



Car Black Box

Innovative Personal Driving Recorder

GPSDvr M9 GPS

Dual Camera Driving Recorder

User Manual



This manual is for both M9 Standard and M9 GPS model. M9 Standard does not have GPS module inside. All GPS related functions will not be working in M9 Standard model. Please check your model name before use to avoid any confusion

■ Warranty and Responsibilities

- This M9 recorder may not record all events, incidents, or accidents. It is not guaranteed.
- Any loss of data shall not be the responsibility of the manufacturer.
- In case of accident, the sensor may not recognize the shock if the impact is too light. And as a result, M9 recorder may not begin event recording automatically.
- When the Micro SD is not connected properly with M9, recording functions may not be working.

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1. Before using SIV Recorder

Please read the following instructions carefully to use the product properly and protect the user's safety.

1. Do not disassemble, repair, or alter the product. When malfunctions, error, or other accidents are found to be attributable to a user, a user may not be eligible for warranty service.
2. In case of smoke or burning smells, unplug the power cable immediately.
3. Do not spray water directly on to the device. It may cause damage, fire or electric shock.
4. Keep the device away from chemicals or detergents as they may change the surface of the camera and damage the device.
5. Avoid excessive impact and do not insert any foreign object into the device. It may cause damage to the device.
6. When a foreign materials or sticker blocks the lens, a normal operation is not possible. Please keep the lens clean and clear. Also, when other objects are placed around the camera, they may be reflected on the window and included in the video images. Please do not leave unnecessary objects around the device.
7. Make sure the camera is installed tightly and do not move the device after installation. And do not impact excessive shock to the product.
8. Make sure to use power cable provided in the package. Other power cables may cause damage to the product, fire or electric shock
9. Do not control or operate the device with wet hands. It may cause electric shock.
10. When a vehicle is parked, make sure to unplug the power cable of the device. Vehicle battery may be discharged.
11. Do not operate device while driving.
12. In extreme cases like when a vehicle enters or exit a tunnel with sudden change of light, when the light is too strong or when there is no source of light, recorded image may not be satisfactory condition.
13. If the windscreen of the car is tinted; recorded image may be poorly defined or distorted.
14. Some accidents with very low shock or impact may not be recorded automatically
15. If the power supply was disconnected by huge scale or accident; the event may not be recorded.

1. Before using SIV Recorder (Cont.)

- Understanding of GPS

1. GPS which is used for commercial purpose inherently has the average range error of more than 15 meters. Near buildings, underground, underpasses, or roadside of trees, the range of error may be more than 100 meters.
2. GPS signal reception may take a few minutes. This may vary depending on weather and other environmental conditions

2. Package Information

Please check if the following components are included in your package. If any item is missing or an incorrect item is included, please contact local store where you purchased the product.



SIV M9 / M9 GPS



Vehicle Power Adaptor



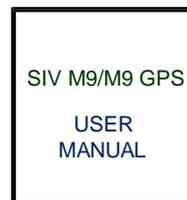
Cord Fitting Kits



Micro SD



Micro SD Reader



User Manual



Installation CD

3. Parts of SIV Recorder



1. Front Camera: 0.3M Pixel CMOS Lens
2. Angle Adjustment: Turn camera angle up to 230 degrees
3. Micro SD Slot: Input Micro SD to record
4. Privacy (Short Press): Turn on/off MIC (Audio Recording)
5. Internal Cam Off (Long Press): Turn on/off internal camera
6. Manual Recording (Short Press): Start event recording manually
7. Parking Mode Recording (Long Button): Start Parking mode recording
8. Power: Connect vehicle power cable
9. LED Lamp: Indicator of M9 status
10. Bracket: Attach the bracket in front window
11. Rear Camera: 0.3M Pixel CMOS Lens with 6 Infra Red

4. Main Features of SIV M9

Continuous Recording

M9 provides dual channel simultaneous recording in maximum speed of 16 fps (front) and 6 fps (rear) with 120 degree wide camera angle. When recorded data gets full, it overwrites new data as deleting from the oldest data.

Event Recording & Manual Recording

As vehicle experiences hard breaking, sudden acceleration, or collisions, internal 3D gravity sensor catches it and triggers event recordings. It can store up 50 event recording files and it overwrites when event data is full. User also can force to trigger sensor recordings by manual recording button and it can store another 20 manual recording files.

