

- Continuous (Always recording when powered by DC 12/24V.)
- Event (Automatically starts recording by G-sensor or Panic button or Alarm In.)
- Dual (The continuous record fps is 1fps and Event record will work according to the Fps setting.)
- Do not record

Pre Rec Time / Post Rec Time

Adjust the Pre/Post Event time from 5 seconds to 20seconds

Audio: Check it for record audio

Overwrite Recordings

This function allows the unit to overwrite old files on the SD Card automatically. You can overwrite the continuous, panic or G-Sensor recorded files.

Parking Mode Recordings

If your vehicle is parked for more than 5 minutes, recording FPS will be at 1fps. When the vehicle starts moving again, the recording FPS will return to its original setting.

Drive Data

GPS data & G-Sensor data will be recorded with videos and at the same time, GPS data & G-Sensor data will be recorded separately, we call it as 'Drive data (drv file)'. Check Driving Data Recordings for this feature.

Adjust Drive Data duration from "about 1 day" to "about 30 days".

Encryption No. (Stream password)

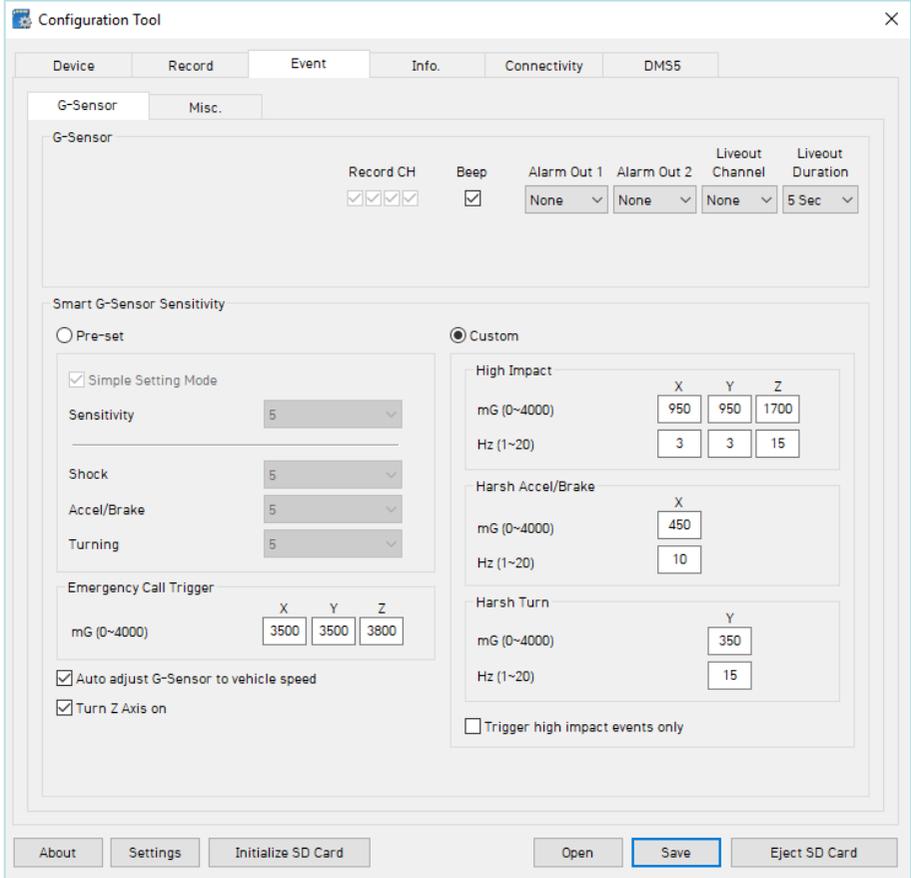
An Additional password can be set for the recorded data using a 4 digit password from 1000~9999. If a password is set, keep a record in a safe place, Without the password, you will not be able to view the recorded video.

EVENT SETTINGS

Event settings

You can set the unit to record when triggered by the G-Sensor, Panic Button and GPS Speed Limit and Alarm Inputs.

And you can set the Alarm out duration per each event.



G-Sensor Sensitivity: The shock sensor sensitivity can be set to 'Simple setting Mode' or 'Custom'. Set to easy allows you to set the sensitivity to 9 (High), 5 (Medium) or 1 (Low).

In custom set, you can set 3 different shock sensor values individually.

Auto adjust G-Sensor to vehicle speed

Once it checked, CP4 will automatically decrease the G-Sensor sensitivity at higher vehicle speeds to compensate for the naturally added G-forces that are experienced due to velocity.

EVENT SETTINGS

Select record channel

Channel1
(Camera1)

Record CH

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

Channel4(Camera4)

Channel3(Camera3)

Channel2(Camera2)

Configuration Tool

Device | Record | **Event** | Info. | Connectivity | DM55

G-Sensor | Misc.

Panic Button

Record CH	Beep	Alarm Out 1	Alarm Out 2	Liveout Channel	Liveout Duration
<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	None	None	None	5 Sec

Overspeed

Speed Limit	Record CH	Beep	Alarm Out 1	Alarm Out 2	Liveout Channel	Liveout Duration
120 km/h Over	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	None	None	None	5 Sec

Alarm In

Use	Title	Type	Record CH	Beep	Alarm Out 1	Alarm Out 2	Liveout Channel	Liveout Duration
<input type="checkbox"/>	ALARM1	V-Off	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	None	None	None	5 Sec
<input type="checkbox"/>	ALARM2	V-Off	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	None	None	None	5 Sec
<input type="checkbox"/>	ALARM3	V-Off	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	None	None	None	5 Sec
<input type="checkbox"/>	ALARM3	N-O	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	None	None	None	5 Sec

System Warning

Alarm Out 1	Alarm Out 2
None	None

About | Settings | Initialize SD Card | Open | **Save** | Eject SD Card

Over Speed: When the vehicle speed over the speed limit more than 5seconds.

