LUKAS

User's Manual

Lukas

Blackbox

Driving Recorder(Dashcam)

LK-7900 & LK-7500

SONY

Image Sensor

Multiple Language Support

English, Korean, Russian, French, Chinese, Japanese, Spanish, Arabic

Premium

Full HD

OBDII Support

Thank you for purchasing LUKAS Blackbox!

This manual explains specifications of Lukas blackbox and how to use it.
Please read this manual carefully before using the product for your convenience.
You can download manuals, product firmware and Lukas viewers at our website: www.lukashd.com

Read carefully before use

※ Be sure to read the manual to ensure the correct use of this product.
※ Qrontech retains all rights to this manual in accordance with the copyright law.
※ Some functions may change without notice to the user due to quality improvement of the product.
※ There may be some differences in functions depending on the product's firmware version.
※ This manual has been prepared based on the Lukas blackbox model but there may be some technical & editorial errors and omissions.
※ This product is an accessory for safe driving. In the event of an accident, all responsibility is borne by the driver. Please use the product appropriately.

Scope of Guarantee and Responsibility

※ This product is an equipment for recording image and sound to provide visual proof of a car accident, but we do not guarantee that it will record all accident images and sounds.
※ We will not be held responsible for any damages due to a malfunction of this product, damage caused by data loss or other damages related with this product.
※ In general, the life span of the memory card is about 6 months, and there may be data loss due to static electricity or external voltage. For this reason, it is highly recommended to copy and save important data to other media (hard disk, CD, portable memory etc.).
※ Even in the event of a car accident, if an impact is not big enough, the internal sensor may not detect the impact for the auto-recording.
※ SD card may have corrupted images (omission of image recording, image cuts, frame change and omission, other defects in image recording) due to a slow-down in reading/writing speed and other defects. Be sure to use a genuine SD memory card, and format it periodically (Once a week for 16GB).
※ This product is a supplementary device to record the driving image of a car. Simply use it as a reference to check driving image as it may not be record depending on the driving condition.

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1 Cautions in Usage

1. Do not leave the product in a hot or cold place for a long time.
   Exposure to the direct sunlight in the summer or cold weather in the winter for an extended period of time may cause a malfunction or disorder. When not using the product, take note of its storage temperature.

2. Do not dismantle this product or alter its structure as you please.
   If the product is dismantled or modified by anyone other than an authorized technician, the warranty will be invalid. For inspection and maintenance, please call our customer service center.

3. Do not alter or cut the cigar jack cable.
   This may damage the product or the car. Any resulting damage to the product or the car shall be the responsibility of the user.

4. Do not touch the area around powered switch of this product with wet hands, or allow water to enter the product.
   The product is not waterproof, exposure to water may cause malfunction, fire or electric shock. When cleaning the product, use a soft dry cloth instead of water, volatile liquid or detergent.

5. Do not cause any heavy impact on the product, or put in other materials.
   Excessive impact, load or injection of alien material can cause its malfunction.

6. Only use compatible power cables and accessories that have been certified by our company.
   We will not be held responsible for product damage or other losses resulting from the use of non-certified parts.

7. We do not guarantee the operation of devices and peripherals that we have not supplied.
   We only guarantee the compatibility of devices and peripherals that bear a certificate of compatibility with this product. Any problems with incompatibility are the responsibility of the user.

8. Do not operate the blackbox for a long period of time while the car's engine is not running.
   This will run down the car battery, which will make it difficult to start the motor.

9. The product may not be operated at a high temperature when 'Use of High Temperature Safety Mode' is selected.
   If the product is used at a high temperature, the recorded image may be changed or damaged, and the product may be damaged. For the protection of the device and to ensure stable recording, the product has a function to stop the operation at a high temperature. At purchase, it is set to stop recording at temperatures higher than 70˚. (When 'Use of High Temperature Safety Mode' is set in the PC viewer program configuration.)

10. When the surrounding brightness changes radically, the quality of the recorded image may be degraded.
    Remember that the quality of the recorded image may be degraded when the car enters/exits a tunnel, the background light is too strong or there is no light around it at night.

11. When an accident occurs with an impact lower than a certain threshold, the event data may not be recorded.
    When an accident occurs with an impact lower than a certain threshold, the event data may not be recorded. In addition, if the power is cutoff during a big accidents, the image may not be recorded.

12. Do not pull out the power cable while using the product or use it at a voltage other than the specified voltage.
    Do not pull out the power cable while using the product or use it at a voltage other than the specified voltage as this may damage the productor cause a fire.