Parking Mode Recording

As for vehicle surveillance while in park, user can set parking mode recording. When parking mode is triggered, it lowers recording speed for longer recording time. To use parking mode recording, M9 power should be connected to car battery directly. **Please be aware that frequent usage of parking mode may occur battery discharge of the vehicle.**

Event Information

M9 keeps g-sensor data which were triggered by hard breaking, sudden acceleration or collisions. User can view g-sensor graph in M9 Viewer program.

Audio Recording

M9 record audio data with internal microphone. User can disable microphone through external button or manager setup for privacy.

Viewer Program

M9 viewer program provides video and audio playback of recorded file. User can view video footages with time & location information. If necessary, user can also capture or print the images while playback.

User Settings

User can adjust own setting through viewer programs.

GPS Tracking Program

M9 GPS tracking application provides various driving information (Path, Speed, Time). User can save or load data if necessary.

5. Installation

- For better performance & safety, Please install M9 as following instructions

1. Insert Micro SD Card

- After open memory card slot, please insert Micro SD card until it connects. Before insert Micro SD, Check proper position of card insert.

2. Connect Bracket

- Connect bracket with M9. Make sure M9's screw meets front side of bracket and push in backside until hear 'click' sound.

3. Attach M9

- Adjust angle knob in proper position and attach tape of bracket onto front window. **Be aware to keep clear view for camera and detach lens cover. When lens is covered, it may not record clear images.**

4. Power Cable

- Attach cord fitting kits in proper position and clip in power cable.

5. Connect Vehicle Power Adapter

- Connect vehicle power adapter to cigar power socket. **Make sure to use enclosed power cable. Otherwise, it may cause malfunction.**

6. Connect Power

- After connect power to M9, please start your vehicle. If M9 was installed properly, LED indicator will be turned on with voice message. A few seconds later, M9 starts recording as Red or Blue LED blinks.

6. M9 Operation

Status	Operation	Functions & Messages	
Power On	Power On	Starts continuous recording	Buzzer Bell & 'WELCOME'
Angle Adjustment	Adjust with Knob	Adjust Camera Angle	N/A
Event Recording	By G Sensor	Saves to Event Recording Folder	'EVENT'
Manual Recording	By Manual Button (Short Press)	Saves to Manual Recording Folder	'MANUAL RECORDING'
Privacy (Audio)	By Privacy Button	ON – RED LED Blinks OFF – BLUE LED Blinks	'AUDIO OFF' 'AUDIO ON'
Privacy (Internal Cam)	By Privacy Button (Long Press)	Internal Camera Turned On Internal Camera Turned Off	Internal Camera On Internal Camera Off
Parking Mode	By Manual Button (Long Press)	Parking Mode ON/OFF On–LED Blinks Slower-Rec. in Low fps Off–LED Blinks Faster–Back to Original	'PARKING MODE ON' 'PARKING MODE OFF'
Power Off	Disconnect Power Or Turn off vehicle	Need time to run out internal battery. (Approximately 5 seconds)	
No Memory Card		'INSERT SD CARD'	
Memory Card Error		'CHECK SD CARD'	
Firmware Update		<ol style="list-style-type: none"> 1. After format memory card, please save update file in memory card. 2. Insert memory card. 3. Power is on, LED blinks and message 'START UPDATING' will appear. 4. Upgrade is done, the message 'UPDATING COMPLETED' will appear and beeps until power is off. Then, please disconnect power. 5. After 30 seconds, restart M9 and it starts recording with new firmware. 	

7. Operations & LED Indications

1. Power Connect

- When power is on. Guide message comes out and LED blinks.
- LED: PURPLE RED or BLUE BLINK

2. Starts Recording

- After guide message & LED blinks, M9 boots in a few seconds. M9 starts continuous recording with RED LED blinks and there is no recording before RED LED blinks.
- LED: RED or BLUE BLINK

3. Event Recording

- When vehicle experiences hard breaking, sudden acceleration or collisions, the internal gravity sensor triggers event recording while indicating in LED.
- LED: RED BLUE RED BLINK in rotation (After save finishes in EVENT folder)

4. Privacy Button (Audio)

- For privacy, user can turn off microphone and it indicates by LED.
- LED: BLUE BLINK. If microphone is on, it blinks to RED.

