

English

# Vehicle-Guard™

Bus, Taxi, Truck, School Bus, Ambulance  
SG-V100 / SG-V200

## MANUAL





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## MANAGER SOFTWARE

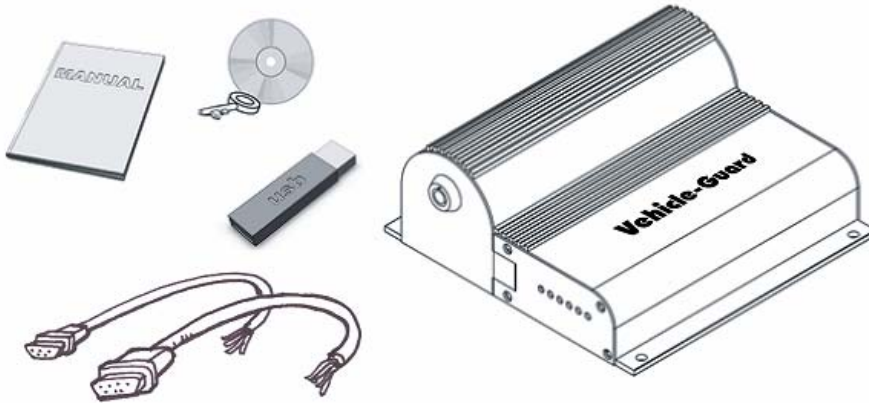
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## GETTING READY

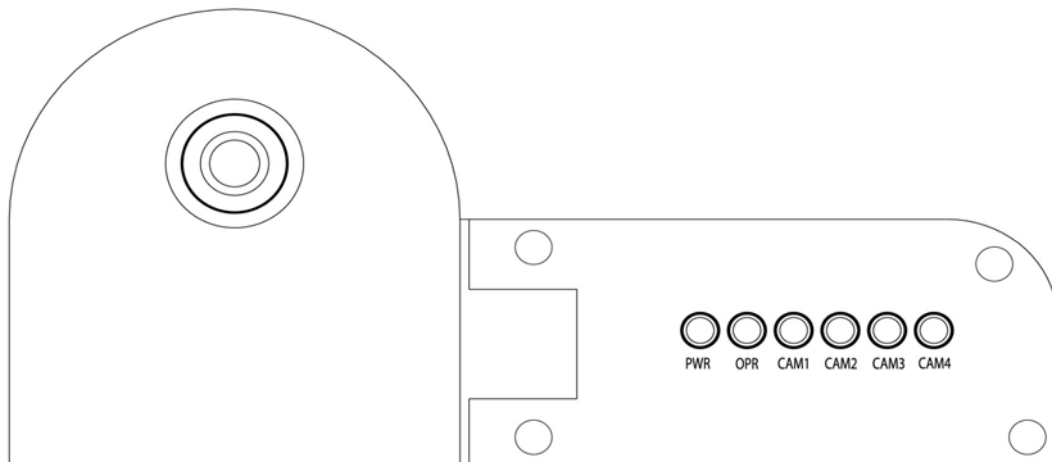
1. **Package Contents** : DVR Unit, Key, Software CD-ROM, Manual, 8GB USB Flash Memory



## 2. Part Names and Connections

### PART NAMES





\*Front View



### Status Lamps

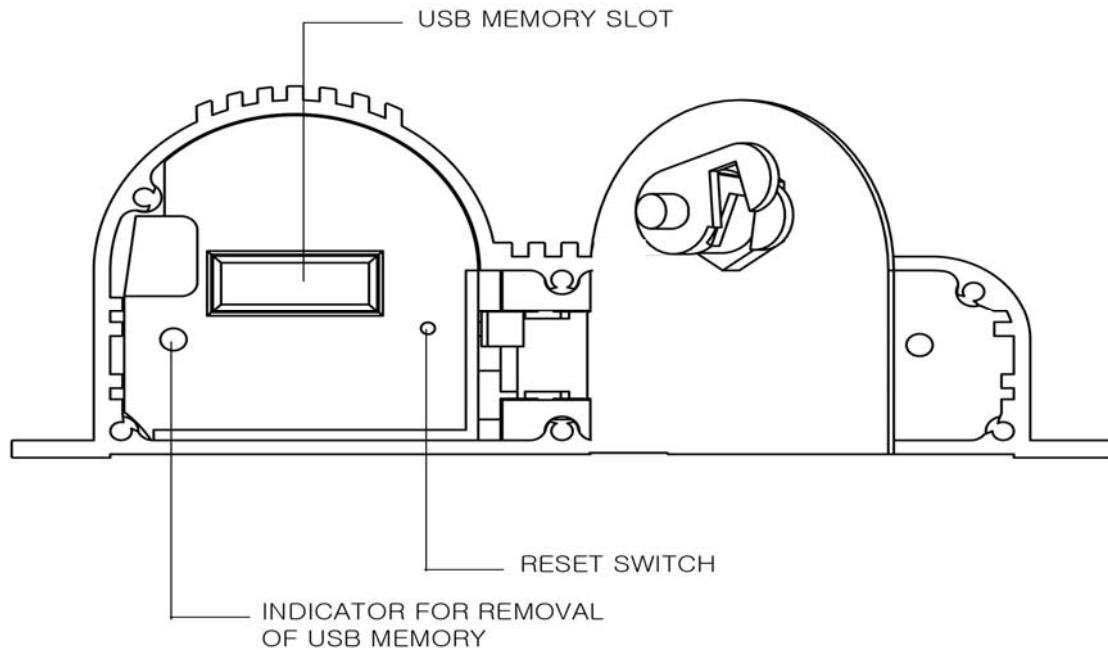
PWR: Green Lamp is lit when 12V or 24V power is connected

OPR: Green Lamp indicates whether the device is functioning properly.

-  CAM1 Green Lamp is lit when a camera is connected to Camera Input Port 1
-  CAM2 Green Lamp is lit when a camera is connected to Camera Input Port 2
-  CAM3 Green Lamp is lit when a camera is connected to Camera Input Port 3
-  CAM4 Green Lamp is lit when a camera is connected to Camera Input Port 4

\*The brightness of the Camera Status Lamps changes depending on how bright the image being recorded by each camera is. If you make the camera come close to an object and the color of the lamp changes, then the camera is properly operating.

**\*View you see when you open up the Door Lock**



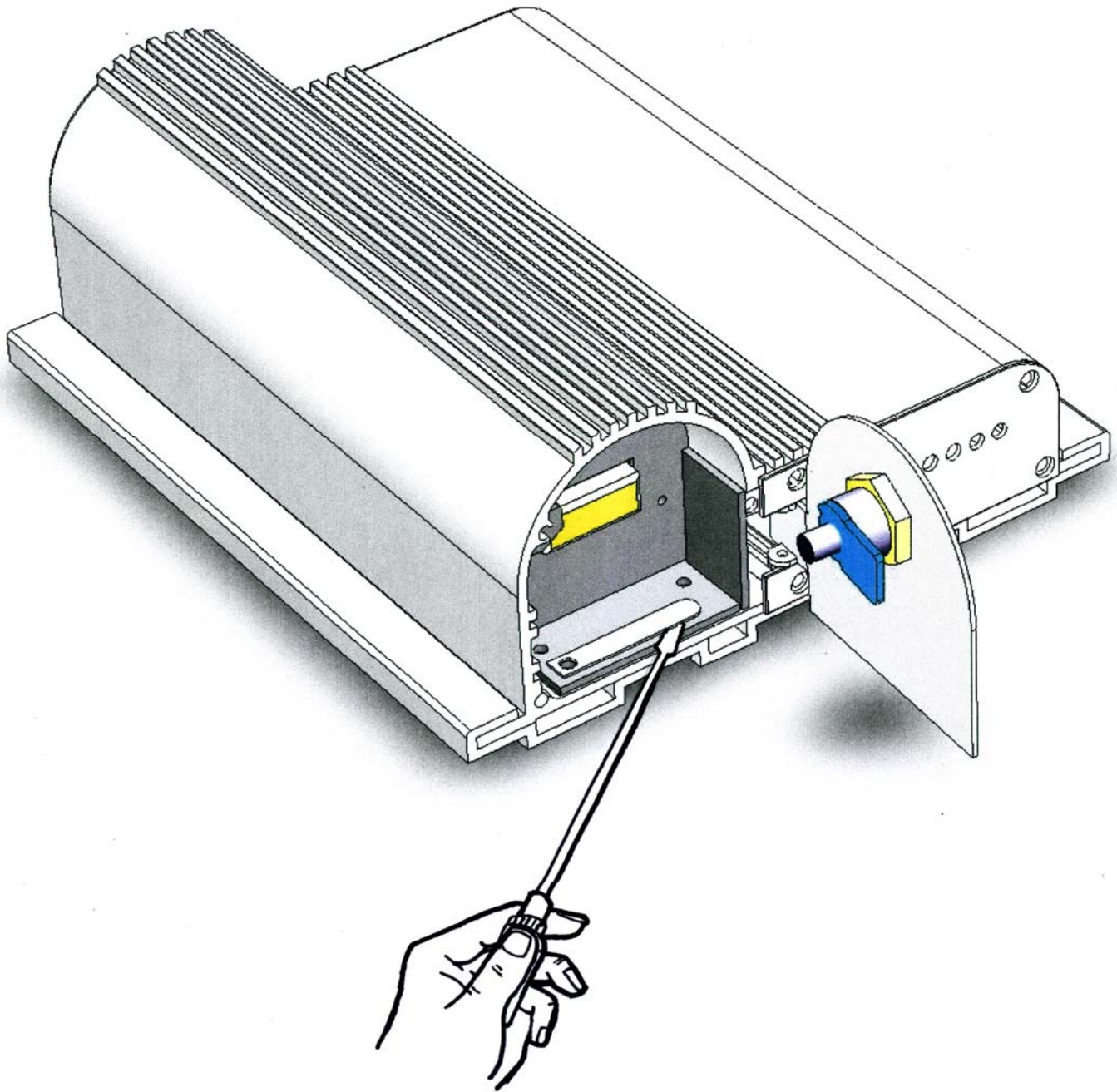
RESET SWITCH: When the unit is not operating properly, press into this hole using a sharp and thin object to restart the system.