13. Some PC may not support Lukas viewer or there may be some disconnections in voice/image depending on PC's specifications.

14. AE operation may not function normally at night on those cars (black, red) whose light reflection is low.

15. There may be omissions in frames due to rapid AE change such as darkened surroundings caused by AE operation

16. The AE operation is affected by the installation angle.
    Please reset the installation angle of the blackbox if AE operation malfunctions.

17. There may be noise in the video when recording in poor lighting environments.

18. In the event of a sudden change of frame or driving↔parking modes, there may be a loss in image data.

19. When you stop or park the car, the recorded image may be shaken due to the car's vibration.

20. Motion detectors may malfunction due to changes in surrounding lights, weather and environment. Addition file may be created by continuous motion detection.

21. When parking in the underground parking lots and low light environments, the motion detection function may not operate normally due to noise and vehicle security LEDs.

22. The left/right side image quality of this product may differ due to the characteristics of the wide-angle lens.

23. Traffic lights by the surrounding environment, such as street lights, power frequency, period, and backlight flicker or may not be displayed correctly.

24. If you notice any problem in using the product, call the customer center for consultation.
    If you notice any problem in using the product, call the customer center for consultation. If you continue to use the product, the problem may worsen and you may not be able to get normal customer supports.

25. This product does not have built-in battery discharge.
    If you connect directly to the battery to discharge the battery when the vehicle start off. Lukas continuous supply in order to prevent battery discharge safety device must be installed.

Installation Cautions

1. Do not place any other objects near the product.
   Please do not leave other objects near the product, as objects near the product may produce reflections on the front window of the vehicle.
2. Be sure to keep the camera lens from being covered by dust, dirt or any other substance that may cause discomfort view.
3. Do not attempt to install or operate the product while driving.
   For your safety, please do not attempt to install or operate the product while driving. Attempting to do so may cause a traffic accident.
4. Please keep the product securely fixed.
   An incorrectly installed product may operate abnormally, or may fall off and affect your driving.
5. Please avoid using excessively dark window tinting, as it may make the video recorded by this product hazy or distorted.
6. Install this product at the point farthest from the antenna of the receiver if possible.
   The electromagnetic waves produced by the blackbox may result in a drop in receiving sensitivity.
7. Video may appear dark when using the CPL filter.
   We don't recommend using the CPL filter at night, or for cars with tinted windows. (Depending on tinting conditions, a rainbow effect may appear on recorded videos)
8. When using the CPL filter, remove the UV filter first.
   Depending on the view angle, the CPL filter may cause a vignette effect on some images.

Cautions Regarding GPS

1. There is error range of over 15m in a normal commercial GPS. There may be situations where GPS signals cannot be received depending on the environment such as buildings, underground, trees which make the error range bigger.
2. It may take some time to receive first GPS signal after power is switched on depending on the weather or other factors.
3. External devices (electronic, toll device) and window tinting may affect GPS reception.
4. The speed may vary (range of 1–30 km/h) depending on the reception area when stopping the car.
5. GPS information may be lost when switching off the blackbox.

Cautions Regarding Memory Cards

1. Do not forcefully remove the SD card while the product is in recording mode.
   Be sure to turn off the product before removing the SD card. Removing the SD card when the device is turned on may damage the video file or cause an operation error of the SD card.
2. Please format the SD card at least once a week. (recommended for 16GB cards)
   Repeated read–write operations may damage the files contained in the SD card. For this reason, regular formatting may prevent the files contained in the SD card from being damaged. In addition, the maximum lifes pan of the SD card is six months, and we shall not be liable for any recording errors incurred by the use of an SD card beyond this period.
3. Always use SD cards supplied by our company.
   We shall not be responsible for any problems caused by using SD cards not provided by us.
4. Handle with care when inserting and removing SD card to avoid burn injuries.
   The SD card operates at very high temperatures, so you must be careful when handling the card.
5. Operating temperatures may vary depending on the performance of SD cards.
6. Be sure to back up your recorded videos using an additional storage device. (PC, external HDD, etc.)
7. A backup of the SD card data using an external storage device may prevent the loss of important data.
8. Be sure to format the SD card when changing mode setting through Lukas viewer.
9. Please set the configuration again when there is a change in the storage capacity of an SD card. Failure to do so may result in a critical error.
   e.g.) 16GB –〉 32GB or 32GB –〉 16GB
10. Format SD card by using the computer or by using format function of the product.
    Connect the SD card to the PC using SD card reader to format or use the format function of the product.