5. Event Recording while Privacy

- Even if microphone of off, the internal gravity sensor triggers event recording while indicating in LED when vehicle experiences such moments.
- LED: BLUE RED BLUE in rotation (After save finishes in EVENT folder)

6. Manual Recording

- Even in normal conditions, user can force sensor to trigger by manual button and manual recorded file is saved.
- LED (Audio On): RED BLUE RED in rotation. (After save finishes in MANUAL folder)
- LED (Audio Off): BLUE RED BLUE in rotation. (After save finishes in MANUAL folder)

7. Parking Mode Recording

- Regardless of original recording speed setting, M9 lowers recording speed to 10 frames per second so that it keeps longer recording data when vehicle is parked. Parking mode recording is indicated by LED and it can be turned off by parking mode button.
- LED (Audio On): RED LED BLINK Faster Slower Faster (Parking Mode Off)
- LED (Audio Off): BLUE LED BLINK Faster Slower Faster (Parking Mode Off)

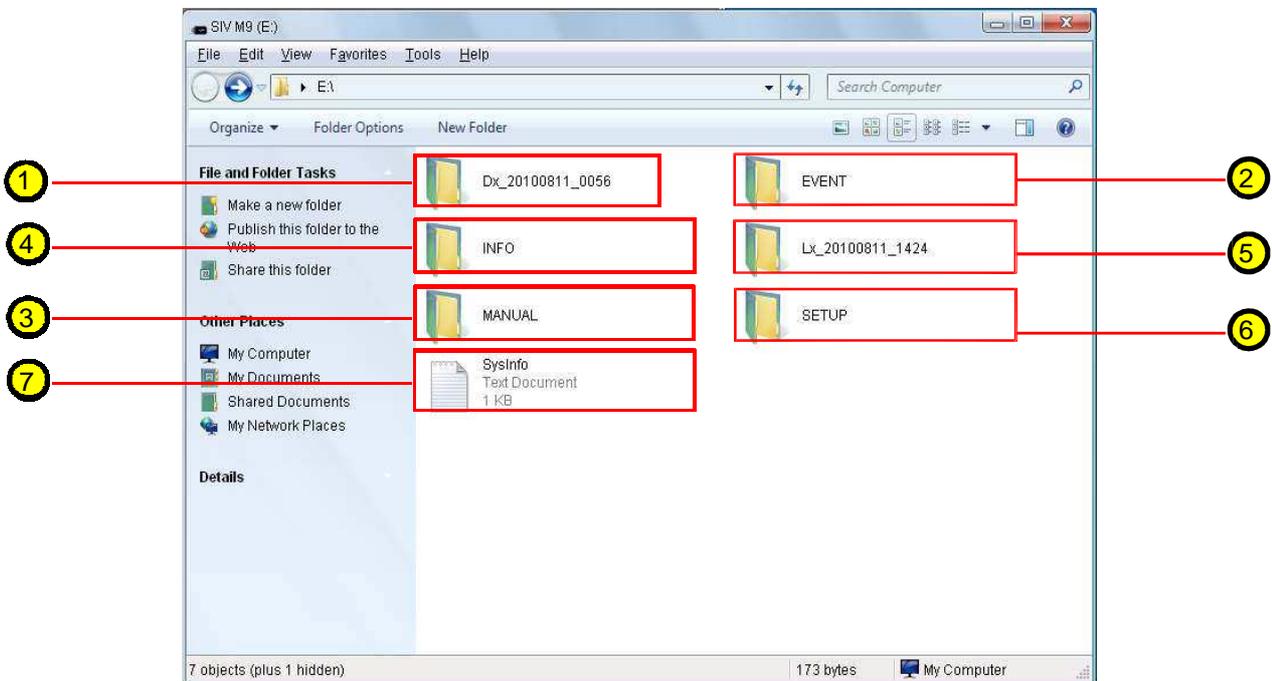
8. Privacy Button (Internal Camera)

- For privacy, user can turn off internal camera by external button.
- LED: Voice Message Only.