INDICATOR FOR REMOVAL OF USB MEMORY:

1. When USB memory is in the port: When you open up the Door lock, this red lamp flashes. You must wait until this red lamp stops flashing and to hear "Please remove USB memory" to safely remove the USB Memory. Otherwise, you may experience file damage.
2. When USB memory is NOT in the port: When you open up the Door Lock, this red Lamp flashes. You must wait until this red lamp stops flashing and to hear "Please insert USB memory" to insert the USB Memory.

USB MEMORY SLOT: This is the slot for you to insert USB Memory. Check the up and down position of the USB Memory device before inserting it into the slot.

**\*Guard Rail for Wall mount – How to slide in and out the Vehicle-Guard unit from the Guard Rail**

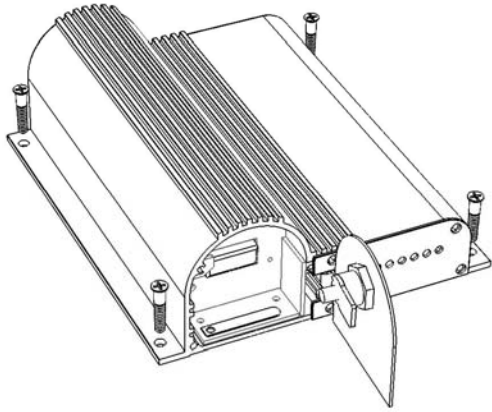


- Lift up the locking stick with a flat head screw driver or something thin and then slide the unit into the Guard Rail.

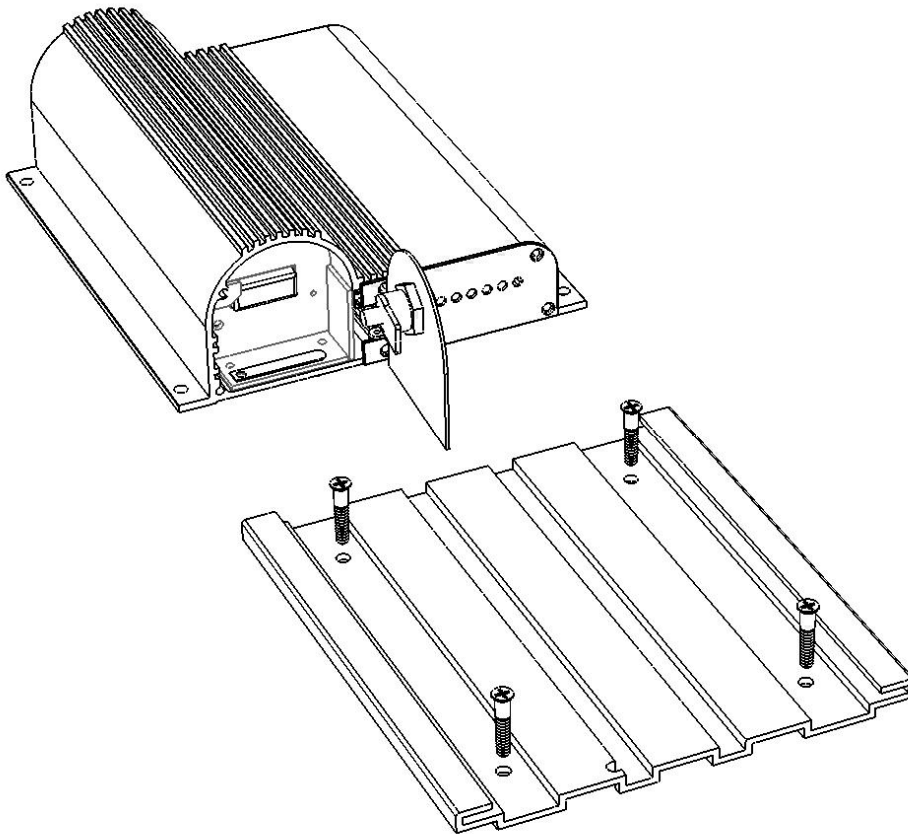
- To separate the unit from the Guard Rail, lift up the locking stick with a flat head screw driver or something thin and slide out the unit.

\*You may fix and mount the Vehicle-Guard unit in 2 ways:

1. Without the Guard rail: Screw 4 corners of the unit to a wall.

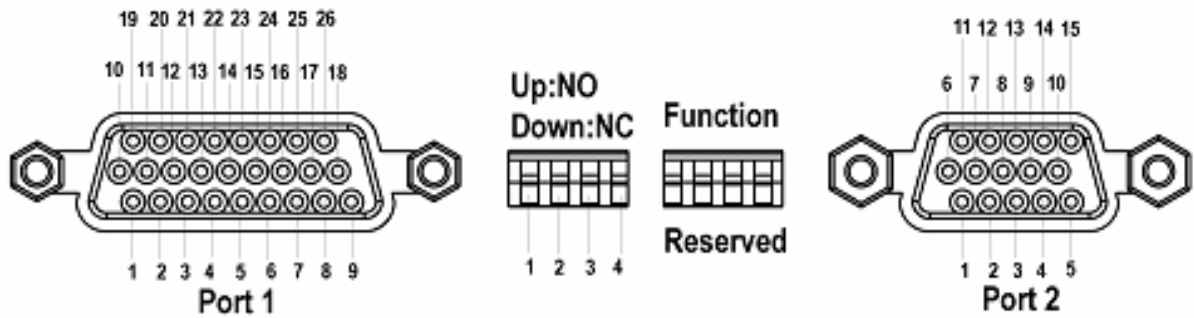


2. With the Guard Rail: Before sliding the unit into the Guard Rail, screw 4 corners of the Guard rail first to a wall and then slide in the unit.



**\*If it's hard to separate the unit from the guard rail, please coat it with WD-40 (or something similar) for both sides of either the guard rail or the unit.**

**\*Rear View** (below Pin Configurations are also on the back of the Vehicle-Guard unit)



Port	Pin Number	Function
Port 1	1	GRAY
	2	ORANGE
	3	GREEN
	4	VIOLET
	5	BLUE
	6	WHITE
	7	YELLOW
	8	PINK+BLACK
	9	BLACK
	10	RED+WHITE
	11	BROWN
	12	GREEN+WHITE
	13	PINK
	14	BLUE+WHITE
	15	LIGHT GREEN
	16	VIOLET+WHITE
	17	RED
	18	BROWN+WHITE
	19	ORANGE+WHITE
	20	RED+BLACK
	21	BLACK+WHITE
	22	GRAY+BLACK
	23	GREEN+BLACK
	24	YELLOW+BLACK
	25	ORANGE+BLACK

Port	Pin Number	Function
Port 2	1	VIOLET
	2	YELLOW
	3	ORANGE
	4	PINK
	5	GREEN
	6	BLACK+WHITE
	7	WHITE
	8	GRAY
	9	RED+WHITE
	10	BLACK
	11	BLUE
	12	LIGHT GREEN
	13	BROWN+WHITE
	14	BROWN
	15	RED

\*\*\*Note: When recording, if you turn off the ignition for your vehicle, it will still record until using up all the battery. If you turn off the ignition and open up the door lock or close the door lock without a USB memory in the slot, then after 5 minutes, it will automatically shut off the system. During those 5 minutes, if you insert USB memory into the slot and close the Door Lock, then it will start recording again using the battery.