2 Product Features

▶2.4M Pixel (1/2.9") CMOS Sony Full HD Image Sensor

▶Full HD Best Display Quality: 1920x1080p Full HD recording Max 30fps or 1280x720p HD recording / 16:9 wide screen

▶Viewing Angle Minimizing Distortion: Diagonal angle(approx. 135°) 1080p/
Effective angle: Horizontal angle (approx. 107°) Vertical angle (approx. 55°)

▶Diverse Recording Functions Support

- Driving Recording : Continuous creation of recorded files in units of 3 minutes.
- Event Recording : Records total 30 seconds before/after in case of an impact.
- Emergency Recording (Manual Recording) : Records total 30 seconds before/after pressing the button.
- Parking Recording (Motion Detection) : Records total 30 seconds before/after impact or motion detection.

▶Built-in High-performance Microphone: Voice and image can be recorded at the same time. (Voice Recording ON/OFF: Environment Setting on Viewer or, 'Enter' button of the device)

▶Direct Format Function: Format SD card directly without PC. (refer to page 13)

▶Built-in Super Cap: There is no need to change the battery as it is semi-permanent and even when the power is cut off, image data can be safely saved.

▶External Video Output: Provides real time recorded videos of the blackbox through V-out terminal. (AV cable can be purchased separately)

▶Automatic Parking↔ Driving Modes Switchover Support: Switches to Parking Mode when 'Auto switch to Parking Mode' function & standby time is set through the settings.

▶Built-in 3-Axis Impact Sensor(G-Sensor): Separately saves the recorded files that are caused by an impact.

▶Auto-Deletion of Recorded Videos: If the memory is fully filled, the oldest video is deleted and most recent video is saved.

▶Built-in Security LED: Prevents accidents by indicating that blackbox is installed through the security motion when recording on parking mode.

▶OSD Display: Displays time and date on the bottom of the recorded video. (But it is not displayed on external video outputs)

▶General Media Players & Lukas Viewer: It is possible to play the video on general media player and check driving information and video through Lukas viewer.

▶Firmware Upgrade Function: Supports firmware upgrade for correction of error and functional improvement of the product.

▶High-temperature Safety Mode: Function to protect the Black box in high temperature condition. (Approx. 70℃)

▶Time Notification: Voice announcement of time at fixed intervals i.e. Every hour. (selectable on Setting of Lukas viewer)

▶Multi-function Lukas Viewer : Customized recording is provided for each situation through the settings of Lukas viewer.

▶Eight Language Voice Guidance Support : Korean, English, Russian, French, Spanish, Japanese, Chinese, Arabic

3 Product Composition

LK-7900 Ace


Main Unit


Power Cable


Memory Card


User's Manual


High Temp. Low Temp.
Adhesive Tapes


Mounting Bracket /
Fixing Clips /Hex Wrench


UV Filter


CPL Filter
(Optional)


AV Cable
(Optional)


Power Safety
Device
(Optional)

- Check if there are all the component items as in the picture above.
- AV cable (purchase separately) is used to connect the blackbox and the products with AV IN terminal such as navigator and monitor.

※ Components may be changed without notice to improve product function or quality.

※ Consumable items from Lukas are recommended. The use of other consumables may restrict warranty service.

※ CPL filter may improve the spread reflection of the video during the day and noise or dimming of video may occur during the night.

※ CPL filters are not recommended for cars with tinted windows or cars that are frequently driven at night.

※ CPL filter creates vignette effect on parts of the video due to viewing angle of the lens.

LK-7500 Cuty


Main Unit


Power Cable


Memory Card


User's Manuall


High Temp. Low Temp.
Adhesive Tapes


Fixing Clips


UV Filter


CPL Filter
(Optional)


AV Cable
(Optional)


Power Safety
Device
(Optional)

4 Names of Product Parts

LK-7900 Ace

LK-7500 Cuty

	Designation	Function
1	Installation Mount	Attached to the windscreen of the vehicle
2	Security LED	Security LED is kept on while power in on
3	Lens	Video recording, CMOS digital sensor
4	37mm UV Filter	Lens protection
5	Power Switch	Switch on/off the power
6	Micro USB	For debugging by a developer
7	AV-OUT	Real time video output of blackbox using video output terminal
8	Emergency Recording Button (E)	Press longer than 3 sec: Manual switch of Driving ↔ Parking Mode
		Press shorter than 2 sec: Emergency(event) recording
9	Screws	Used to fix and set direction of the blackbox
10	Speaker	Various effect sound and sound output
11	Segment LED	Displays time, speed, status, etc.
12	DC Input Terminal	Power supply with the power connector
13	SD-card Slot	For insertion/removal of memory card
14	Voice Recording Button (M)	Press longer than 3 sec: Segment LED On/Off
		Press shorter than 2 sec: Voice Recording On/Off
15	GPS In	Connection of GPS

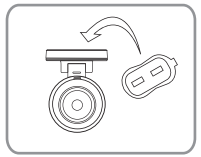
■ If you switch voice recording and sound effects on/off with the button, it will reset the device configuration setting values to default when the blackbox is rebooted.