System Warning: SD card error, Video loss, Video Standard error

SYSTEM SETTINGS

This option allows you to adjust the Time Zone, GPS Time synchronization, set your Vehicle No and also the Driver ID.

The screenshot shows the 'Configuration Tool' window with the 'Info.' tab selected. The interface is divided into several sections:

- Date / Time:** Includes 'Time Zone' (set to UTC), 'GPS Time Sync' (set to At Start Up), and a 'Retrieve time settings from my PC' button. There are also checkboxes for 'Daylight Saving Time' and 'Manual Time Setting'. The Daylight Saving Time section includes 'Start' and 'End' fields with dropdown menus for month, day, and time. The Manual Time Setting section includes a date and time input field.
- System:** Includes a checked checkbox for 'SD Card Auto Format Feature'. To the right, there is a 'Liveout Priority' section with dropdown menus for CH 1 (1), CH 2 (2), CH 3 (3), CH 4 (4), and 2 x 2 (5).
- User Management:** Includes input fields for 'Vehicle No' and 'Driver ID'.

At the bottom of the window, there are buttons for 'About', 'Settings', 'Initialize SD Card', 'Open', 'Save' (highlighted with a blue border), and 'Eject SD Card'.

SD Card Auto Format Feature: When the SD card has an error and cannot record, the card will be formatted and all data will be erased.

NETWORK SETTINGS

The screenshot shows a 'Configuration Tool' window with a 'Connectivity' tab selected. The window is divided into two main sections: 'Mobile Network' and 'Wi-Fi'. In the 'Mobile Network' section, the 'Enable' checkbox is checked. Below it, there are input fields for 'Dial No.' (containing '+99***1#'), 'APN' (containing 'smartwitness.com.attz'), 'User ID', 'Password', 'Authentication' (a dropdown menu set to 'None'), 'SMS Center Number', and 'USB Protocol Type' (containing '0'). The 'Wi-Fi' section has an 'AP' dropdown menu set to '1', and empty input fields for 'SSID' and 'Password'. A note below the Wi-Fi fields states 'Passwords must be at least eight characters.' At the bottom of the window, there are buttons for 'About', 'Settings', 'Initialize SD Card', 'Open', 'Save', and 'Eject SD Card'.

Check Enable to use cellular network connection.

Input the required settings like Dial No., APN, password, User ID, Authentication etc. Please refer to the Sim Card supplier website for these settings.

You can enable WiFi connectivity instead of cellular connectivity with the use of an approved WiFi USB dongle. The AP must be secure with WPA/WPA2 encryption and have a password of at least 8 characters (cannot be an open network).

You can set up to 10 WiFi SSIDs. CP2 will scan for as many networks as are added here in its settings

SERVER SETTINGS

The screenshot shows the 'DM55' tab in the Configuration Tool. The 'Server' section has 'Enable' checked, and the 'Domain/Static IP and Port #' field contains 'http://sv.smartwitness.co:5000/api' with '(ex) http://DomainName:5000' to its right. The 'License Key' field is empty. The 'Transmit' section is divided into 'Tracking Data' and 'Telematics Data (DRV)'. Under 'Tracking Data', 'Transmit Live Tracking Data' is checked, and 'Live Tracking Data Type' is set to 'LiveTrack2'. Under 'Telematics Data (DRV)', 'Transmit Telematics Data (DRV)' is checked, and 'G-Sensor/Gyro Data' is set to '1 Hz'. The 'Event Data' section has 'Transmit Event Data' checked and 'Include G-Sensor/Gyro Data' unchecked. The 'Emergency Call' section has 'Transmit Emergency Call Notific:' checked. The 'Event Images' section has 'CAM1' and 'CAM2' checked, 'Pre-Event' and 'Post-Event' both set to '5 Sec', and 'Event/Snapshot Quality' set to 'Standard'. The 'Event Triggered by' section has 'G-Sensor' and 'eCall' checked, 'Transmit Image' unchecked for both, 'Panic Button' checked, and 'Overspeed' unchecked. At the bottom, there are buttons for 'About', 'Settings', 'Initialize SD Card', 'Open', 'Save', and 'Eject SD Card'.