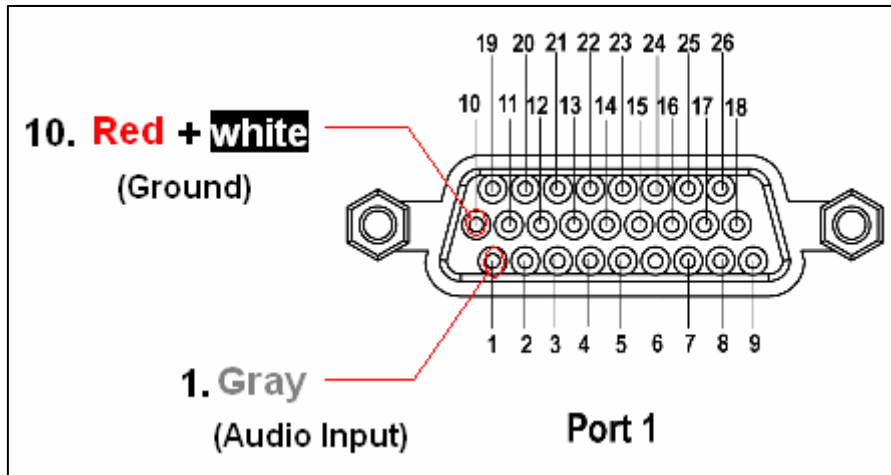
# CONNECTIONS

## PORT 1

### Connecting Microphone (SG-V200 only)

When using an external microphone, it must be an amplified microphone (1V<sub>P-P</sub>). Connect "Mic Out" of the Microphone to the Unit's "AUDIO" input port.

- 1- Gray: Audio Input (1V<sub>P-P</sub>)
- 10- Red + White: Ground

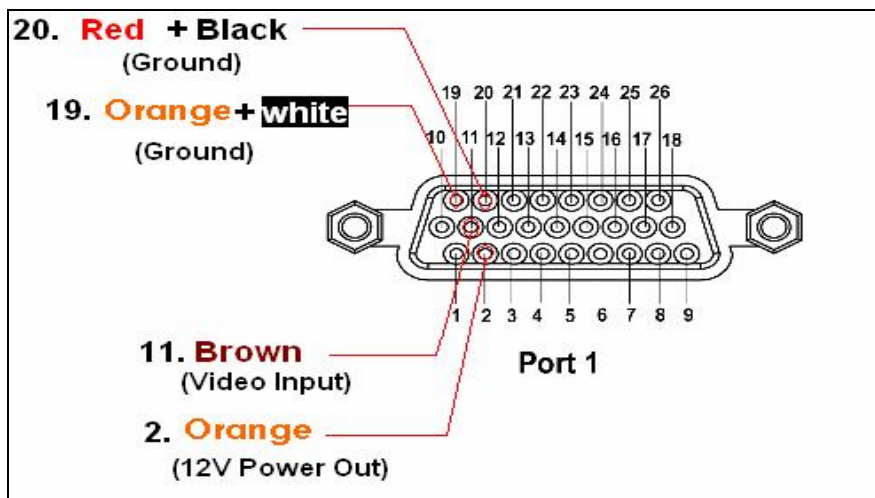


### Connecting Camera

\*12V Power will power the cameras and you do not need to connect other power lines for the camera.

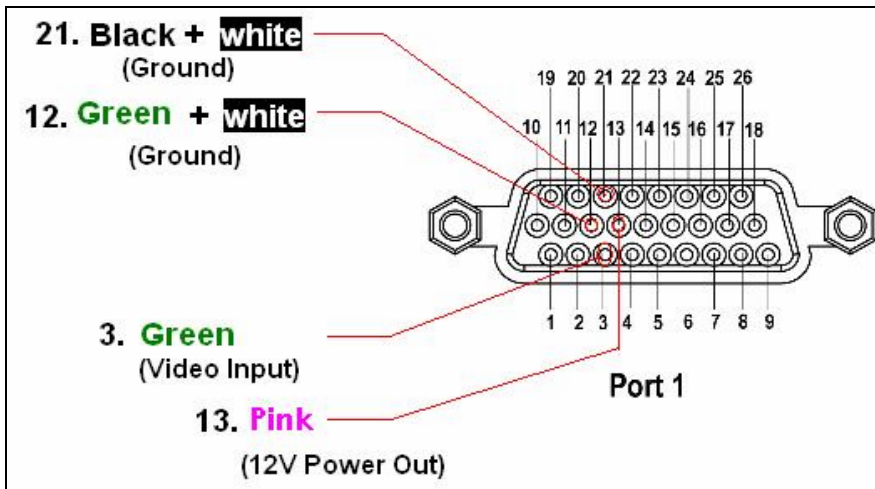
#### Camera No.1

- 11- Brown: Video Input
- 19- Orange + White: Ground
- 2- Orange: 12V Power Out
- 20- Red + Black: Ground



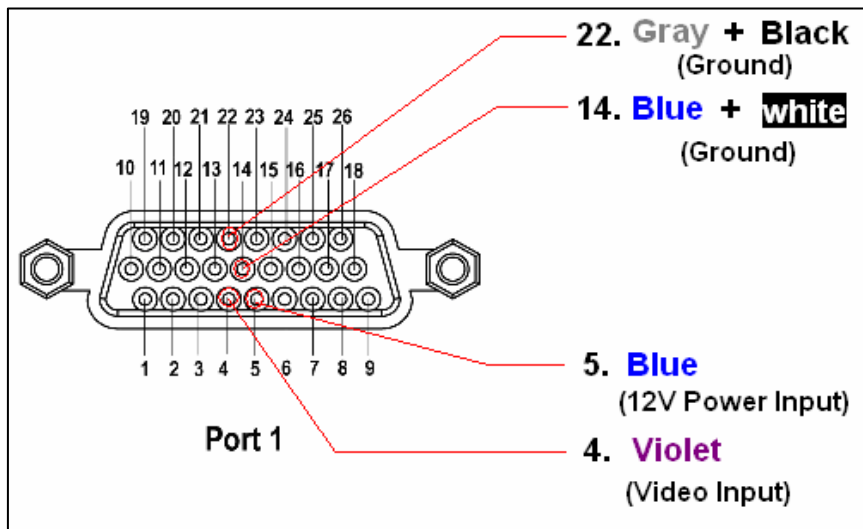
#### Camera No.2

- 3- Green: Video Input
- 12- Green + White: Ground
- 13- Pink: 12V Power Out
- 21- Black + White: Ground



**Camera No.3**

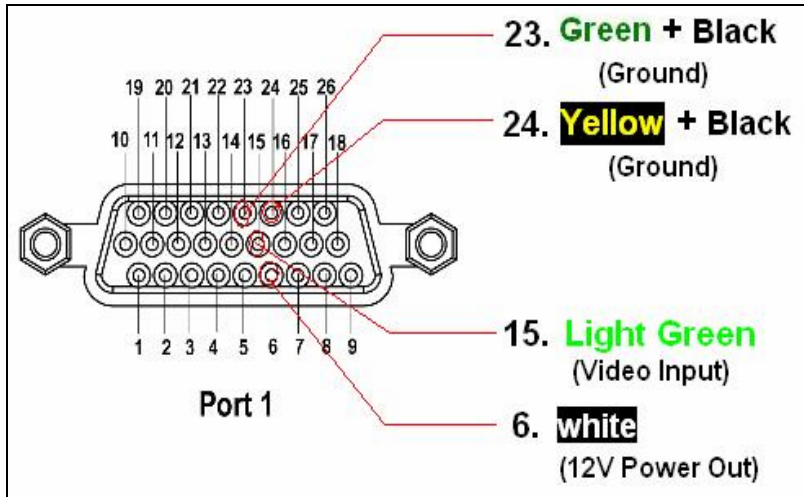
- 4-Violet: Video Input
- 22-Gray + Black: Ground
- 5- Blue: 12V Power Out
- 14-Blue + White: Ground



**Camera No.4**

- 15-Light Green: Video Input

23-Green + Black: Ground  
 6-White: 12V Power Out  
 24-Yellow+Black: Ground

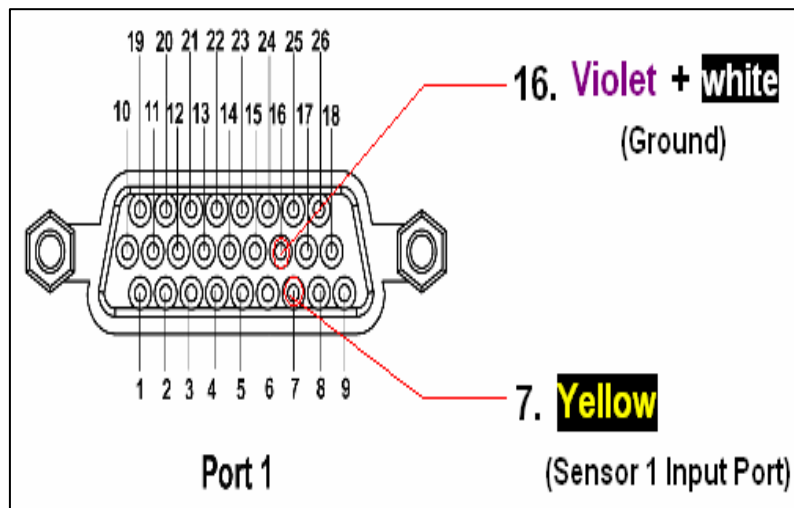


### Connecting Sensor

- \* Connect up to 4 Sensors
- \* Select one from either "Normal open" or "Normal close" for the operating method for the Sensor. If you lift up the dip switch for each sensor, then it becomes Normal open. If you bring down this dip switch, then it becomes Normal close.