[How to format SD card]

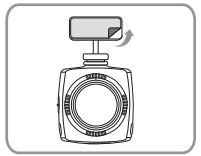
Method	Direct format from blackbox
Steps	1. First, insert SD card into the blackbox and switch the power on then wait until booting is completed. 2. Press no.8 'E' button and no.14 'M' button at the same time. 3. Phrase segment LED "For" will blink on screen (waiting time 15 sec) 4. Format starts: Press no.8 'E' button, 'For' disappears, and after voice alarm, it reboots (time consumed 12 sec/32GB standard time)

※ Blackbox may reformat the SD card again depending on its type even though it was formatted from PC

5 Installation Guide

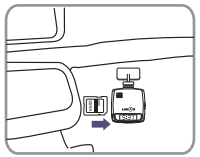


LK-7900

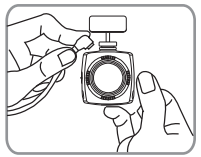


LK-7500

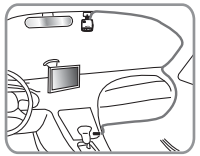
1. Apply the double-sided tape to the mounting bracket or the holding deck of blackbox.



2. Select the place on the front window (behind the rear view mirror)not to interfere the driver's view and attach the blackbox. Insert the SD card into the product.



3. Connect the jack of power cable to the main body of product and squeeze the power cable along the A pillar (pillar beside the driver's seat).



4. Insert the power cigar jack and then start the engine to check if the version is displayed on the segment window of blackbox.

※ When adjusting the blackbox angle, it is better to connect the video-out terminal to the display of navigation and then adjust the angle as you check the image being displayed on the screen (AV cable is optional).

◎ Cautions When Installing

※ For the safety, be sure to check the following details before installation and then install it in order.
※ Park the car on a bright and flat ground and turn off the engine. Take off the key and then start the installation.
※ Clean up the window glass where the blackbox will be attached.
※ Check the power terminal and the video-out terminal of the blackbox in advance before installing.
※ If the lens of the blackbox is set upwards, the product may not work properly.
※ To secure the optimum image quality, keep the front window clean at all times.
※ If the lens of blackbox is contaminated with impurities (e.g. fingerprint), the recording quality may be degraded. Therefore, keep the lens clean at all times.
※ Ensure that there is no interference with the driving view before attaching the product.
※ When adjusting the blackbox angle, it is better to connect the video-out terminal to the display of navigation and then adjust the angle as you check the image being displayed on the screen (AV cable is optional).

6 Recommended Product Installation Angle

The viewing angle of Lukas blackbox can be adjusted up, down, left and right by user. As the image quality may depend on the viewing angle, it is better to adjust the angle properly according to the following explanation.

※ Right images are ones photographed at the same time and same place by just changing the up/down angle. Left blackbox angles are examples for explanation and they can be changed according to the slope of front car window.

Fixed Image 40%
Moving Image 60%

It is the image photographed in the recommended ratio of 4:6 at installation of product. It maintains the appropriate brightness and resolution and, as you can see, it can photograph even the signal light in front of it when the car stops exactly at the stop line.

Fixed Image 50%
Moving Image 50%

This problem occurs when it is bent excessively downward. As you see, there is no problem in brightness, but the correct information can hardly be obtained because the signal light is not seen.

Viewing angle is located at the end of the hood

If the viewing angle is installed too upwards, the screen gets generally dark due to the sun light on the left top. As shown here, the brightness of image may depend on the angle.

Wait!

Due to optical lens' inherent characteristics, there may be 20% unclear, distorted and left/rignt deviation. It generates 10% or lower deviation on left/right sides (10% or lower based on MTF).

