

-< Oct. 15, 2010 >-

Mobile DVR - the Smallest, the Lightest

Digital Video Vehicle Recording Device - Black Box

- GPS, E-Map, Camera - D1, SD Memory Card -

--< Basic Features >--

- Our Mobile DVR does Continuous Recording of All Conditions of Cars (Vehicles) during Driving, Stopping or Event Occurrence (No Emergency Button required)
- Recorded Video can be played on PC, via TV-Out (Navigation, etc.) with D1 quality images.
- Voice On/Off free choice function allows Privacy protection to avoid legal dispute.
- Video / Voice information can be reviewed via Window Media Player, GOM Player, etc. However in case more detailed information is required, GPS data (time, location, speed), G-Sensor data (impact data, etc.) can be reviewed via our Viewer program.
- Real time recording & event recording (starting at the same time of driving) are our patented technologies, thus memory card life time is extended more than double.
- Based on the Know-how as a memory related storage developer, Optical Door Sensor has been adopted to avoid the Full System Errors generated during Data storage.

--< Functions >--

* Functions 1

- CAMERA
 - 1Ch, 640×480 (VGA Grade), 30Fps
 - View Angle : 83.9°(V)×103.1°(H)×120°
 - Sensor : 1/4" Digital CMOS
- GPS
 - Position/Route/Speed/Time information displayed through Built-In GPS
 - Google Map & Naver Map are linked for user convenience
- G-Sensor
 - Built-In G-Sensor, 3-Dimensional Impact Sensor
 - Recording of Collision (Shock) / Sudden Stop / Rapid Acceleration
- Recording Method
 - Continuous Recording of All Conditions, such as, Location / GPS Info. / Collision Graph / Voice, etc.
 - Recorded data saved per each 50MB(3min~4min interval)
 - Recording capacity: 2GB (2 hours), 4GB (4 hours), 8GB (8hours), 16G(16hours)
 - In case of the event occurrence, recording is done in the separate file with G-Sensor, in order to protect the saved file data.
 - Recorded Data can be protected from forgery via our Viewer program.
- Storage Memory
 - Micro SD/SDHC 2GB ~ 16GB
 - micro SD card 2GB(included as standard), Self-Viewer Installed
 - The Smallest, the Lightest products are realized.
 - SD Card is adopted - the most safe physically
 - : Complete water-proof, Fault rate reduction.

** Functions 2*

- TV Output

- TV-Output Terminal connects to Navigator using cable
- Basic Set-up & Recorded File Playback Function via Navigator
- Camera Images Real Time Display : Start-up Location Set-up Function
- System Information : Firm-ware version, Micro SD card capacity info.
- Recorded video review : Display of Reviewing day/month/year, List up
- Micro SD card format & Initialization
- Built-in player installed

- MIC

- Built-In mike records real time conditions
- Mike recording ON/OFF selection function (check easily with LED)
=> Privacy protection

- SPEAKER

- Warning sound, Activation Sound, etc. (until normal Set-up time)
- Warning sound for **misplaced Memory Card, Sliding door opening for card fault protection**

- DISPLAY

- 3ea LED Display (REC, GPS, MIC ON/OFF)
- LED flickering if Power ON --> LED ON when recording
- LED is ON when Voice Recording is ON
- LED ON for GPS Connection

- SWITCH

- Δ(Up) : Up, Rec, ▽(Down) : Down, mike recording ON/OFF
- Mode : Menu, Set-up
- ESC : Exit, Previous menu, On/Off, TV-Out

--< Image Features >--



--< Applications >--

- Bus (Express Bus, City Bus, etc.)
- Passenger Car,
- Transport Vehicle,
- Truck
- Military, Tank, etc.
- Police Car, etc.
- Subway,
- Airplane, Vessel, etc.
- Office, etc.

Since our Mobile DVR is so small & economical, it is installed even at the bicycles together with the portable battery pack as follows :



Car DVR - the Smallest, the Lightest

Digital Video Car Recording Device - Black Box

- GPS, E-Map, Camera - D1, SD Memory Card -

--< Specifications >-- ~(Model : MDS-103)~

MDS-103	DESCRIPTIONS
SIZE / WEIGHT	1.06"×1.06"×2.13" (27mm × 27 × 54) Body : 35g, Cradle : 24g
Camera	1Ch., VGA(640×480), 30fps View Angle : 83.9°(V)×103.1°(H)×120° Sensor : 1/4 inch Digital CMOS
GPS	Internal GPS Module
MAP support	Google MAP, NAVER MAP
G-Sensor	Internal G-Sensor (3 Axis Dimensional Impact Sensor)
Data Storage	micro SD (2GB standard), micro SDHC Card (4GB ~ 16GB)
Video Compression	MPEG-4
Recording	Continuous Rec., Events Rec.(Shock, Event), Self-Viewer Program Download
Cradle	Left/Right 360°, Up/Down 180° - Adjustable
Audio/TV-output	Built-In mike (ON/OFF), Built-In Speaker, TV output
LED Display	Green --> Voice Recording, Red --> REC., Blue --> GPS
Power	DC 12 ~ 24V, Cigar Jack Cable, Compatible with all vehicles