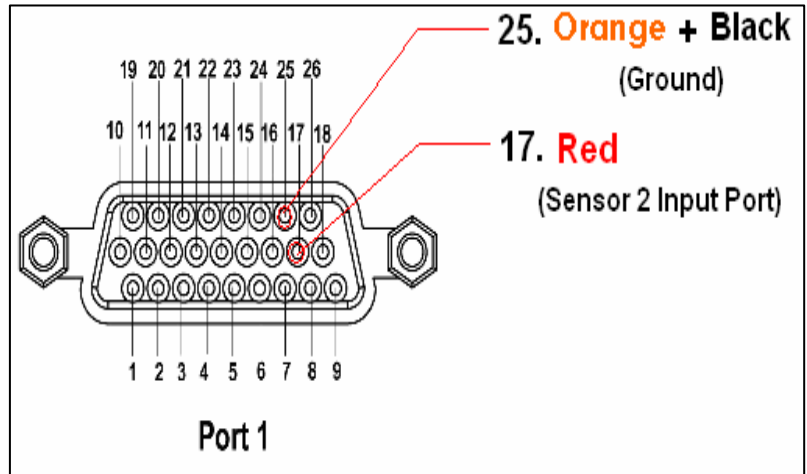
#### Sensor 1

7-Yellow: Sensor 1 Input Port  
 16- Violet + White: Ground



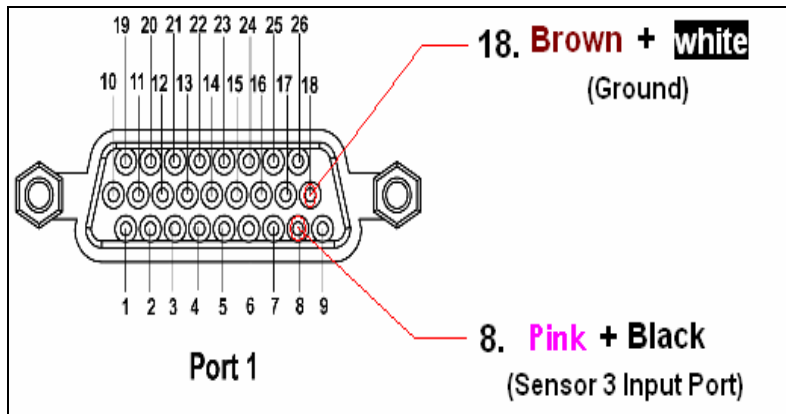
#### Sensor 2

17-Red: Sensor 2 Input Port  
 25- Orange + Black: Ground



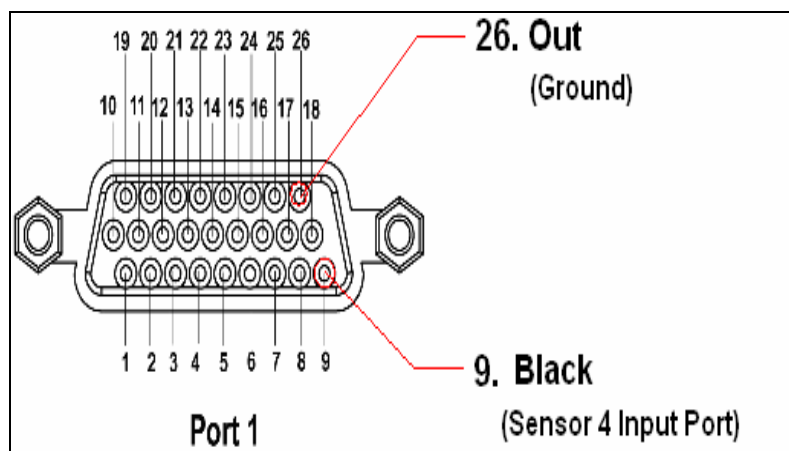
**Sensor 3**

8- Pink+ Black: Sensor 3 Input Port  
 18-Brown+ White: Ground



**Sensor 4**

9-Black: Sensor 4 Input Port  
 26-Out: Ground

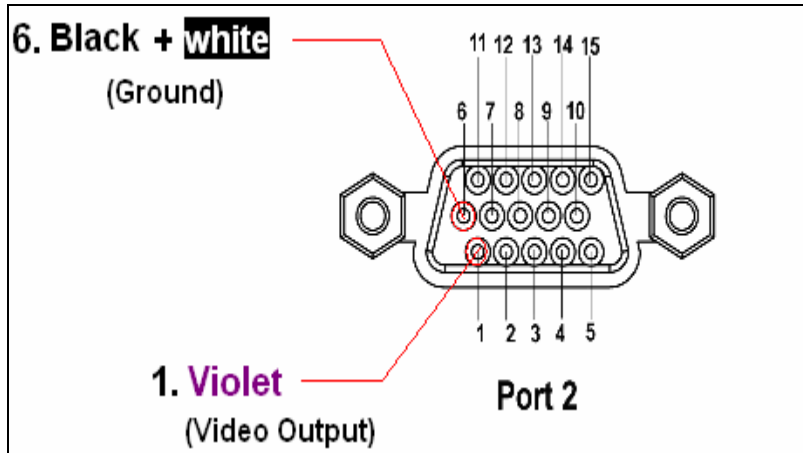


**PORT 2**

## Video Output

\*This port is used to test the camera's images.

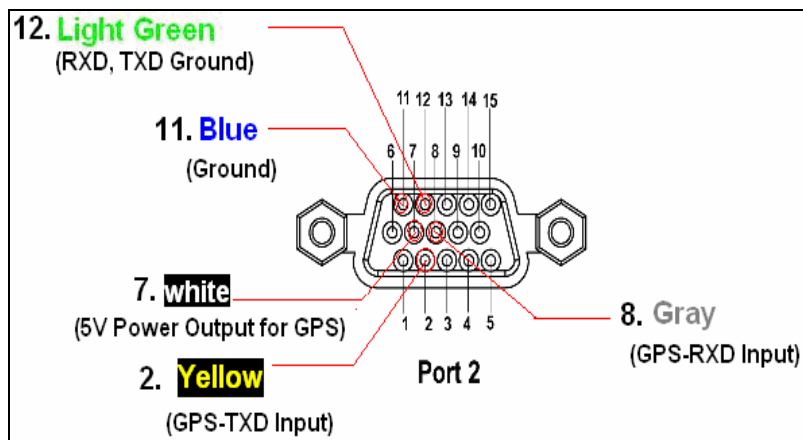
- 1-Violet: Video Output
- 6-Black + White: Ground



## GPS

- This port is for connection of the GPS module.
- Note that Input and Output Signals for GPS connection (UART RxD, UART TxD) operate with 3.3V, not with 12V.
- The "5V Out" port next to the "UART RxD" will supply power for the GPS and you connect this port to the Power Input port of the GPS module. It is recommended to purchase the GPS module from the authorized distributor or service center.
- When the GPS module is connected to the unit, it will record video with an overlay of latitude, longitude, and speed on the image.

- 2-Yellow: GPS-TXD Input
- 12-Light Green: RXD, TXD Ground
- 8-Gray: GPS-RXD Input
- 7-White: 5V Power Output for GPS
- 11-Blue: Ground

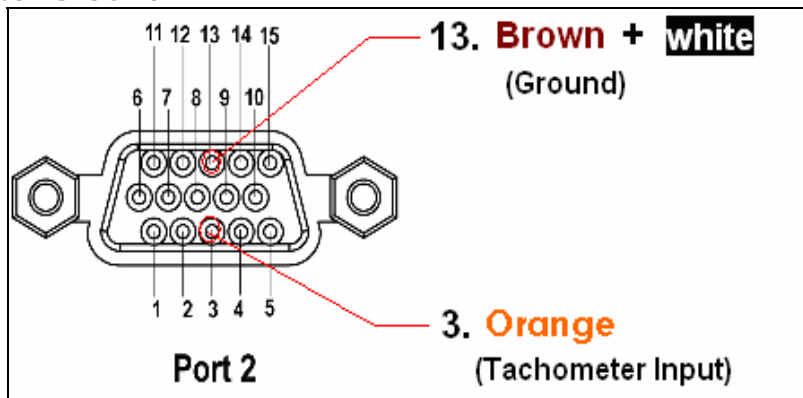


## Connecting Tachometer

- If a vehicle has a tachometer, connect tachometer's output to the unit's tachometer input ports.
- Initialized value for 1 pulse is 206mm. When the unit reads tachometer pulse from the vehicle, it will record video with speed overlay on the image. If the vehicle stops and the speed is 0 for several seconds, then it will record without speed information. If the car moves again, then the unit gets to read pulse to record video with speed overlay on the image.
- When GPS module is connected, it will not display speed from the tachometer on the image, but it will display latitude, longitude and speed from the GPS module.