7 SD Card Usage

You can choose the image quality in Settings of the Lukas viewer. There is a difference in recording time depending on the image quality. (Type X: Y: Z = Always(Driving) : Event : Motion(Parking))

1. Driving Recording (215MB per video file / 3 minutes)

X:Y:Z	16 GB	32 GB	64 GB	128 GB
70:10:20	49 ea	101 ea	205 ea	413 ea
80:10:10	56 ea	116 ea	235 ea	473 ea
50:20:30	34 ea	71 ea	145 ea	294 ea

2. Event Recording (39MB per video file / 30 seconds)

X:Y:Z	16 GB	32 GB	64 GB	128 GB
70:10:20	38 ea	79 ea	161 ea	325 ea
80:10:10	38 ea	79 ea	161 ea	325 ea
50:20:30	79 ea	161 ea	325 ea	653 ea

3. Parking Recording (39MB per video file / 30 seconds)

X:Y:Z	16 GB	32 GB	64 GB	128 GB
70:10:20	79 ea	161 ea	325 ea	653 ea
80:10:10	38 ea	79 ea	161 ea	325 ea
50:20:30	120 ea	243 ea	489 ea	982 ea

※ There may be subtle differences in the above and the real figure as it was calculated using 10Mbps as a standard. And video data transfer volume may affect.

8 Segment Messages and Voice Guidance

Segment LED Messages of Lukas blackbox

※ Entire segment message blink when event recording occurs.

Segment LED Message	Voice Guidance	Details
	Welcome, this is Lukas blackbox. Drive safely.	Screen that appears at the initial boot of blackbox to show the firmware version. (As the firmware version can be upgraded, this may differ according to the model.) ※ LK-7500 : Fc29
	-	After boot is completed, parking/stopping time is displayed. (This may differ according to configuration)
	-	After boot is completed, parking/stopping date is displayed. (This may differ according to configuration)
	-	Displays the speed when driving. (Depends on configuration)
	Voice recording started. Voice recording stopped.	When the sound recording function is activated, the right DOT will blink.(3-second interval)
	-	Recording resolution is HD (720p). Dot on the bottom blinks.
	-	Appears when the voltage of input power is low. Blackbox is on standby and segment message blinks.
	Driving mode recording started.	When switched to driving mode, it displays 'drv.'
	Parking mode recording started. / Parking motion detection mode started.	When switched to parking mode, it displays 'PAr'.

Segment LED Message	Voice Guidance	Details
	Firmware update starting. Do not turn off the power. Firmware updating is complete.	When starting the firmware update, 'UPdA' appears.
	Format SD card.	When formatted by force, it blinks 'For' and stays in standby mode.
	No SD card detected.	When SD card is not inserted or removed by force, 'Sd_FAIL' is displayed.
	-	Appears when SD card is in need of formatting.
	-	If the blackbox is exposed to a hot environment while High-temperature safety mode is activated, 'SAFE' is displayed and the function starts.
	-	When the power goes off, 'SEE You' is displayed.
	Weekly carfree alarm function is activated.	If the function is activated, 'dAY' is displayed.
	Recording failure 2 / Recording failure 3 Please format.	It is displayed when there is a need for SD card format.
	-	Err0: RTC problem occurred. It needs to be repaired. Err1: Camera cannot be connected. It needs to be repaired. Err2: Memory card problem occurred. (Format the SD card then use again) Err3: Recording problem occurred. (Turn the power switch off and on again. It should be repaired if the problem persists.) Err4: OBD module communicating problem occurred. (Check the connection of OBD cable)

9 Basic Functions

Power Connection

First, check if SD memory card is inserted into the main body. Then, start the engine while the power of product is connected.
(Keep the power on.)
– While Booting: After the power supply the version is displayed on the segment window.
(Version is displayed about 23–30 seconds after booting and it changes into time display)
– Booting Complete: The recording starts after the voice announcement: "Welcome, this is Lukas blackbox, Drive safely"

Recording During Driving

– Driving Recording: While booting, voice alarm is made. And recording starts and the image is saved in Always Movie folder.
– Event (Impact detection) Recording: When it detects an impact greater than the one set up by the user(crashing, quick braking, speed bump etc.), it starts the event recording and issues the sound effect once, blinking the segment window. The image is saved in the Event Movie folder and the total recording time per file is 30 seconds before and after the event.
※ The impact sensitivity level of G–sensor can be set up in the configuration of Lukas viewer.
※ If another impact occurs during the event recording, it does not work until the already started event recording is finished.
※ If the power is turned off during the event recording, the power goes out after the completion of event recording.
– Emergency Recofding(Manual Recording): Even without any impact, if the emergency recording button is pressed, the image is saved in the Event Movie folder. The total recording time per file is 30 seconds before and after pressing the button.
※ The emergency recording cannot be operated during an event recording.
※ During the emergency recording, event recording will not operate even in an impact.
– If SD Card Is Removed While recording.
(1) If SD card is removed from the product while recording, the present recording file cannot be completed normally and becomes unreadable video file.
(2) It can have a severe damage on SD card and the product.