Set Domain/Static IP and Port number

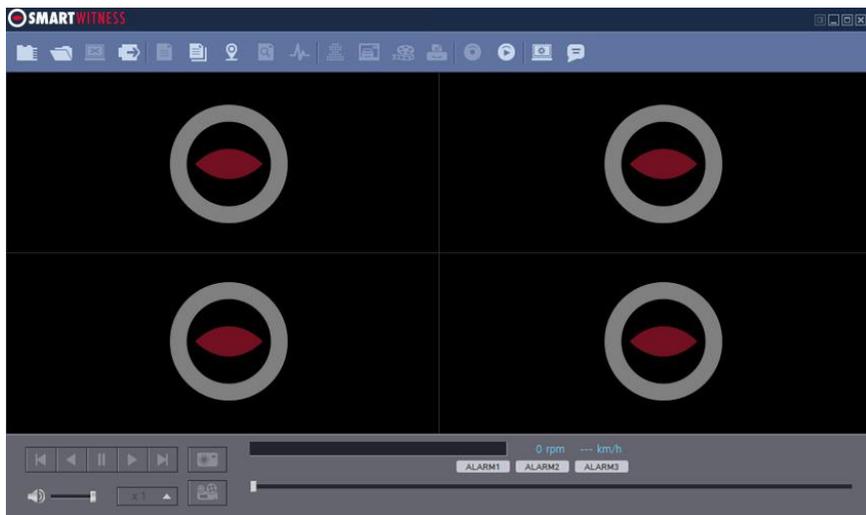
And check the options

- Transmit Live Tracking Data
- Transmit Telematics Data (DRV)
- Transmit Event Data.

And then select events

Please contact your distributor to get appropriate server settings

PC Viewer Software



PC SYSTEM REQUIREMENT

Recommended PC specifications for PC Viewer Software

OS	Windows Vista. Windows 7, Windows 8/8.1
CPU	Core 2 Duo 2.5GHz or Higher
RAM	2GB or Higher
Interface	SD Memory Card Reader
HDD Free space	Install : 55MB or Higher Backup : 4GB or Higher
Display	1024 x 768 pixel/True Color or higher

If the PC does not meet the minimum system requirement, the PC Viewer Software may not function properly.

SOFTWARE INSTALLATION

The PC Viewer Software is on the provided SD card. (Also available on our website.)

1. Connect the SD card into your PC (if your computer does not have an SD card slot use the USB SD card reader) and open the “My Computer”
2. Right-click the “FHDRM” drive and select [Open]
3. Double click [setup.exe] in the [pcsw] folder.
4. Select the language and then follow the dialog box prompts.



5. The “PC Viewer CP4” icon will be displayed on your desktop.



NOTE: To Un-install the PC Viewer Software

Make sure the program is not running and open the ‘Control Panel’
Select ‘Remove Program’ and remove the PC Viewer Software.

PC VIEWER SOFTWARE SETTINGS



Software viewer settings

This setting is for the PC Viewer Software itself. To set the Recorder, refer to page 17.

A screenshot of the 'Settings' dialog box for PC Viewer Software. The dialog has a title bar with 'Settings' and a close button. It is divided into several sections: 'Login Password' with a text field for 'Password (1000~9999)' and a 'Set Password' button; 'Viewer Settings' with dropdown menus for 'Language' (English), 'Speed Format' (km/h), 'Speed Type(Play Info Bar)' (GPS), 'Time Format' (24HR), 'Date Format' (YYYY/MM/DD), 'Deinterlace' (Auto), and 'Display Time' (From Camera); a 'Save Layout' button and a 'Last Layout' dropdown menu; and 'Drive Data Settings' with input fields for 'Max Speed' (100), 'Max G-Sensor' (±1G), and 'Max RPM' (4000). At the bottom are 'OK' and 'Cancel' buttons.

Click the 'Password' button. Password for the PC Viewer Software can be set with any number between 1000-9999.

The 'speed' & 'date' formats will be set automatically according to the PC Windows setting. However it can be changed with this software setting menu.

Display time: Select time to see. Recorded time by CP4 or your PC local time

Last Layout: The program will launch with the same layout as it was when it was closed.

Default Layout: The program will launch with the Default Layout

Drive Data Settings

The graph scales for the Drive Data Window will be modified according to the Settings.

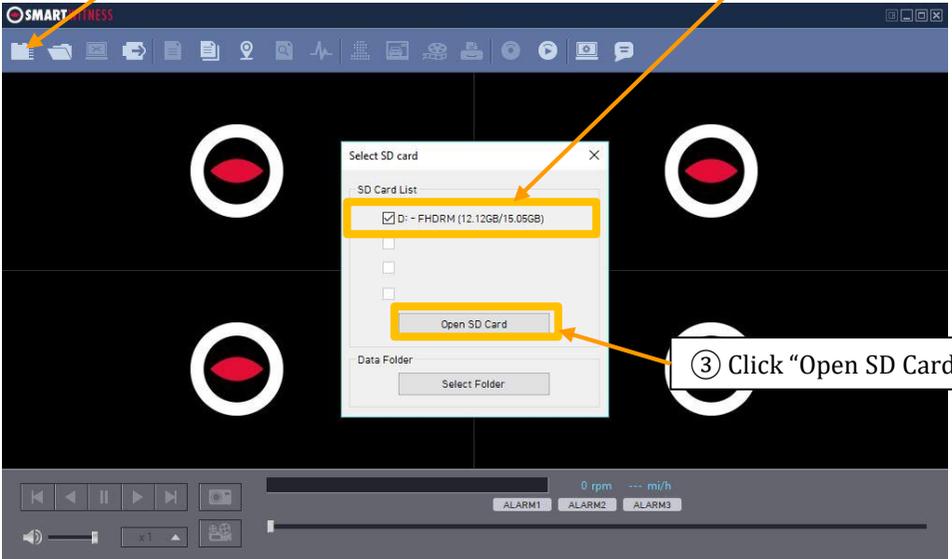
OPEN THE SD CARD

Insert the SD card into your PC



① Click "Select SD Card" icon

② Select the SD card drive and click "OK"



③ Click "Open SD Card"

The playback file list and "Continuous" and "Event" tap is displayed on the right side of the screen.