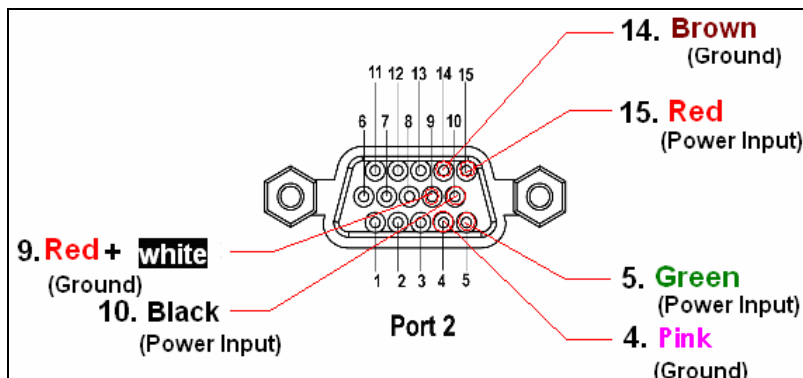
3-Orange: Tachometer Input

13-Brown + White: Ground



## Power Input

- \* 2 available ranges of voltage for operation: 11-15V & 22-30V (Those 2 operation voltage ranges are set to prevent excessive electric discharge.)
- \* There is a tolerance of 0.5V so the unit operates when the voltages are 10.5-11V and 21.5-22V
- \* It is highly recommended to use thick wires when 24V comes from vehicle. Please use 3mA wire for power input connection. When 12V comes from your vehicle, please use 5mA wire for power input connection.



5-Green: Power Input  
10-Black: Power Input  
9-Red + White: Ground

15-Red: Power input  
4-Pink: Ground  
14-Brown: Ground

## GENERAL GUIDE

### Attention!

You must **follow the Voice Guidance Message** before moving on to the next step for Recording and Ending, otherwise you may experience malfunction of the unit.

### I. Recording

\*When power gets into the unit, the Power status Lamp lights and after 15 seconds the Operation (OPR) status Lamp turns Green to prepare for recording.

It follows with voice guidance for each circumstance:

Door lock	USB flash Memory	Voice Guidance Message
Open	Does not exist	Please insert USB memory.
Open	Exists	USB memory recognized. Please close the Door Lock
Closed	Exists	Recording started.
Closed	Does not exist	Please open the Door Lock.

1. When the door lock is closed, use the provided key to open the Lock and insert USB memory into the port.

[Voice Guidance Message] "*Recognizing USB memory. Please wait*"

*"USB memory recognized"*

*"Please close the door lock"*

2. When you close the door lock, the Recording status Lamp turns into Green and start recording.

[Voice Guidance Message] "*Recording started*"

3. If there is no camera connected, then you will hear a Voice Guidance message to connect a camera and once connected, it will start recording.

[Voice Guidance Message] "*Please connect Camera*"

### To End Recording

1. Open the door lock to end recording.

[Voice Guidance Message] "*Recording stopped. Please wait*"

*"Please remove USB memory"*

\*\*\*Note: When you open up the door lock, this red Lamp will be flashing. You must wait until stopping of this red Lamp flashing and to hear "Please remove USB memory" to safely remove the USB Memory. Otherwise, you may experience file damage.

2. If you do not remove the USB memory from the port and close the Door Lock again, then it will start recording again.


[Voice Guidance Message] "*Recording started*"

### Others

1. If you close the door lock without inserting a USB memory, then it will not conduct any recordings.

[Voice Guidance Message] "*Please open the Door Lock*"

2. Use the USB flash memory which is provided by provider. If you use the USB memory that is not compatible for the Vehicle-Guard unit, it may not record properly.

 **Note:** You must format the USB Memory at least once a month to prevent the unit from not recording audio and video.

- Vehicle-Guard records on the provided USB memory, and the folders are created by product Serial Number. Another folder name gets created by the Date under the product serial number folder, and video files are created by time under the Date folder.

If you record with a Vehicle-Guard with serial number S111111111111 using a USB memory, a folder name "S111111111111" is created and shown in the file search window of the Playback and Manager Software. But, if you use the USB memory you have used for Vehicle-Guard serial number is S111111111111 to record with Vehicle Guard product serial number S222222222222 for example, then all the data in S111111111111 folder will be deleted from this USB memory. Therefore, please back up all the data before inserting the USB Memory into a Vehicle-Guard.

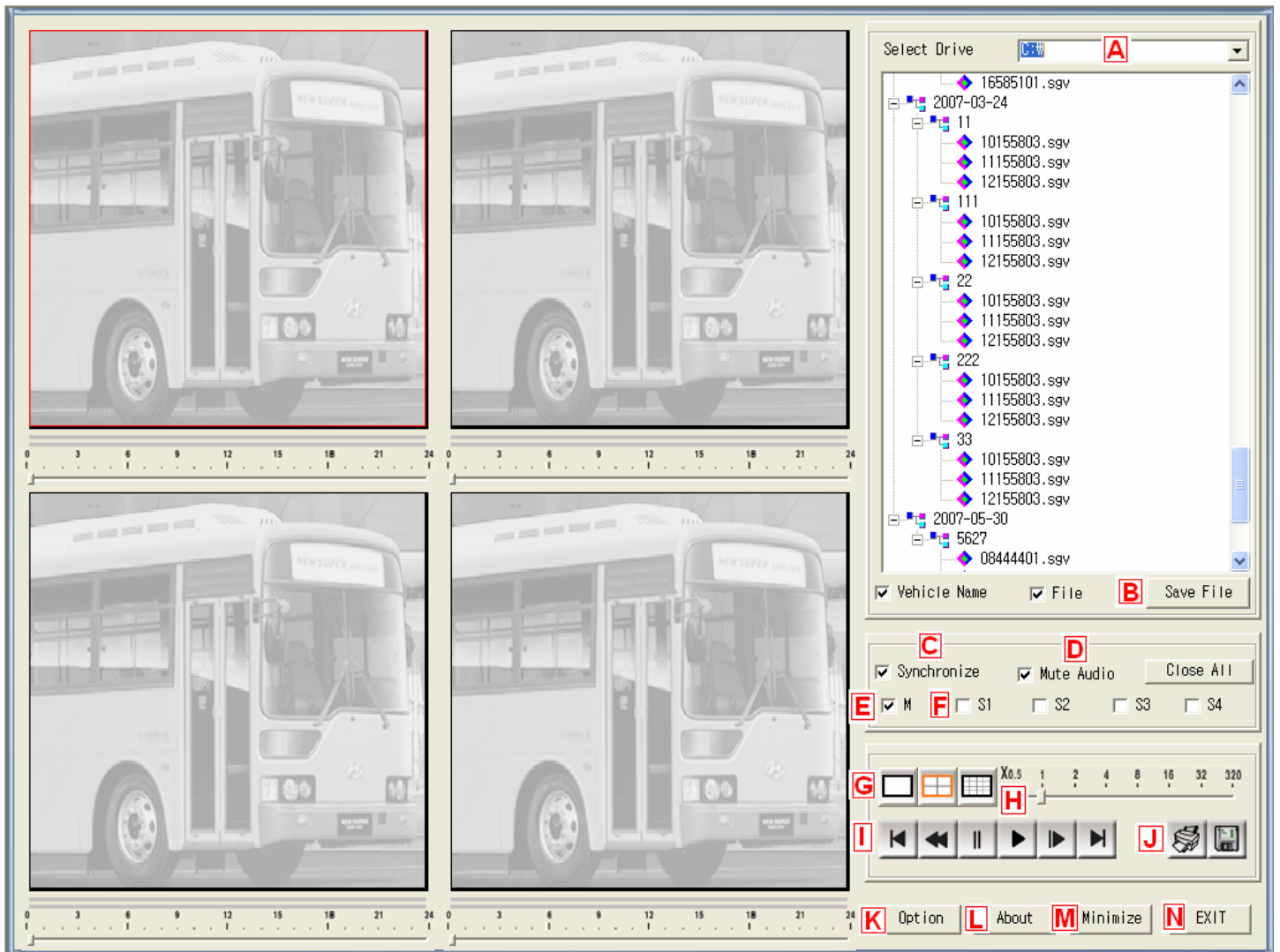
## II. Playback and Manager Software



This is the short cut Icon for the playback program.

To start the program, double-click on the above icon. Then you will see a new window as below.

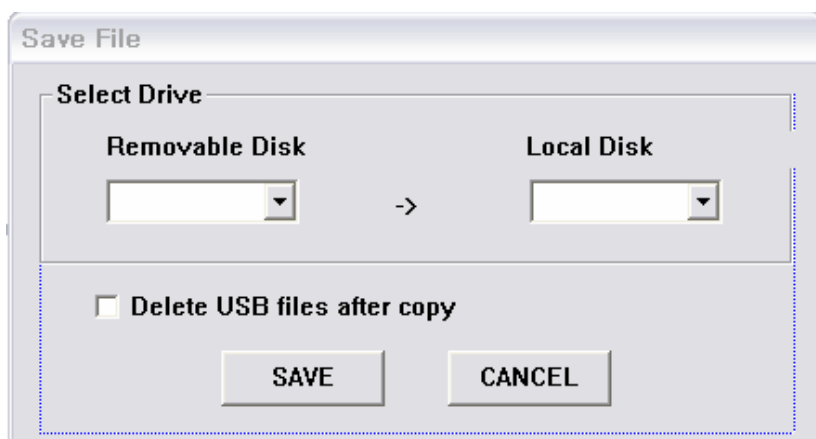
### MANAGER SOFTWARE





## Save File

- A. Select a USB Drive from which you want to save files.
- B. Click to save files in the USB memory to the local drive.