Termination Of Recording

◈ When the engine is turned off, the power of the product also goes off and the recording will shut down (when the cigar jack cable is being used). Before then, if the working blackbox is shut down in the following order, it is helpful in maintaining the life span of the product and preserving the data.
1. In case of manual recording, it is better to wait for about 20 sec before removing the power.
2. When the product is turned off, there comes 'See you' on the segment window with the voice guidance"Terminating the system". Then, the power goes off.
※ Notice: If SD card is removed before the power is off, an error may occur in the recorded video. Be sure to remove SD memory card only after turning off the product completely.
3. If the power cable is pulled out from the cigar jack, it can prevent the discharge of car battery.
(This is applied only to the cars where the battery power is supplied to the cigar jack even if the car engine is 'off'.)

Recording While Parked

1. The change to parking mode can be made in two ways: manual and automatic.
Manual: Press the emergency recording button for longer than 3 sec. Then, 'PAr' sign blinks on the segment window to show the change to parkind mode.
Automatic: If 'Auto Change to parking mode' is checked in the setting, the sign 'Par' blinks automatically about 10 min after the car stops and it is switched to parking mode. After completion of change to parking mode, the sign 'Par' does not blink and the voice guidance is made according to the setup.
※ When switched to the parking or driving modes, it stops the recording and therefore the video data of about 5 seconds may be lost.
2. "Parking" is indicated at the bottom of the parking recording screen when playing the saved video.
※ If it is switched to parking mode from driving recording, event recording and manual recording state, each recording in the file is stopped to be switched to the parking mode. Therefore, it can cause the time delay.
3. When selecting motion detector, 30–second–long video is saved in the Motion Movie or Event Movie folder only in the event of motion detection or impact.
※ When there is no motion detected, recording is not carried out. And in the event of motion detection, the security LED will flicker fast.
※ The movements may not be detected in the area with no light.
※ Parking mode is supported when power safety device is installed, and the operation time of recording while parking may differ depending on the battery condition.
※ Motion detector may cause omission of frames in recording depending on surrounding environment.

Basic Recording Mode

1. Always(Driving) Recording: It is saved under Always Movie folder. It records in units of 3 minutes during driving. It is not recorded in parking mode.
2. Event Recording: It is saved under Event Movie folder. The recording works under an impact while parked or driving. It is possible to configure using "G Sensor" in Lukas viewer.
3. Motion Recording: It is saved under Motion Movie folder. It only operates while parked and is possible to activate using "Motion Detector" in Lukas viewer

Recording Mode Setting

1. Always and Event: Always Movie, Event Movie, Motion Movie folders are created. The video is saved under Always Movie (driving recording) and Event Movie (event recording) during driving mode, and during rarking mode only event recording and motion recording are used. It does not record continuously but only 30 seconds before and after when the impact is detected.

※ There may be video recording errors or it may continue to operate in motion recording depending on surrounding environments therefore sensitivity must be set correctly. Frequent movement while parked in an alley may interrupt motion detection recording.

2. Event: Always Movie and Event Movie folders are created, and only event recording is used on driving and parking modes.

Playing Recorded Video

1. In case that the video has to be checked urgently, turn off the power of the main device and, after checking the voice guidance "Terminating the system" and the sign 'See you' on the segment window, separate the memory card.
2. Insert the memory card into the PC or laptop, and play it with Lukas viewer or a normal media player.
   ※ Some of media players may not play the video.

[When replaying it with a general media player]

Get into My Computer/Portable Disk/Recorded Video Folder, and double-click the wanted video or drag it into the media player screen.

[When replaying it with Lukas Viewer]

Start Lukas viewer. Click the OPEN on the top of the viewer. Select My Computer/Portable Disk/Recorded Video Folder, and press ENTER. Double-click the file to open and they will appear on the right hand side in the list. Then the video is played.

Checking Current Video

1. It is possible to check the current-recording video by connecting blackbox to external input (AV In), navigation and TV. It can be used to adjust the blackbox angle.

※ Some frames may be left out when connecting to external output display during driving after adjusting the angle. Please remove video output cable. Due to connected external devices, it may not work properly, which may cause a problem in recording the video.

※ OSD will not be shown in the external output display.

Checking Driving Information

This function is only available for GPS-built-in models. Lukas blackbox is able to store approx. 100,000 driving information on the SD card. Setting intervals for saving driving information in the configuration allows the blackbox to save the driving information of your vehicle at defined intervals.