You can hide the playback list by clicking the close icon.

The playback list can be displayed on the screen again by clicking the "File List" icon.



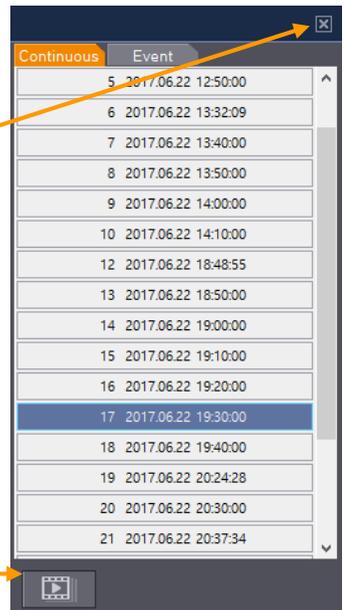
"Select SD Card" icon

You can end the video playback by clicking the "Close files" icon.



"Close files" icon

Continuous Play next file.

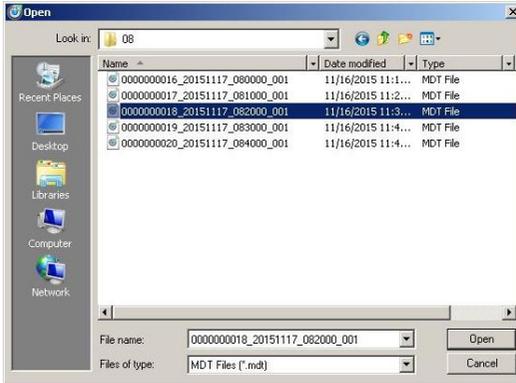


OPEN FILES

If you want to play a specific file that has been backed up on the PC or SD Card, Click the “Open files” icon



“Open files” icon



Select the MDT file you want to play and click “Open”.

The image of the selected file will then be displayed and you can click the “Play” button to play the file.



“Eject SD Card” icon

When finished, click “Eject SD Card” icon and remove the SD card from your PC.

Or please use  “Safely Remove Hardware and Eject Media” button in your PC.

PLAYBACK

The screenshot shows a playback interface for SMART WITNESS. At the top, there are two callout boxes: "Camera title - Resolution" pointing to "CAM1 - 720p" and "Record Mode" pointing to "NOR". The main area contains four camera views: CAM1 (top-left), CAM2 (top-right), CAM3 (bottom-left), and CAM4 (bottom-right). Each view displays real-time data including G-sensor values (X, Y, Z), speed (0 km/h), and a timestamp (2017.06.22 19:31:14.031). Below the views is a playback control bar with buttons for play, stop, and other functions. A callout box "G-Sensor value Time" points to the G-sensor data in the bottom-left view. Another callout box "Vehicle No & Driver ID" points to the "Vehicle_HD15" and "Driver_HD15x" labels in the playback bar. A third callout box "GPS Speed Display Frame / Total frames number" points to the "0 km/h" and "12219 / 17983" data in the bottom-right view.

Camera title - Resolution

Record Mode

CAM1 - 720p

NOR

CAM2 - 720p

CAM3 - 720p

CAM4 - 720p

X: -0.019
Y: 0.162
Z: 0.030
0 km/h
1151 / 9000
2017.06.22 19:31:14.031

X: -0.019
Y: 0.162
Z: 0.030
0 km/h
1151 / 9000
2017.06.22 19:31:14.031

X: -0.019
Y: 0.162
Z: 0.030
0 km/h
12219 / 17983
2017.06.22 19:31:14.031

Vehicle_HD15 Driver_HD15x 0 rpm 0 km/h

ALARM1 ALARM2 ALARM3

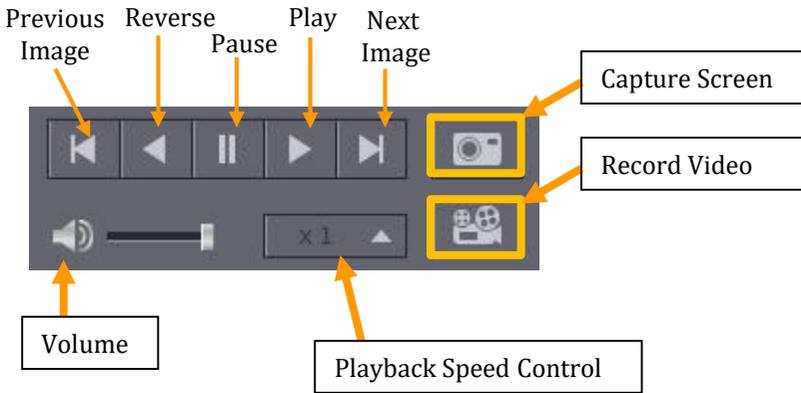
9:30:00 (00:00) 19:31:14 (01:14) 19:39:59 (09:59)

G-Sensor value
Time

Vehicle No & Driver ID

GPS Speed
Display Frame / Total frames number

PLAYBACK



Alarm Indicator

ALARM1

ALARM2

ALARM3

Playback control bar

19:30:00 (00:00)

19:31:14 (01:14)