7. Operations & LED Indications

Status	Guide Messages	LED Color   		
		Purple	RED	BLUE
Power On (Start Recording)	'WELCOME'			
Continuous (Audio On)	'AUDIO ON'		 BLINK	
Continuous (Audio Off)	'AUDIO OFF'			 BLINK
Internal Camera On/Off	'INTERNAL CAMERA TURNED ON' 'INTERNAL CAMERA TURNED OFF'			
Boot Error (Data Error)	'PLEASE REBOOT THE SYSTEM'			
No Memory	'INSERT SD Card'			
Memory Error	'CHECK SD CARD'	 BLINK		
Event (G-sensor)	'EVENT'		 <->  In Rotation	
Manual (Manual Button)	'MANUAL RECORDING'		 <->  In Rotation	
Parking Mode	'PARKING MODE ON' 'PARKING MODE OFF'		 -  RED or BLUE SLOWER BLINK	

8. Storage Card



1. Continuous Recording Folder

- Indicate as 'Dx_YYYYMMDD_HHMM'. Each recording is 1 minute footage.
- Only stores continuous recordings

2. Event Recording Folder

- When event has occurred, video footage automatically moves to Event folder.
- Event trigger period is 30 seconds. (1min file contains 30 seconds of event footage)
- If event occurs in beginning or end of each clip, it moves two files to Event folder.

3. Manual Recording Folder (Forced Event)

- When manual record is triggered, video footage automatically moves to Manual folder.
- Manual trigger period is 30 seconds. (1min file contains 30 seconds of manual footage)
- If manual occurs in beginning or end of each clip, it moves two files to Manual folder.

4. INFO

- Provides date, time, G-Sensor, GPS information of each event file.

5. GPS Log Data (For M9 GPS Only)

- Indicate as 'Lx_YYYYMMDD_HHMM'. Each data file contains 10 mins of GPS data.
- It can store up to 70 hours of GPS Data

6. SETUP

- Saves user settings in M9 manager program. (System file Only. Do not adjust or delete)

7. SYSTEM

- Indicates M9 Firmware Information & Time Zone (System file Only. Do not adjust or delete)

9. Using Micro SD

1. Insert Micro SD

- Insert memory card before power on.
- Before insert, please check proper insert position of Micro SD. (Refer to Guide Image)
- Insert Micro SD until it is completely connected to slot.
- Close memory card cover, and turn on power. Please check LED.

2. Memory Card Usage

- Please use enclosed memory card or use proper memory card indicated below.
- Usable Memory: 4GB/8GB (Class 6. Class2&Class6arenotpermitted)
- Suggested Memory: 4GB / 8GB (Class 6 or better)
- Suggested Memory Format: FAT32 / 32K

3. Awareness of Memory Card Usage

- If memory card is not completely connected to slot, it may not operate properly and cause malfunction.
- Please do not touch metal part (connector) of Micro SD
- Please use memory card exclusively for driving recorder. Do not save other files in memory card. It may not operate properly and cause malfunction.
- Please use official licensed Micro SD product. If it is not an official licensed, it may not operate properly and cause malfunction due to compatibility issue. If proper memory is not operated properly, please contact your local retailer.

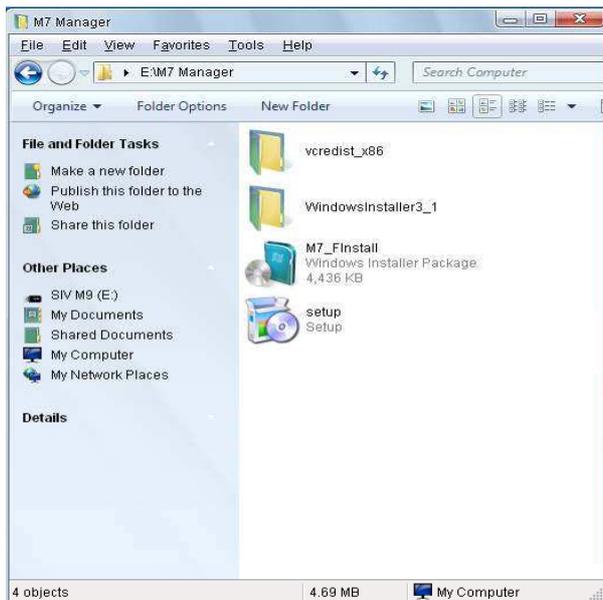
4. Recording Time Data

- This is recording time data of each memory capacity.
- This is reference data only. It may not be correct in all occasions.
- The data result may vary, and it depends on environmental condition.

Memory Capacity		4GB	8GB
Recording Time	High Image Quality	Appx. 4 hrs	Appx. 9 hrs
	Normal Image Quality	Appx. 6 hrs	Appx. 13 hrs
	Low Image Quality	Appx. 9 hrs	Appx. 19 hrs
GPS Date Storage		10 Min x Max. 420 files = Total 4,200 mins (Appx. 70 hrs)	

10. Install PC Player

- User can view video footages & GPS data through SIV Manager or SIV Tracker Applications.
- Recording file is MP4 format. User can also view in other Media Players or Smart Phones.