\*Check "Delete File after Copy" to delete files in USB memory after copying files to a PC.

File Extension	File Name	Explanation
sgv	15373501.sgv	You get a file for each camera connected to the unit. When 4 cameras are connected to the unit, then you get 4 video files and its file extension is sgv.
sga	15373501.sga	There is only 1 microphone input and 1 audio file gets created with the file extension name of sga.
sgm	15373501.sgm	A file gets created for each sensor from the occurrence of motion detection to the end of motion detection and its file extension name is sgm.
sgs	15373501.sgs	You get a file for each sensor connected to the unit. When 4 sensors are connected to the unit, then you get 4 sensor files from start to end of change in sensor status, and its file extension name is sgs.

※ 15373501.(sgv, sga, sgm, sgs) indicates a file's recording start time at 15:37:35 with camera number 1 of either video, audio, motion detection, or sensor file.

### C. Synchronize

Plays back each file saved from different cameras synchronized with the time and the reference file is the one with the longest playback time.

### D. Mute Audio

Turns off the audio when playback

### E. F Playback Method

Chooses playback method. Default set is "M" (motion detection). If you want to playback files created on sensor detection, then select a sensor number for playback.

### G. Mode Change

Select screen division mode in 1, 4 or 16 screens. In 4 or 16 screens mode, move the cursor to a specific screen and click left side of the mouse to view it in one big screen.

## H. Playback Speed Bar

Adjusts the playback speed and the default speed is x1.

## I. Playback Menu



**Go to Start:** moves the tracking to the start



**Rewind:** Fast rewinds the playback



**Pause:** Stops the playback maintaining the current tracking position. This option is available only when the playback is running. You can print this still image or save it into a JPEG file.



**Play:** Starts or resumes the playback. This option is available only when the playback is stopped or paused.



**Forward:** Forwards the playback. It will move the tracking position one frame forward.



**Go to End:** Moves the tracking to the end.

## J. Print and Save



**Print:** Prints the paused image

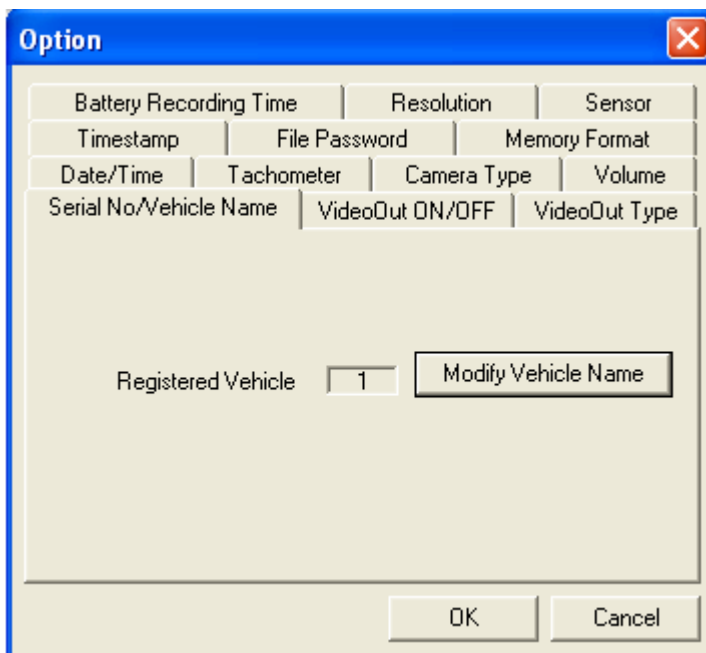


**Save:** Saves paused image into a JPEG file.

## K. Option

### 1. Serial No./Vehicle Name

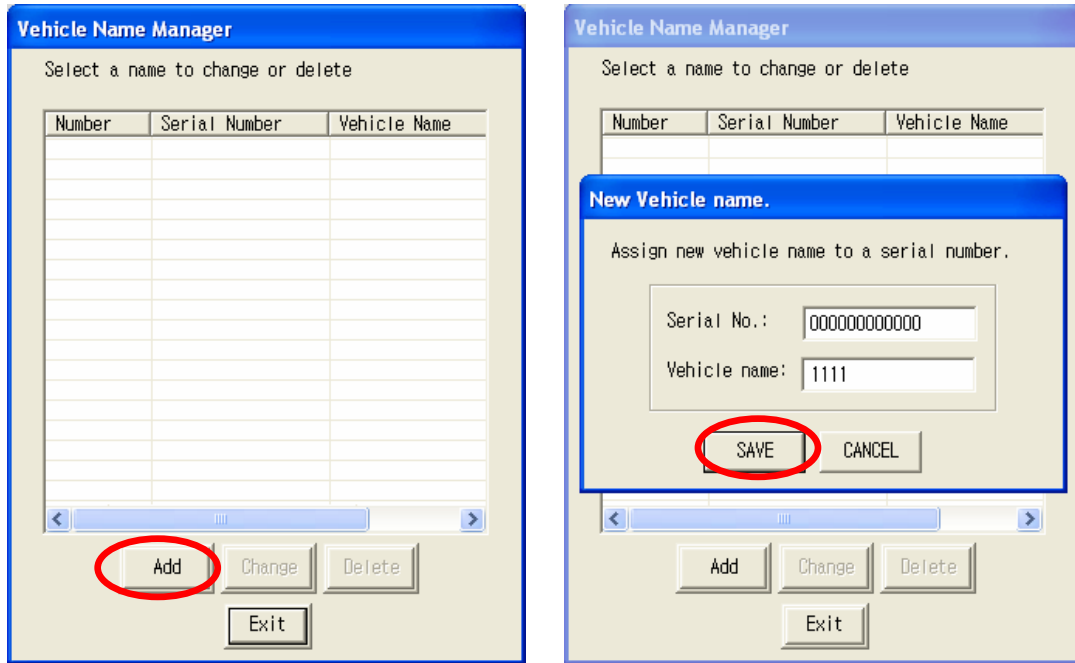
Manage product serial number and vehicle name (add/change/delete) and it shows current number of Registered Vehicle.



Click on "Modify Vehicle Name" to Add/Change/Delete Vehicles.

## ADD

Add Serial Number and Vehicle Name.

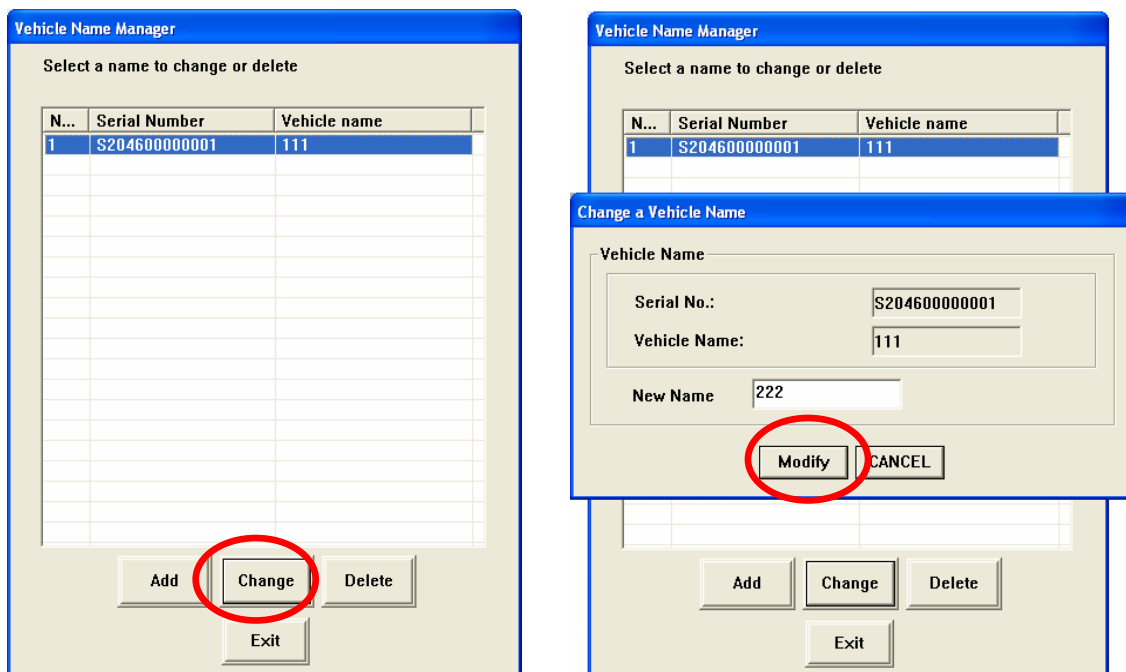


Select "Add" and click on it.