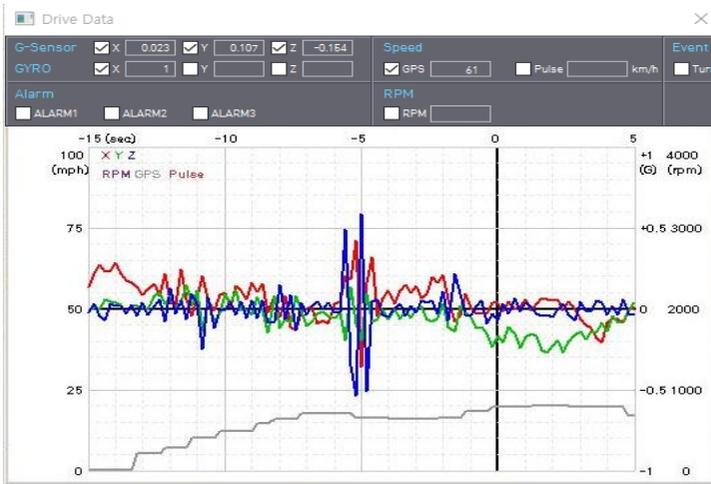
19:39:59 (09:59)

DRIVE DATA



“Drive Data” icon

The default setting only displays the G-sensor graphs but other information may be added by checking the boxes in the upper part of the screen.



G-Sensor: (X axis: red, Y axis: green, Z axis: blue, based on the positioning of the main unit) is shown with the data reference point zero-point calibrated and positive shocks as (+) and negative shocks as (-).

G sensor X value: Front & Back (like Quick brake or Quick Start)

G sensor Y value: Left & Right (like Quick Turn)

G sensor Z value: Up & Down (like prominence and depression)

GYRO: display the gyro value

Speed: GPS measured speed is displayed in grey. .

RPM: The RPM is displayed in purple.

ALARM: The alarms are displayed on the bottom of the screen with the grey bar meaning the trigger is activated.

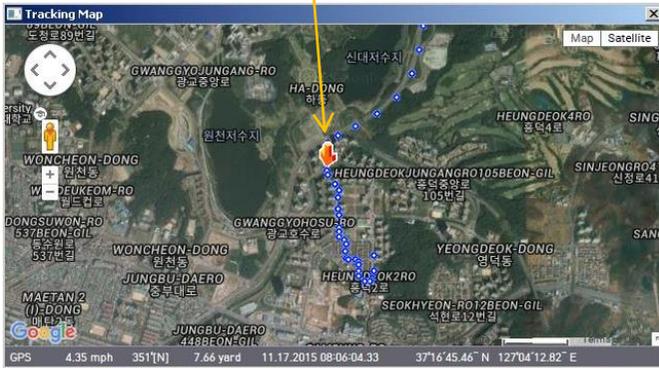
TRACKING MAP



“Tracking Map” icon

The route taken will be displayed on the Google map.

The playback position will be shown on the map with the orange arrow.



The blue markings show the route taken.

To see the route and position on the Google map, the GPS data should be recorded with video.

To see the map, the PC should be connected to the internet.

EVENT SEARCH



“Event Search” icon

The “Event Search” help to find a specific data quickly.

Event Search

Search Range: 2017-06-22 오후 12:32:55 ~ 2017-07-11 오후 4:13:25

G-Sensor: Turn Accel Brake Shock

Record: Panic Button Parking Mode

Speed: 50 km/h GPS Speedometer

Sudden Accel/Stop +/-0.4G

Alarm: ALARM1 ALARM2 ALARM3

No.	Date/ Time	G-Sensor	Panic Button	Alarm	Speed	Sudden Accel/Stop	
13	2017.06.22 13:59:55				53/0	0.0000	C
14	2017.06.22 14:00:05				52/0	0.0000	C
15	2017.06.22 14:03:42				50/0	0.0000	C
16	2017.06.22 14:04:02				50/0	0.0000	C
17	2017.06.22 14:04:09	Accel,Shock			66/0	0.0000	C
18	2017.06.22 14:09:52				50/0	0.0000	C
19	2017.06.22 14:12:10				50/0	0.0000	C
20	2017.06.22 18:53:14				50/0	0.0000	C
21	2017.06.22 18:53:21				50/0	0.0000	C
22	2017.06.22 18:57:11				52/0	0.0000	C
23	2017.06.22 19:06:00				50/0	0.0000	C
24	2017.06.22 19:09:20				52/0	0.0000	C
25	2017.06.22 19:12:11				51/0	0.0000	C
26	2017.06.22 19:13:33				50/0	0.0000	C

Search Go to Video Close

Select “Search Range” and select “Search Conditions”

And then click Search button.

Choose an event from the searched list and click “Go to Video” to see the video.

PRIVACY SETTINGS



“Privacy Settings” icon

Set the mosaic area on the video for privacy protection.



When backing up the data as a JPG or AVI format and playing in the Viewer software, you are able to make a mosaic processing on the area you have set.

To do this, put the pause the video and click the ‘Privacy settings’ button. The privacy setting screen will pop up.

Blur out the area you wish to protect by left-clicking on the sections. You can select multiple areas.

You can also unselect, selected areas by right-clicking the blurred areas.