--< *Images* >--

- (*Scope of Supply*) -



Body



Stands



Cable Clips



Siga jaek Cables



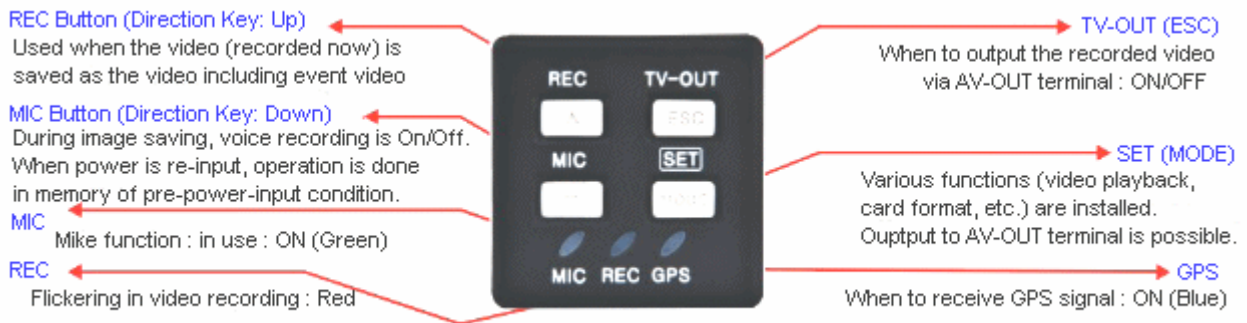
Gender



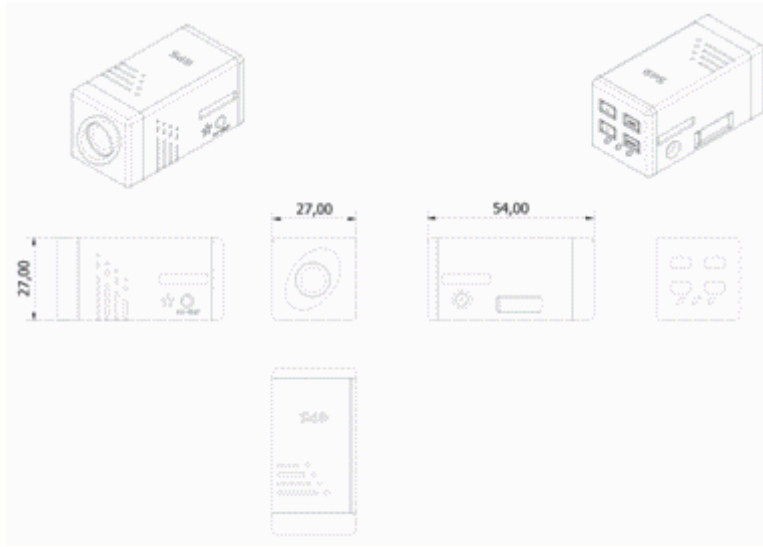
Micro SD Card Adapters

- Micro SD Card
- Drive Recorder
- User Manual

- (*Rear Panel Functions*) -



- (*Dimensions*) -



Mobile DVR - the Smallest, the Lightest

Digital Video Car Recording Device, Black Box

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--< Specialties >--

- Smallest & Lightest size ever Globally
- GPS / RTC + G-Sensor (RTC: Real Time Clock)
 - a) Mobile use : GPS + G-Sensor
 - b) Economical : RTC + G-Sensor (CCTV purpose, too)
- Micro SD 2GB included as standard
- Data protection during Video Recording
- Dedicated Viewer program, Google earth map
- Continuous Recording (Over-Writing),
- Event Recording

Advantages 1

- World's Smallest/Lightest
 - 1.06" x 1.06" x 2.13" (27mm x 27mm x 54mm)
 - Flexible PCS used for smallest space acquisition
 - No space, No sight disturbance for the Driver during the driving
- Continuous / Event Recording (Patent)
 - Continuous Recording on driving (each 40~50Mb / 3~4 min.)
 - Event occurrences are managed with separate files, in order to get prompt confirmation.
 - By Data Recording Method (Patent), memory card life time is extended and fault rate is reduced.
 - ☞ Real time continuous/event(accident) recording : memory life time is extended more than double compared with other products.

- **Faulty Data Protection System (Patent)**
 - Sliding Door Optical Sensor installed for micro SD card Protection
 - File system error protection from sudden detach of memory card in the middle of video recording.
 - ☞ Many other maker's products can not protect their Key-evidences. (very often evidence data are lost for their products)
 - *--> Even if Memory card is taken out during Recording, Memory Card does not become faulty or damaged.
- **Micro SD Card**
 - Among recording media, we adopted micro SD Card which is physically most safe.