Input Serial Number and Vehicle Name and click on "SAVE"

## CHANGE

Change Serial Number and Vehicle Name

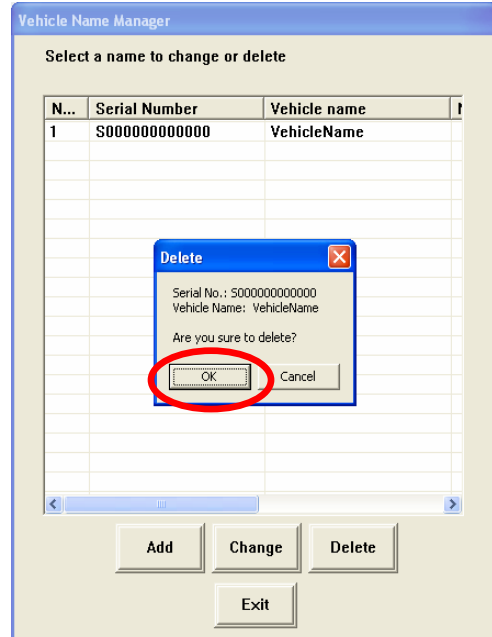
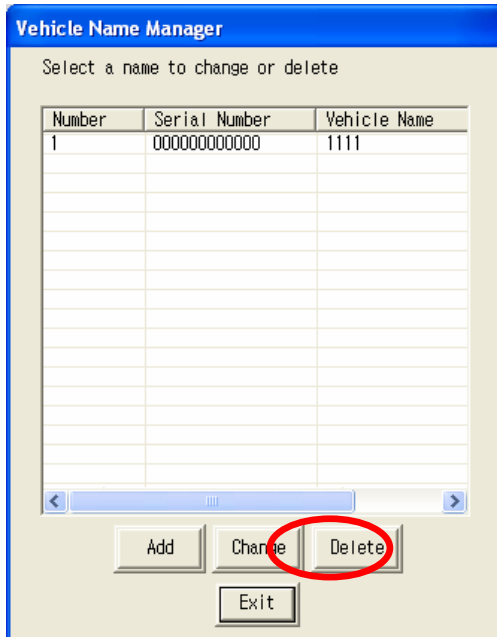


Select the Number you want to make changes and click on "Change".

Put in the New Name and click "Modify".

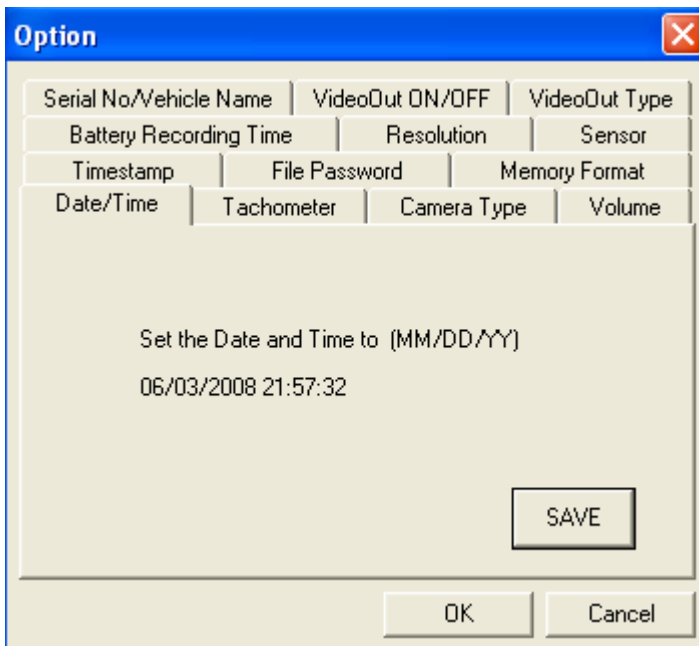
## DELETE

Delete Serial Number and Vehicle Name



Select the Number you want to delete and click on "Delete".  
Click "OK" to confirm deleting.

## 2. Date/Time

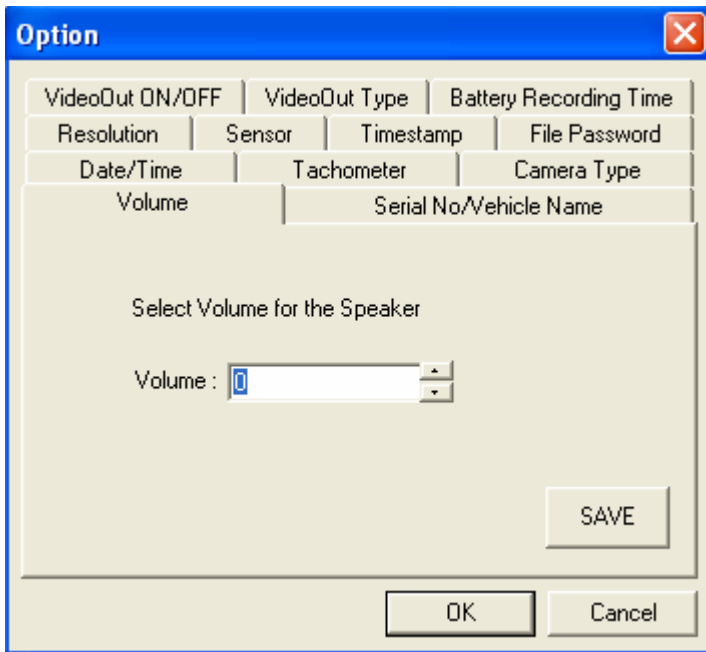


Sets or changes date and time information for the Vehicle-Guard unit.

### \* How to change the Date/Time

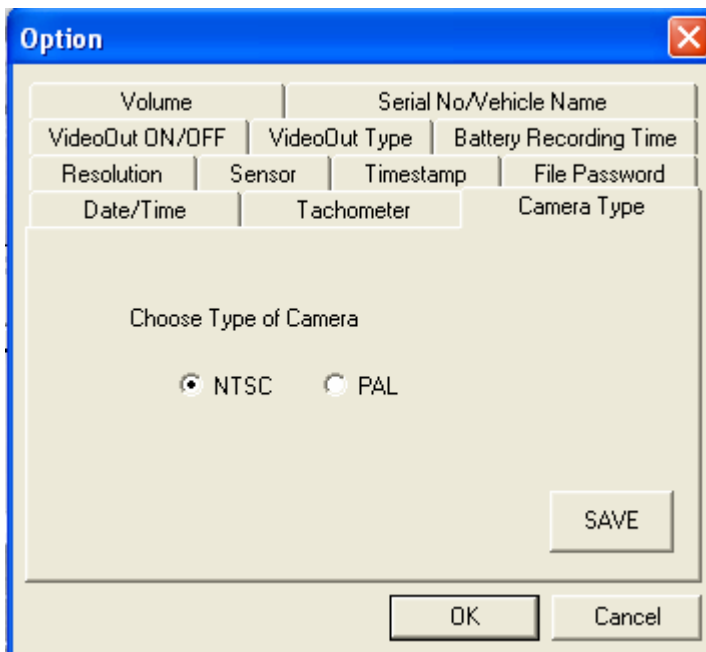
1. Insert USB flash memory into the PC.
2. Confirm the time displayed on the PC and click on "Date / Time -> USB" button.  
After you see the message, "Date/Time set registered", remove the USB memory from the port in the PC.
3. Insert that USB memory into the unit.
4. You will hear a voice guidance message, "USB memory recognized" and "Please remove USB memory" as a way to confirm that you have successfully transferred the Date/Time set from PC to the unit.

### 3. Volume



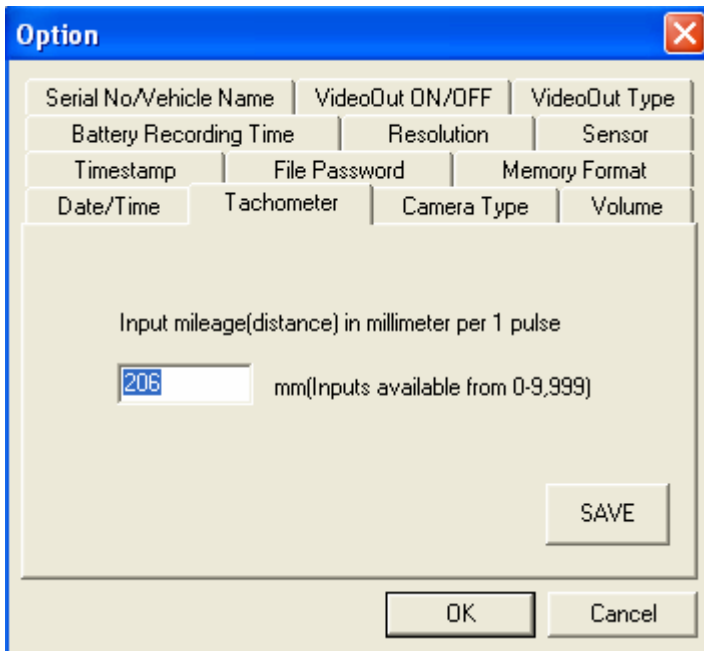
Changes the level of volume for this software.  
How to apply the change to Volume is the same as you do with the "Date/Time".  
Follow the 4 steps described above.