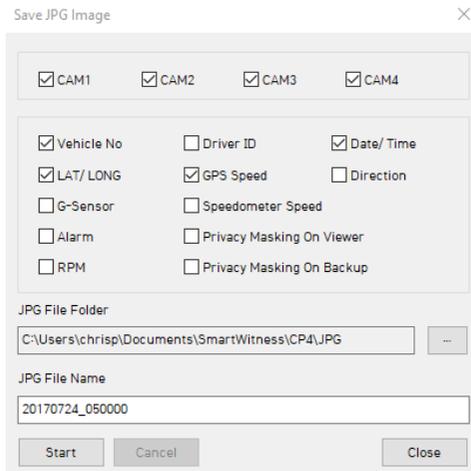
To select all or clear all, click on the ‘Select all’ or ‘UnSelect All’ buttons on the bottom, respectively.

SAVE JPEG AND MP4 FILE

Pause the playback and click “Save JPG” icon to make JPG images.



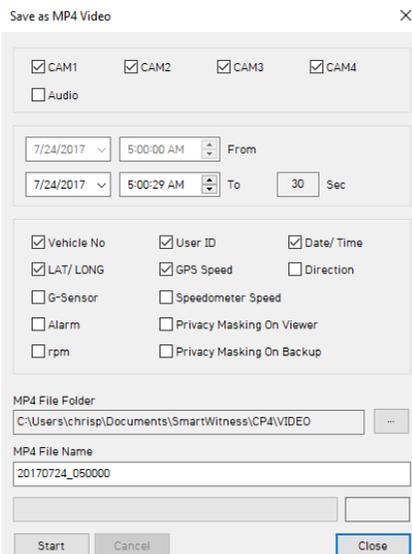
“Save JPG” icon

A screenshot of the 'Save JPG Image' dialog box. It features a title bar with a close button (X). The dialog contains several sections: a row of four checkboxes for CAM1, CAM2, CAM3, and CAM4, all of which are checked; a second row of checkboxes for Vehicle No, Driver ID, Date/ Time, LAT/ LONG, GPS Speed, and Direction, with Vehicle No, LAT/ LONG, and Date/ Time checked; a third row of checkboxes for G-Sensor, Speedometer Speed, Alarm, Privacy Masking On Viewer, RPM, and Privacy Masking On Backup, all of which are unchecked. Below these is a 'JPG File Folder' section with a text input field containing 'C:\Users\chrisp\Documents\SmartWitness\CP4\JPG' and a browse button (...). The 'JPG File Name' section has a text input field containing '20170724_050000'. At the bottom are three buttons: 'Start', 'Cancel', and 'Close'.

Pause the playback and click “Save MP4 Video” icon to make a MP4 file.



“Save MP4 Video” icon

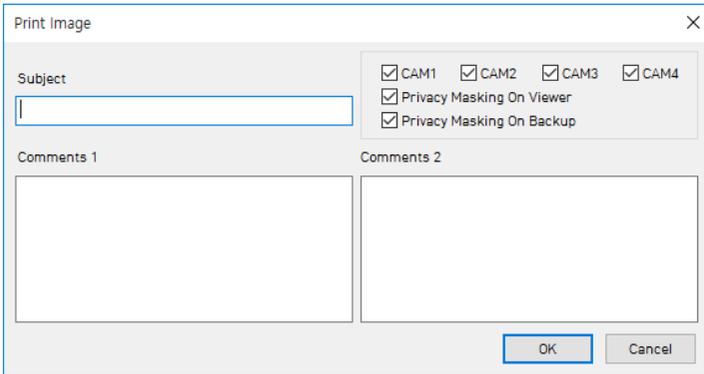
A screenshot of the 'Save as MP4 Video' dialog box. It features a title bar with a close button (X). The dialog contains several sections: a row of four checkboxes for CAM1, CAM2, CAM3, and CAM4, all of which are checked; an unchecked checkbox for Audio; a time selection section with 'From' and 'To' fields, both set to '7/24/2017 5:00:00 AM', and a '30 Sec' duration field; a second row of checkboxes for Vehicle No, User ID, Date/ Time, LAT/ LONG, GPS Speed, and Direction, with Vehicle No, LAT/ LONG, User ID, and Date/ Time checked; a third row of checkboxes for G-Sensor, Speedometer Speed, Alarm, Privacy Masking On Viewer, rpm, and Privacy Masking On Backup, all of which are unchecked. Below these is an 'MP4 File Folder' section with a text input field containing 'C:\Users\chrisp\Documents\SmartWitness\CP4\VIDEO' and a browse button (...). The 'MP4 File Name' section has a text input field containing '20170724_050000'. At the bottom are three buttons: 'Start', 'Cancel', and 'Close'.