1. Install SIV Application

- Please open M9 Application folder in CD and run **setup.exe**.
- SIV Manager Viewer & SIV Tracker Application will be installed together.

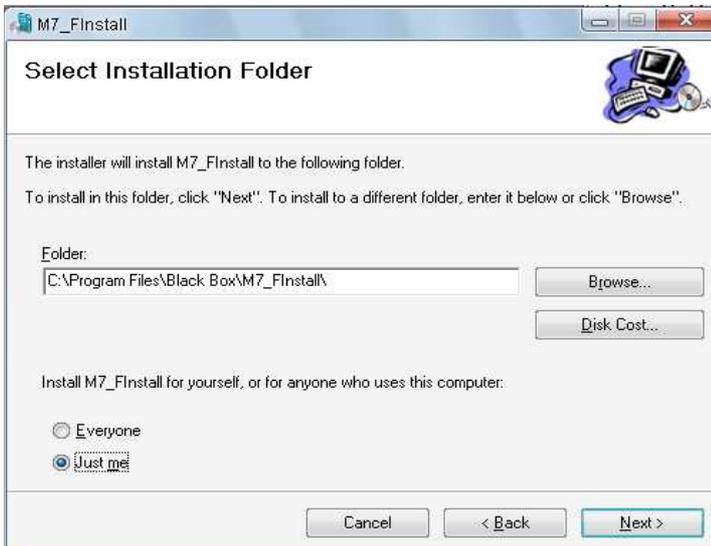


2. SIV Application

- Install M9 Application

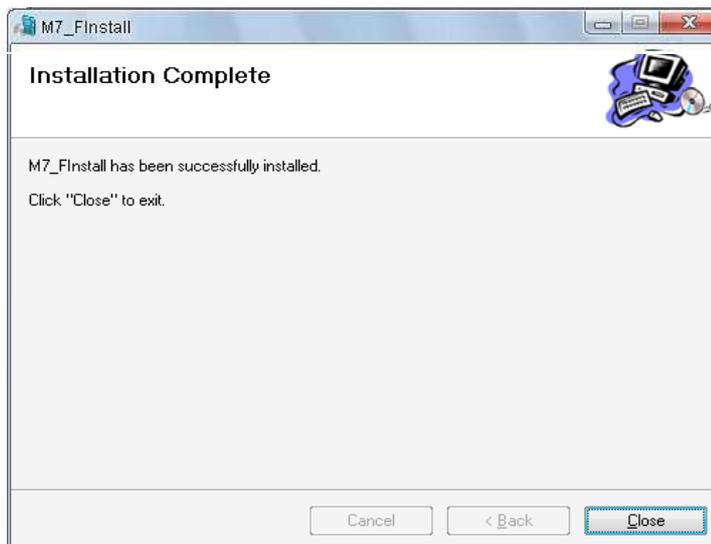
(If user's computer doesn't contains necessary codec files for M9, it automatically install other codec files in prior to install M9 applications)

10. Install PC Player



3. SIV Application Folder

- Please indicate folder for SIV Applications
- Simply click 'Next' to automatic folder indication.



