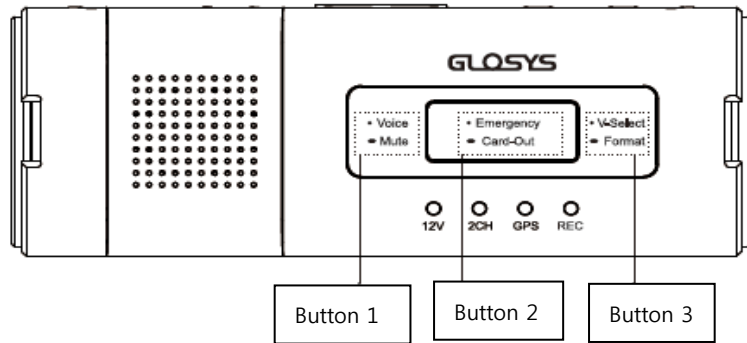


Black-Box Instructions



	Button 1	Button 2	Button 3
Short press	Voice Intro. Start / End	Emergency Rec. Start / End	Video Out Selection
Long press	Voice Rec. Start / End	Micro SD Card Out	Micro SD Card Format

Specifications

- Process : ARM9 _ 32 bit RISC @ 533MHz
- Camera : 2Mega Pixel (120 degree) , 2Mega Pixel (98 degree)
- Video Encoding : 720P @ 30fps / 720P @ 20fps
- Video Format : H.264
- Audio Format : PCM
- Storage : Micro Sd Card (4GB ~ 32 GB)
- GPS SiRF Star iv high sensitivity solution
- G-sensor : 3-Axis data
- Video Output : CVBS output
- RTC : GMT setting support
- Sub battery : Super Capacitor (2.5V ~ 10F) x 2
- Low Battery : If low voltage is detected for 60 secs, program is finished. After voltage increases, program is automatically booted and activated.
- Operating Temperature : -20°C ~ 60 °C
- Record Method : All time(Driving, Parking) / Event (Emergency, Motion, G-sensor)
- Firmware update : Micro SD Card
- File System : FAT32
- PC Viewer : Video, Audio, G-sensor data(x,y,z), Time, Speed, Google Map
- Other : Mic – Audio Recording , Key : 3 EA , LED : 4 EA

LED ON / OFF by Mode

Status	LED				Voice Introduction
	12V	2CH	GPS	REC	
ACC ON	ON				
ACC OFF	OFF	OFF	OFF	OFF	
Start Rec.				ON	Recording is started.
Normal Rear Cam		ON			
Abnormal Rear Cam		Blink			
Not equipped Rear Cam		OFF			
Detect SD card				ON	
Non Detect SD card				OFF	Memory is not recognized.
Detect GPS			ON		
Non Detect GPS			OFF		
Emergency Rec.				Blink	Beep

SD Card Out					Connection with Memory is terminated.
Detect Impact				Blink	Beep
Firmware Update Start	Blink	Blink	Blink	Blink	Firmware upgrade is started.
Firmware Update End	ON	OFF	OFF	OFF	Firmware upgrade is finished.
SD Card Format	Blink	Blink	Blink	Blink	Memory is formatted.
SD Card Format End					Format is completed.
Voice Intro. ON					Voice introduction is started.
Voice Intro. OFF					Voice introduction is finished.
Voice Rec. ON					Voice recording is started
Voice Rec. OFF					Voice recording is finished.
Convert to Normal Rec.					Beep
Convert to Parking Rec.					
Motion Detect				Blink	Beep
System End					System is closed.

Details

1.Power Controller

1.1Power controller always checks input power preventing main car battery from discharging , when black-box is connected with constant power supply in car. If input power of black-box detect under designated voltage, recording is finished and disconnected with constant power supply in car. So main battery is protected. But the car which uses 24 volt battery can't use power controller function.

1.2-Power ON : Connecting power supply with black-box, power LED is blinking and it takes 23 secs to boot system operation. If SD card status is okay, recording starts with announcement. " Voice introduction is started."

1.3-Power OFF : If power supply is disconnected with normal operating black-box, black-box immediately stores the last recording file to SD card. Then after system power off, main power supply is blocked by power controller.

1.4-Voice Recording : Pressing button 1 over 2 secs, voice recording is on / off.

1.5-Voice Introduction : Pressing button 1 time shortly, voice introduction is on / off.

1.6-Encoder : Front / Rear all 1280 * 720 resolution 30 and 20 fps is supported. It is encoded by CBR type 6 M / 3 M. Bit-rate could be changeable depend on situation.