PRINT IMAGE

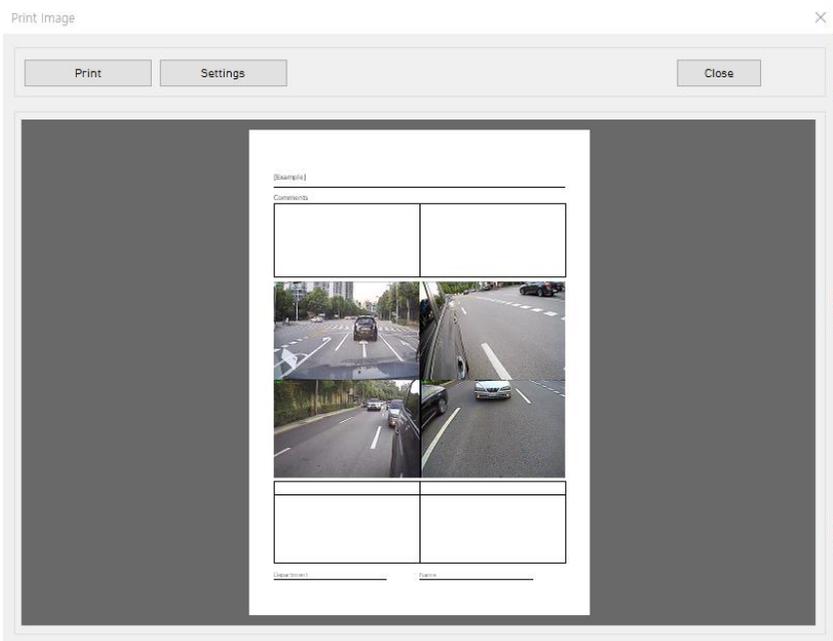
Pause the playback and click “Print Image” icon.



“Print Image” icon

A screenshot of the 'Print Image' dialog box. It features a 'Subject' text field, two 'Comments' text areas, and a settings section with four checked checkboxes: CAM1, CAM2, CAM3, CAM4, Privacy Masking On Viewer, and Privacy Masking On Backup. 'OK' and 'Cancel' buttons are at the bottom right.

Type Subject and Comments1 and Comments 2



Alter the printer settings to change paper size/orientation etc.

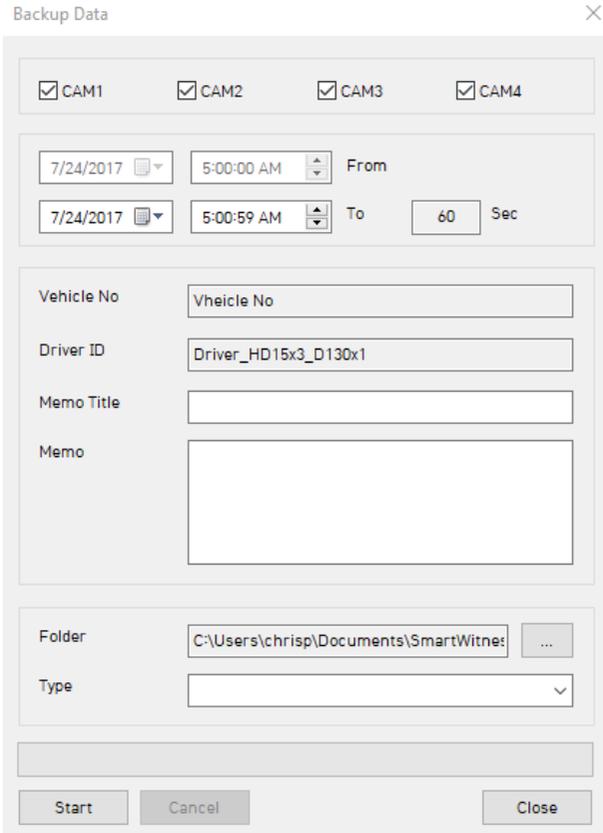
BACKING UP FILES

Back up the recorded data on your PC.

There is an option to store data by type to easy management of data.



“Backup Data” icon

A screenshot of the 'Backup Data' dialog box. The window title is 'Backup Data' with a close button (X) in the top right corner. The dialog contains several sections: 1. Camera selection: Four checkboxes labeled 'CAM1', 'CAM2', 'CAM3', and 'CAM4', all of which are checked. 2. Time range: Two rows of time selection. The first row is for 'From' with a date dropdown set to '7/24/2017' and a time spinner set to '5:00:00 AM'. The second row is for 'To' with a date dropdown set to '7/24/2017', a time spinner set to '5:00:59 AM', and a 'Sec' field containing the number '60'. 3. Identification fields: 'Vehicle No' (text input with 'Vheicle No'), 'Driver ID' (text input with 'Driver_HD15x3_D130x1'), 'Memo Title' (empty text input), and 'Memo' (empty text area). 4. Storage options: 'Folder' (text input with 'C:\Users\chrisp\Documents\SmartWitness' and a browse button '...') and 'Type' (dropdown menu). 5. Action buttons: 'Start', 'Cancel', and 'Close' buttons at the bottom.

The start time is when the video was paused and cannot be changed once you start this process.

Set the time you wish to backup and input Title and Memo.

And input Type and then click [Start].

The maximum amount of time you can back up is one hour.

SPECIFICATION

Video In	CH1, CH2: 12V 1080P or 720p AHD camera in CH3: 12V 720P AHD camera in CH4: 12V D1 camera in
Audio In	1CH (Internal or External Microphone)
AV Out	1 Video out, 1 Audio out
Band support	LTE bands: 2, 4, 5, 12, 13; 3G bands 2, 5.
Max Data Rate	UL:5.76Mbps, DL : 7.2Mbps
Video resolution	1080p HD (1920x1080), 720P (1280x720), D1(NTSC:720x480, PAL 720x576)
Recording Speed	Full HD: 30fps(25fps), HD: 60fps(50fps) D1: Up to 120 fps (NTSC) or 100fps(PAL)
Recording Mode	Continuous , Event, Dual Mode
Memory	Support 32GB, 64GB(FAT32), 128GB(FAT32)
GPS/GLONASS	External GPS /GLONASS
G-Sensor	Internal 3-axis G-sensor
Gyro	3Axis(X,Y,Z), output rate:100 Hz,
RTC	Internal battery
Alarm In/Out	4 x Alarm In, 1 x Alarm Out
Remote controller	3x LED, Panic button, M1 & M2 button
LED	Green LED (Network), Blue LED (Record), Network (Red LED)
Super Capacitor	Enable recording of last file and shut down
Power input	DC 12V/24V 3A
Delayed Power Shutdown	Supports Delayed Power Shutdown
Power consumption	Max. 36W
Size / Weight	120mm X 28mm X 90mm / 166g
Operation Temp.	-10°C~55°C