Advantages 2

- **Privacy Protection Function**
 - Built-In mike installed, Privacy protection by ON/OFF selection button.
 - ☞ Protect recording of vehicle passenger's phone conversation contents.
 - ☞ Protect recording of vehicle guests' mutual conversation contents.
- **GPS & G-Sensor equipped -- Linked with Google Map & Naver Map**
 - Via dedicated Viewer, playback of recorded data, data forgery protection.
 - Via GPS, the driving position, route & time can be checked together with Map & Satellite photo.
 - With G-Sensor, the impact data are recorded in separate file, to protect the data lost.
 - ☞ GPS & G-Sensor are the basic requirements of black box (Whole World local time applied)
 - ☞ Beside our dedicated Viewer, operation is also possible at Win. Media Player.
- **Convenient setup of the setting values**
 - Easy Viewer setup on PC & easy setup thru TV-Out terminal.
- **Anti-Vibration & Anti-Impact Design**
 - Flexible Type PCB is used instead of Connection type.
- **Cradle (Support Brackets)**
 - Adjustment : Left/Right 360°, Up/Down 180° : Best convenience for installation
 - ☞ Realization of the highest completion, capable to be installed at any location.
- **Back-up Power**
 - 5~10sec. of additional recording & then safely power off, in case the vehicle power is cut-off.

New Updates

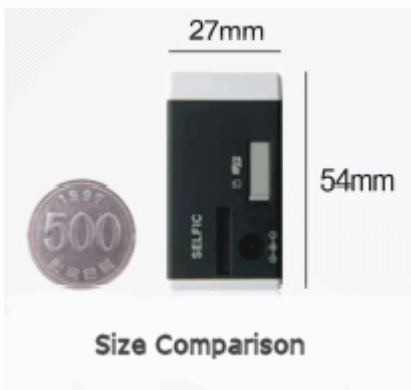
- **Error Extraction function -(Self Diagnostics Function)-**
 - In case Memory Card is empty (not inserted) or is not correctly inserted.
 - In case Video can not be recorded into Memory Card.
 - In case Memory Card is faulty ones.
 - *--> In the above cases, Alarm occurs continuously until the User knows it and do Countermeasures.
- **Google Earth support (KML File support function)**
 - Present Co-ordinates values (Latitude & Longitude)
- **GPS Data Extraction function**
- **Summer Time Setting function**
- **Snapshot Function**

- Power Consumption : Less than 1W

Continuous Recording Time

- 2GB : 2-3 Hours
- 4GB : 4-5 Hours
- 8GB : 8-10 Hours

--< Images on Specialties >--



Built-in Mike
- On/Off Free Choice -
(Privacy Protection)



Vehicle DVR - the Smallest, the Lightest

Digital Video Vehicle Recording Device - Black Box

- GPS, E-Map, Camera - D1, SD Memory Card -

--< Programs >--

-(SOFTWARE-A)-

Shock detection via G-Sensor, ENENT recording

FILE List

- Continuous recording file including EVENT
- Normal continuous recording file

MAP

- Position check thru Satellite image & MAP
- Google Map & Naver Map liked

-(SOFTWARE-B)-

User easily setup Setting Value

Use Cigar Jack Power

Install Any Place Okey (Up/Down, Left/Right) (Left/Right 360°, Up/Down 180° Adjustable)
The Smallest, so Driver's view is not interrupted

Recording Error protection Door Sensor (Patent) – Unique function than others

-(Satellite Image & Map Linkage)-



- Without GPS, no more Black Box -
- Complete connection with Google Map, Naver Map -
- GPS local time applied for World anywhere -

-(GPS + G-Sensor installed)-

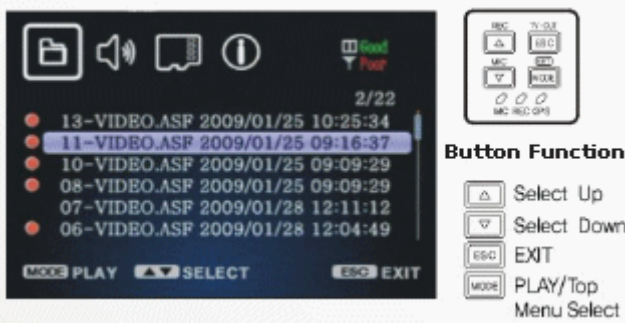


- Data lost, don't worry! -
- Shock detectable G-Sensor will save all accident records -
- By G-Sensor, 3D impact detection, separate file recording 3D (X,Y,Z Axis) -

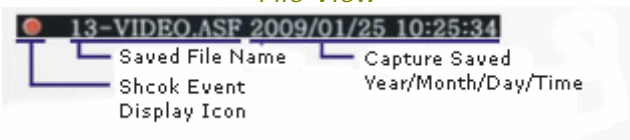
-(Built-in Software Using Method)- -(Setting Method - File Playback)-

- Playback function of the Saved file (at memory card), thru video terminal.

- Playback Screen -



- File View -



- Recording Method -

- Continuous recording (All conditions : Position, GPS info., Shock graph, Voice, etc.) -
- Save per 50MB unit (3~4 min.) -
- Saving time : 2GB (2 hours), 4GB (4 hours), 8GB (8 hours), 16GB (16 hours), etc. -
- If Event happens, by G-Sensor, saved in separate file, saved file protection function -