[How to check driving information]

1. Insert the SD card having the driving information into your SD card reader connected to your PC and run Lukas viewer. Then, click on the [Information] tab on the settings.
2. You can view each driving information at the user-defined saving intervals.
3. Clicking on selected driving data will display a corresponding map.

10 LUKAS Viewer

Program Installation

1 Connect the SD card to PC

2 Click "Setup.exe" to install Lukas viewer.

Setup.exe

3 Double click the shortcut once installation is completed

※ Name may differ according to the product model.

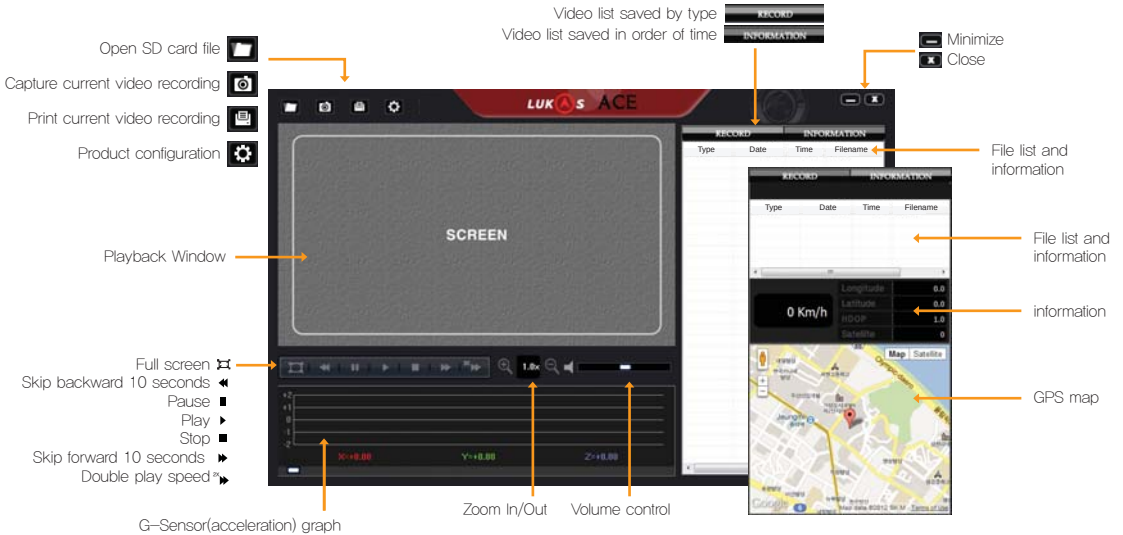
Lukas 7900 Ace

※ Lukas viewer is saved on the SD card that comes with the productor. You can download viewer program from Lukas website (www.lukashd.com).

Recommended PC specification for using Lukas viewer	OS: Windows XP SP3, Vista (32Bit), 7(32/64bit) H/W: Quad core 2.8Ghz/ 4G RAM Web browser: Microsoft internet explorer 8.0 Direct X version: Direct X9.0 (JUNE2010) Others: Windows.NET Framework 3.5

※ This product is the best Full HD blackbox product. There may be display and sound cuts, changes in play speed, and other errors depending on the computer type.

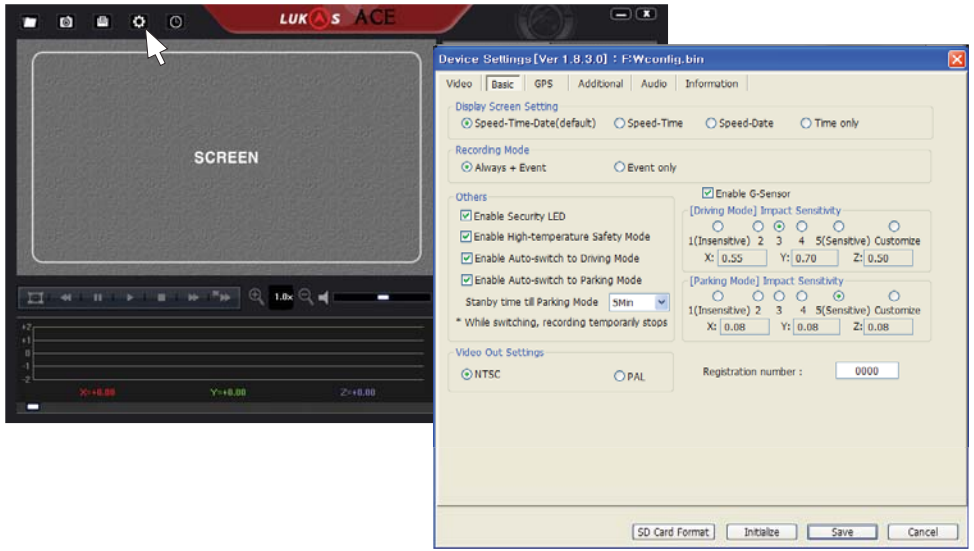
Components in Viewer Screen



※ GPS map information not be displayed if the PC is not connected to internet or GPS reception is poor.
※ Map linking will only work at Internet Explorer 7.0 or higher version.
※ Use full screen to maximize FULL HD resolution.
※ Design of viewer may vary according to the product model

Device Configuration

You can change diverse settings using “Setting” in the program menu.