APPENDIX Recording time table

DRV file size		Reserved space for overwriting	Space for Video / Audio (MB)				
hours	Size		16GB	32GB	64GB	128GB	256GB
24	106.8MB	300 MB	15,593	31,593	63,593	127,593	255,593
168	748 MB		14,952	30,952	62,952	126,952	254,952
240	1068 MB		14,632	30,632	62,632	126,632	254,632
336	1200 MB		14,500	30,500	62,500	126,500	254,500

resolution	quality	fps	16GB	32GB	64GB	128GB
FHD(1080P) 1920x1080	Super	30	5hours	10hours	19hours	39hours
		1	21hours	44hours	90hours	167hours
	High	30	6hours	11hours	23hours	47hours
		1	25hours	52hours	106hours	167hours
	Standard	30	7hours	14hours	29hours	58hours
		1	31hours	63hours	129hours	167hours
HD(720P) 12 80x720	Super	30	9hours	19hours	38hours	76hours
		1	39hours	80hours	163hours	167hours
	High	30	11hours	22hours	45hours	90hours
		1	45hours	93hours	167hours	167hours
	Standard	30	13hours	27hours	55hours	111hours
		1	53hours	110hours	167hours	167hours
D1 720x480	Super	30	13hours	27hours	55hours	111hours
		1	53hours	110hours	167hours	167hours
	High	30	17hours	35hours	71hours	144hours
		1	66hours	136hours	167hours	167hours
	Standard	30	24hours	50hours	101hours	167hours
		1	85hours	167hours	167hours	167hours

This table is a guideline only.

Actual results may vary depending on a variety of factors on the road.

CP4 Firmware Update Instructions via SD card

NOTE: If you're using CP4 with a SIM and connected service, please consult your telematics provider or SmartWitness before attempting to update your device firmware. In this case, the firmware update can be much more easily applied to your device using Smart API over-the-air update service.

1. Prepare Firmware

Create a folder called [program] on the SD root as shown below,



Save the "XXXXXX_x.x.x.img" file to the SD card inside the [program] folder.

2. Upgrading CP4

Insert the prepared SD card to CP4 unit and turn on the power.

The Blue & Red LED will blink while the unit is upgrading. It will also 'beep' continuously. Upgrading the unit usually takes about 30 seconds.

Warning: Do not turn off the power during upgrading. If the upgrade fails, the CP4 unit should be returned to your distributor.

Once the upgrading is finished, the unit will automatically reboot and power up as normal.

Technical Support & Warranty

TECHNICAL SUPPORT

For Technical Support, please contact your local distributor or visit support.smartwitness.com

LIMITED WARRANTY

This product is supplied with 2 year warranty. The Warranty excludes products That have been misused, (including accidental damage) and damage caused by normal wear and tear. In the unlikely event that you encounter a problem with this product, it should be returned to the place of purchase.

Optional Item

Model	Descriptions
<p>CP4-LC</p> 	<p>Locking Steel Housing for CP4 Dimension : 155.00 x 130.00 x 24.00 mm, 330g</p>
<p>CP4-WIFI</p> 	<p>External WiFi modem, 802.11. b/g/n. Connects to rear USB1 port on CP4.</p>
<p>SVA045-A</p> 	<p>1.3Mega-Pixel 1/4" CMOS Sensor, Resolution: 720P, Angle of View: 120° Min. Illumination: 0.1 lux Operating Temperature: -10°C ~ 55°C Input Voltage: DC 12V 31mm(W) x 33.5mm(H) x 25mm(D)</p>
<p>SVA040-A</p> 	<p>1.3Mega-Pixel Sony Exmor CMOS Sensor Resolution: 720P, Angle of View: 120° Min. Illumination: 0.1 lux// IR LED On 0 lux Operating Temperature: -20°C ~ 60°C Input Voltage: DC 12V, 9pcs LEDs 80.5mm(W) x 50.5mm(D) x 61.0mm(H)</p>
<p>SVA035-A</p> 	<p>1.3Mega-Pixel Sony Exmor CMOS Sensor Resolution: 720P, Angle of View: 120° Min. Illumination: 0.1 lux// IR LED On 0 lux Weather-proof Housing (IP69K) Operating Temperature: -20°C ~ 60°C Input Voltage: DC 12V, 12pcs LEDs 59.2mm(W) x 56mm(D) x 62.1mm(H)</p>
<p>SVA033-C</p> 	<p>1/3" Sony Exmor CMOS Sensor Resolution: 600TV lines, Angle of View: 120° Min. Illumination: 0.1 lux// IR LED On 0 lux Weather-proof Housing (IP68) Operating Temperature: -10°C ~ 55°C Input Voltage: DC 12V, 12pcs LEDs 63.5mm(W) x 57.7mm(D) x 56.00mm(H)</p>



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