1.7-GPS (Option) : Receiving GPS data normally, RTC which is built in is automatically synchronized with real time. Also data which includes latitude , longitude , speed is stored with video.

1.8-Recording : Recording priority is followed that whichever is activated first G-Sensor, Motion detect, Emergency. Then normal, parking mode (1fps) is stored.

1.8.1)Normal : Normal mode stores video per 1 min. without reference to event during driving. It is stored in Normal folder of SD card.

1.8.2)Parking : It is started to store if there is no moving of car for certain time. It is stored in Normal folder. It stores video per 30 mins as 1 frame per sec.

1.8.3)G-sensor : If some impact is detected during normal mode, video is recorded for 30 secs. Before detect ,10 secs data is recorded. After detect, 20 secs data is recorded. It is stored in Event folder of SD card.

1.8.4)Motion detect : If some moving is detected during parking mode, video is recorded for 30 secs. Before detect, 10 secs, after detect 20 secs are recorded. It is stored in Motion folder of SD card.

1.8.5) Manual : If user press button 2 , video is recorded for 30 secs. Before press , 10 secs after press 20 secs are recorded. It is stored in Manual folder of SD card.

2.Rear Camera

1CH or 2 CH operation is possible for attachment of Rear Camera and cable when product is booted, if normal operation is impossible that external rear camera is not connected or connection is unstable , 1 CH black-box is only activated (Front View only).

If external rear camera is connected during 1CH operation system, black-box is rebooted and 2 CH operation system (Front & Rear) will be activated. Although external rear camera is connected, LED is indicated when it is abnormal.

3.Video-Out(Live)

You can check right installation and status of product by Video-Out(Live). Live function is activated when black-box is only normal state. Output screen of Live function is supported for 2 CH and Front / Rear view. use only 1 CH system (front view), Screen is supported to see only front view.

4.File system Protection

When SD card status is strange or there is difference between product and file system information, auto format could be activated or you can see the message which black-box needs to be formatted. When last file would not be closed properly by any situation, it would be closed properly on the next boot and restore the file so that it can be played normally. File is restored like this format [CH No. _ file index _ recording yearmonthday _ hourminsec _ msec _ filesize _ R.avi]

5.Firmware Upgrade

You can upgrade firmware by SD card. Please insert SD card which sz_firmware.img file is included and boot. Firmware upgrade is automatically stored and finished. Before finishing Firmware upgrade, you must not take out SD card from black-box or block the main power supply. You could face problems.

6.SD card

6.1-SD card detach

Please cut off the power supply. And check 12 V LED status. After 12V LED disconnection confirmation, you can remove SD card. Or press button 2 over 3 sec. Then you can take out the SD Card. During recording, you must not take out SD-card. It makes SD card data harm.

6.2-SD card spec.

You should use SD card below 32 GB over Class 6. You could use SD card below class 6, but problem could happen. So we can guarantee SD card which is given by us.

6.3-Components

Basic : black-box, Manual, Installation, Cigar-jack, Video Cable

Option: GPS Antenna, Rear camera, Rear camera cable

6.4 Viewer program

Exclusive viewer program could download in products S2 of webpage. (www.glosys.co.kr)

Homepage -> products -> S2 below screen, pc viewer, how to use product and viewer program.

6.5 Cautions

- Products should be located where driver's sight is not blocked.
- Video could be affected by tunnel, light from back direction, night time, rain, snow, dawn.
- Some video could be distorted when you are overtaken or car is passed.
- Operation during driving is prohibited. Manufacturer and distributor does not have any responsibility for damage or loss by inappropriate operation.
- Please do not put any different file in SD card only use for black-box.
- Warranty is a year after purchase.

6.6 Video Recording

Before accident 10 secs, after accident 20 secs, total Video of 30 sec is recorded.

6.7 A/S Center

Add : #510, Venture Valley, 958 , GosaekDong, GwonseonGu, SuwonSi, GyeonggiDo

Tel : 070-7562-1452

Email : as@glosys.co.kr

- 1) This product is a recording device during driving ,when there is an accident, we suggest that it is for reference. Video which is recorded does not have binding force. Also we are not responsible for damage and legal dispute by recording or not recording.
- 2) We only guarantee cigar-jack adapter which is offered by us.
 - A. This product is designed by using cigar-jack adapter. If you use constant power supply , you must consult and install power supply for specialist or shop maker.