Video Screen Details

❶	2013/10/11 Fri	Driving date	YY/MM/DD Day
❷	/ 1080P	Resolution	Full HD(1920x1080) HD(1280x720)
❸	/ 11M	Image quality(Mbps)	
❹	/ 13.4V	Input voltage	
❺	80Km/h	Current driving speed	
❻	A	GPS reception	A: GPS reception V: No GPS reception F: GPS off
❼	always	Recording mode	Always Parking Motion Event
❽	16.96Km /	Mileage	
❾	18 : 00 : 04	Time	HH:MM:SS

※ OSD display can be changed after firmware upgrades.

11 Product Specification

Items	Specification	Details
Camera	2.4M Pixels CMOS Sensor, 1/2.9(inch)	
Viewing Angle	Lens: Diagonal angle(approx. 135°) / Effective angle: horizontal (approx. 107°) vertical (approx. 55°)	
Recording Resolution	1920×1080p(Full HD) or 1280×720p(HD)	
Recording Speed(Max)	30fps	
Sensitivity	0.5 Lux	
Video Compression	H.264 (AVI Format)	
Gravity Sensor	Built-in three-dimensional impact sensor (impact, sudden brake, sudden start)	
GPS	LK-7900 : Built-in Sirf Star Ⅲ / LK-7500 : Built-in Ublox 6	
Storage Medium	Support SD/SDHC/SDXC memory card (Basic 8GB, Max. 128GB)	
Viewer program	General media players and Lukas viewer program.	
Audio	Built-in microphone and speaker	
Operating Voltage and Current Consumption	Operating voltage: DC 9V-24V Average current consumption: LK-7900: approx. 200mA(13.4V) / LK-7500: approx. 186mA(13.4)	with GPS module
Video Output Mode	NTSC / PAL	
Operating Temperature	LK-7900: -20℃ ~ 80℃ / LK-7500 : -20℃ ~ 70℃	
Storage Temperature	LK-7900: -30℃ ~ 90℃ / LK-7500 : -30℃ ~ 80℃	
Size / Weight	LK-7900: 90x70x48(mm) / approx. 128g	UV filter included
	LK-7500: 96.6x59x36.4(mm) / approx. 110g	UV filter included

Quality Assurance

Model Name		Product S/N	
Customer's Name		Purchase Date	
Customer's Phone Number		Purchased Place	

1. A standard 1-year warranty is provided from the date of purchase.
   However, a 6-month warranty is provided for accessories, including memory card.
2. This product has been manufactured under the strict quality control and test procedure.
3. This manual works as the warranty. Please keep it carefully as it is not re-issued.
4. When asking the repair, please present this warranty.
5. We are not responsible for any costs incurred to install or uninstall the product, regardless of warranty status.

Certification Information

1. Certified Company. QRONTECH Co., Ltd.
2. Equipment (Model) Name: Lukas blackbox (LK-7900/LK-7500)
3. Certification Number : KCC-REM-QRN-ACE (LK-7900)
   KCC-REM-QRN-CUTY (LK-7500)
4. Manufacturer/Country : QRONTECH Co., Ltd / South Korea
   Dealers or users shall take note that this is not for domestic use as this machine is an electromagnetic equipment for business purposes (B Level).

Conformité Européenne
(European Communities; EC)
EU Joint Standard Certification

Federal Communications Commission
Electromagnetic Wave Suitability
Certification

PRECAUTIONS FOR USING MOUNTING BRACKETS

We often get asked how to separate the blackbox from mounting bracket.
This is a guide to an easy separation for the users having difficulties.

1 Remove power cable from the product.

2 Press the protruded part of the bracket outwards.

3 Pull the blackbox out slightly.

4 Take the blackbox out of the bracket as you twist the other side.

5 Blackbox is separated from the bracket.

※ Be careful not to damage the bracket by forcibly pulling both sides at the same time when separating the blackbox from the bracket.

www.lukashd.com

Ver.02