4. SIV Application Installed

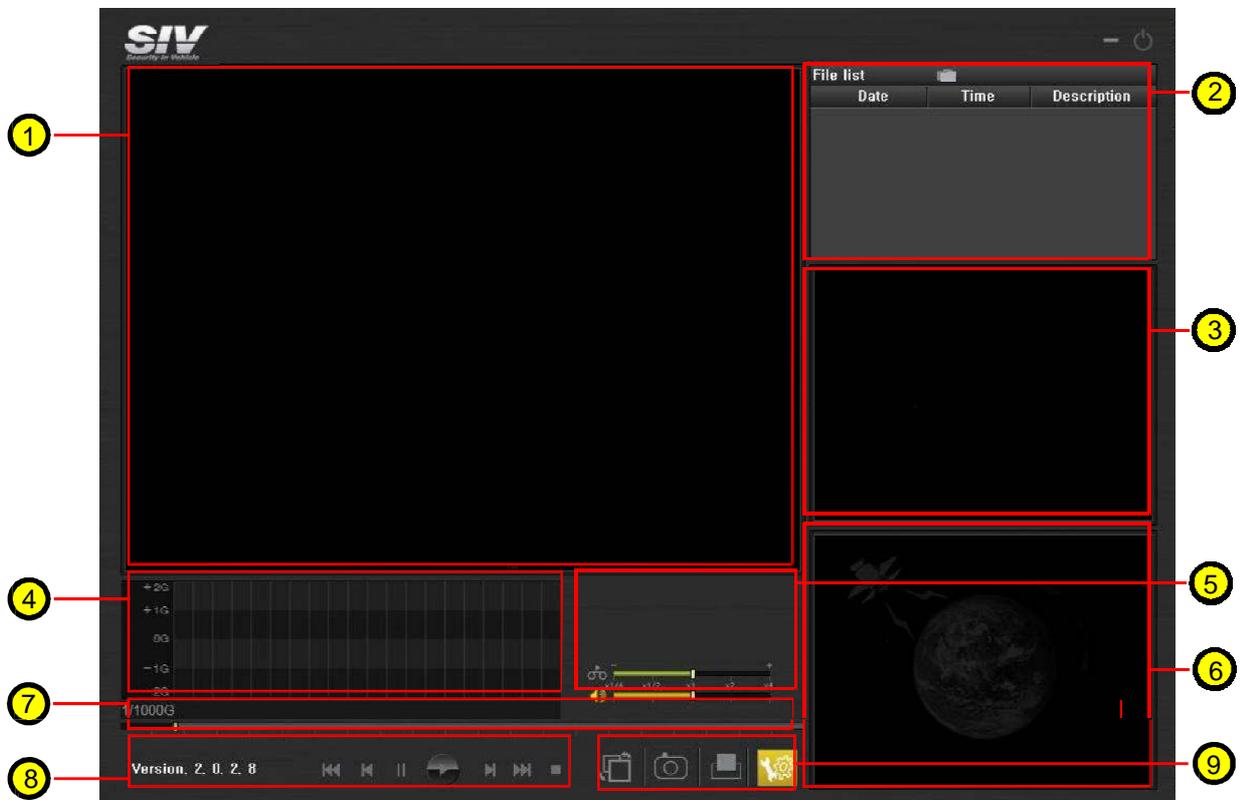
- Click 'Close' to finish installation.
- 'SIV Manager' & 'SIV Tracker' shortcut is installed in main screen.



5. Shortcuts

- Shortcuts of SIV M9 Application

11. SIV Manager



- User can view recorded video footages through SIV manager program. Besides watching video clips, user can set own setting of M9 and also view map data indications via Google map.

1. Main Screen – Shows recorded footages from front camera
2. File List
 - Organize recorded files in list by time order.
 - Shows Date, Time, Description of Recordings (Continuous , Sensor , or Manual)
3. Sub Screen – Shows recorded footages from internal camera.
4. G-Sensor Graph – Shows G-Sensor value while driving.
5. File Info, Playback Speed, Volume Control
 - Shows each files information (date, time, GPS data)
 - Control playback speed (x ¼, , x ½, x1, x2, x4)
6. GPS Data – Shows GPS data via Google Map (Not available in M9 No GPS)
7. Play bar – Indicates current playback file

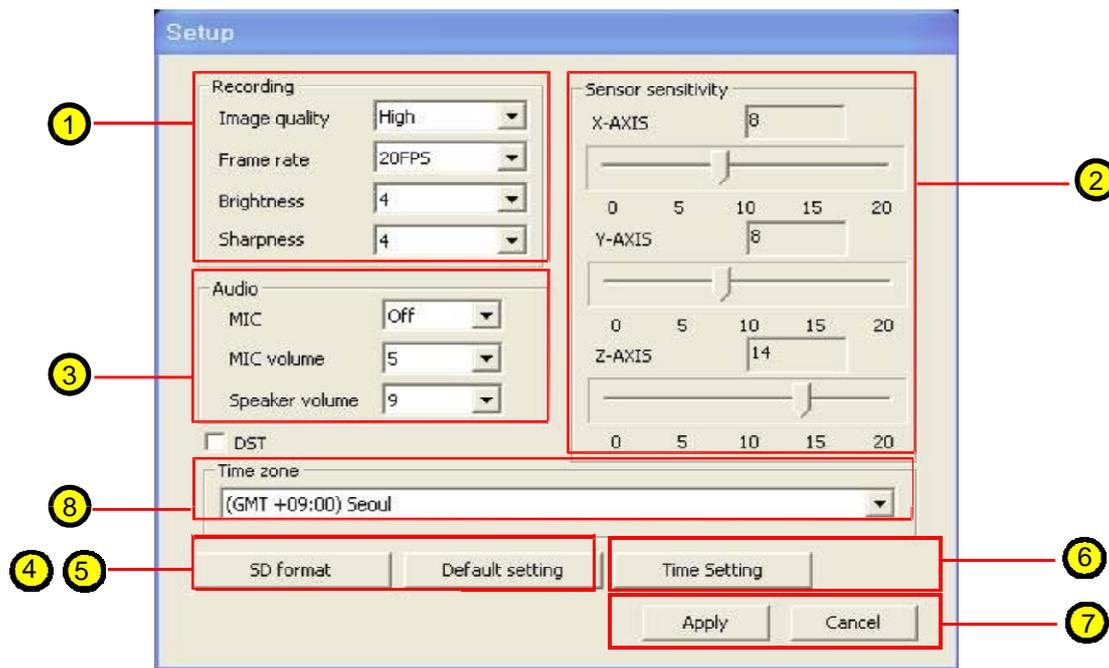
11. SIV Manager

8. Playback Control

- Previous File, Next File, Playback, Pause, Frame Playback, STOP

9. Capture & Settings

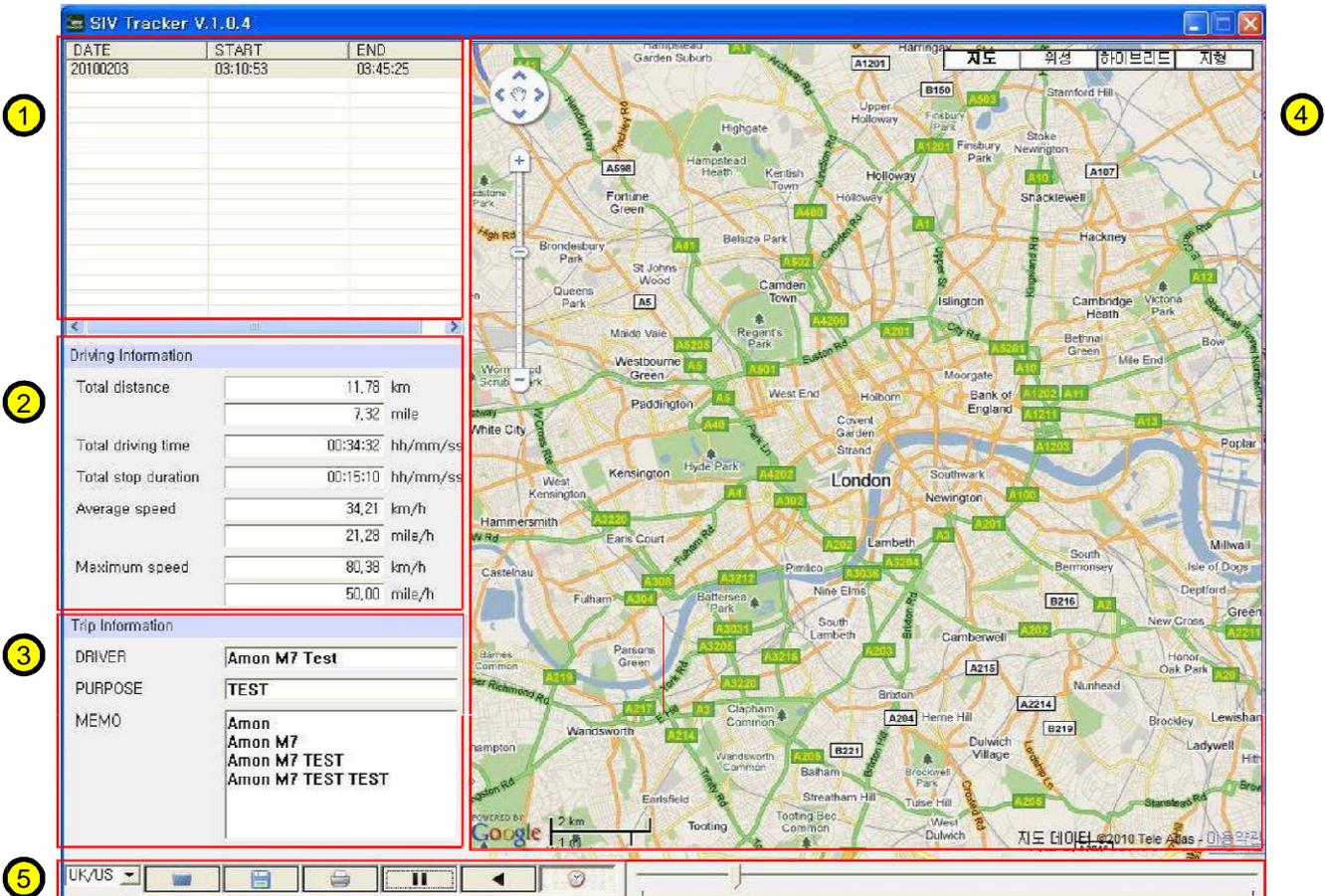
- Main-Sub Screen Swap, Image Capture, Image Print, User Settings



- Through user setting page, user can set up M9 setting for their convenience. Click 'User Setting' button and select memory card driver.

1. Recording Setup – Image Quality, Recording Speed, Image Adjustment
2. G Sensor – Adjust Sensor Sensitivity (X-Right/Left, Y-Front/Back, Z-Up/Down)
Default Setting (4, 4, 7) / Suggested Setting (8, 8, 15)
3. Audio Setup – Mic On/Off, Mic Volume, and Voice Message Volume
4. SD Format – Format SD card to correct format method
5. Default Setting – Back to first settings
6. Time Sync – Synchronize time with connected computer.
7. Apply/Cancel – After set, Apply to save settings.
8. Time Zone & DST
 - Choose correct GMT location to receive correct GPS time data
 - If the country using Day Light Saving Time, check DST box

12. SIV Tracker



- SIV Tracker loads GPS data in M9 and shows various driving information via Google map. It shows driving path, distance information, speed information (Not available in M9 No GPS)

1. File List – Shows GPS data by date.
2. Driving Info – Through GPS data, it provides various information of driving. (Total distance, Total driving time, Total stop duration, Average speed, Maximum speed)
3. Trip Info – User can take notes (memo) for each trip data.
4. Map – Shows driving path & time data via Google map.
5. Control Buttons – Controls SIV Tracker. (Languages, Data Open, Save Data, Data Print, Playback, Pause, Backward Playback, Time Balloon)

To Open File - Click 'Open' and choose GPS Log data folder in memory card.

To Save File – It is saved as (***.siv), and user can run (***.siv) file after saved.

To Print File – User can print current opened file's information & driving path.

13. Specification

Specification		
CPU	Chipset No.	MV8652
G-Sensor	Internal 3D G Sensor	3-Axis (Acceleration, Breaks, Collisions & Impact)
GPS	Internal GPS	Non-Directional GPS Signal Receiver
Camera	Sensor	CMOS
	Lens	High quality precision lens
	Resolution	640 x 480
	Angle	67.2°(V) X 89.8°(H) X 120°(D)
Audio	Sensitivity	Front Camera 0.8 Lux / Rear Camera 0.0 Lux (w. IR)
	Speaker	Internal Speaker
Audio	Privacy Mode	By External Button
	Inbuilt Memory	Nand Flash
External Memory	Micro SD	4GB ~ 8GB (Class 6)
Power	Rated Voltage	12-24V 300mA
	USB Device	5V
	Adapter	Cigarette power adaptor
Features		
Recordings	Format	H.264 (Mpeg4 Pt.10)
	Resolution	VGA (640 x 480)
	Recording Speed	High (16fps/6fps), Normal (8fps/3fps) Low (5fps/2fps)
Audio Recordings	Format	AAC
	Bitrate	128kbps
Recorded Files Information	No. of Recordings	* Event Recording (Overwriting) : Max. 50 files * Manual Recording (Overwriting) : Max. 20 files * Continuous Recording (Overwriting) : Various due to Capacity * GPS Data Storage: Max. 70 hours
	Recorded File Info (30fps, High Quality)	•Continuous/Event/Manual Recording Time: Appx. 60 seconds - Pre-Event 15 sec / Post-Event 15 sec - 1 min recording file contains 30 seconds of event/manual footage - If event occurs before/after 15 seconds of each clip, it stores two files into event or manual folders. * Continuous/Event/Manual Recording File Size: Max. 15MB
	G-Sensor Sensitivity	Depends on User Setting
	Parking Mode	* Records in low recording speed. * Image quality is not affected in Parking Mode