### 4. Camera Type



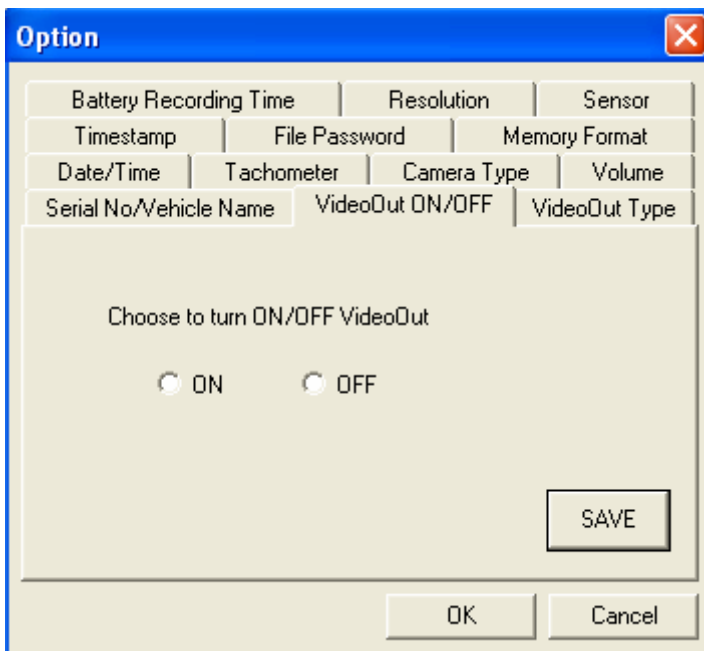
Choose type of camera for NTSC or PAL.  
The process for changing the Camera Type is the same as changing "Date/Time".

## 5. Tachometer



Input mileage (distance) in millimeters per 1 pulse. Default value is 206 mm.  
The process for changing the Tachometer is the same as changing "Date/Time".

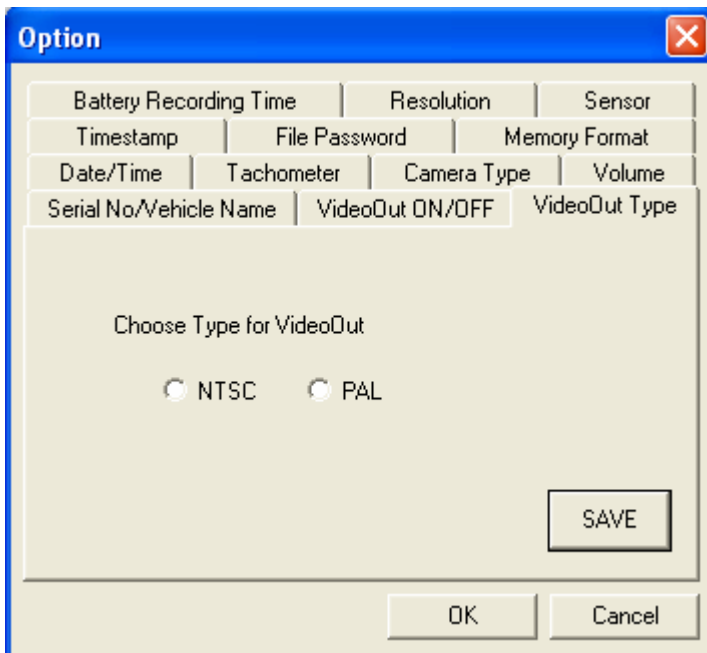
## 6. VideoOut On/Off



The VideoOut function is to output video to check and test the camera's view angle before recording. It is recommended not use this feature, otherwise you will experience a decrease in recording speed.

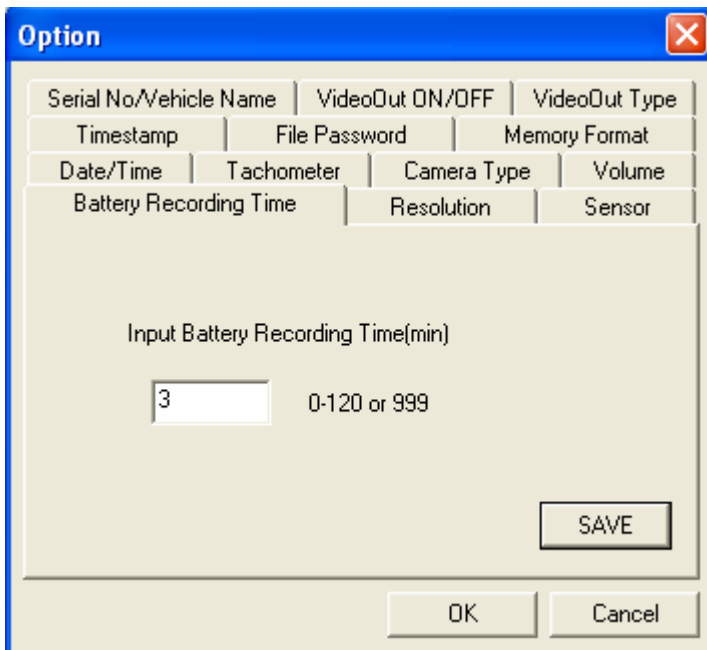
The process for changing the Video Out On/Off is the same as changing "Date/Time".

## 7. VideoOut Type



Choose VideoOut type for either NTSC/PAL for the external monitor.  
The process for changing the VideoOut Type is the same as changing "Date/Time".

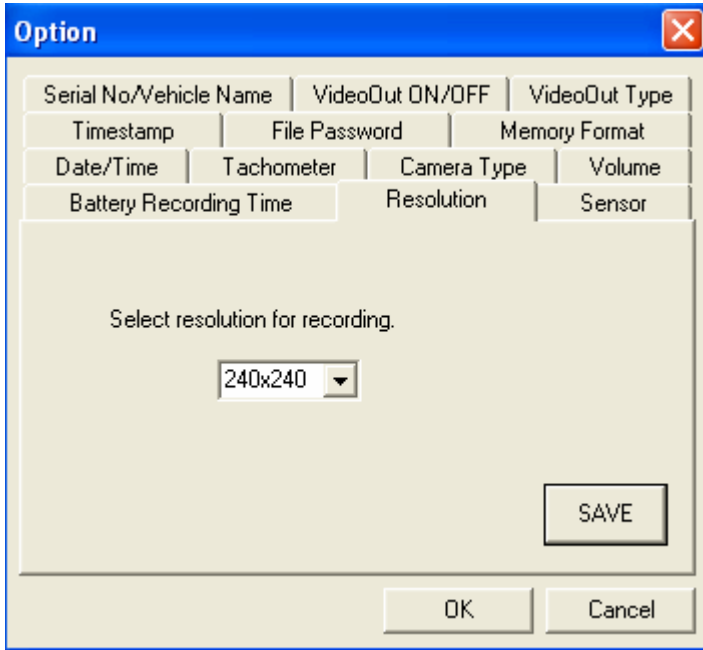
## 8. Battery Recording Time



When the vehicle's ignition is turned off, Vehicle-Guard uses battery to record up to 2 hours (120 minutes). Input the time in minutes to set the duration for battery recording time (0-200 minutes). Input 999 if you want the unit to record until the battery is exhausted. The default set time is for 3 minutes.

The process for changing the Battery Recording Time is the same as changing "Date/Time".

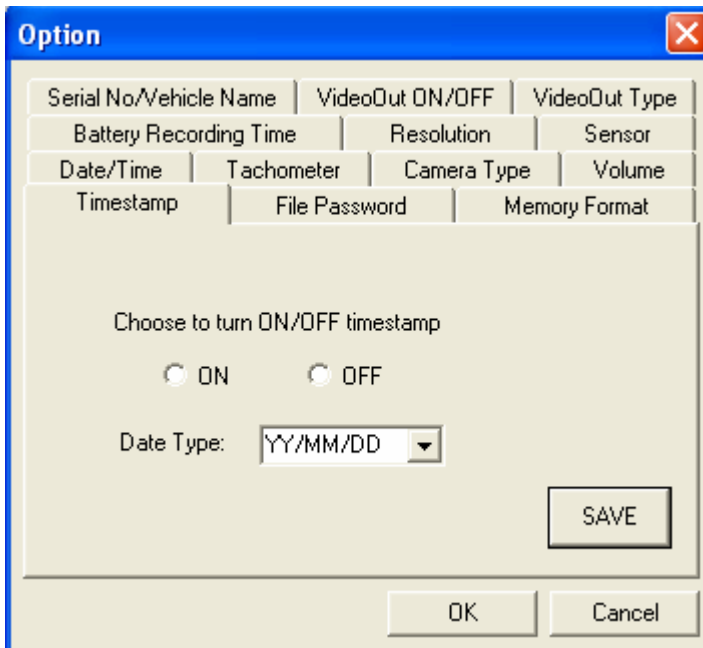
## 9. Resolution



You may change recording resolution from 240 x 240 to 320 x 240, 480 x 480 or 640 x 480 pixels. Please be advised that increasing recording resolution will decrease recording speed.

The process for changing the Resolution is the same as changing "Date/Time".

## 10. Timestamp

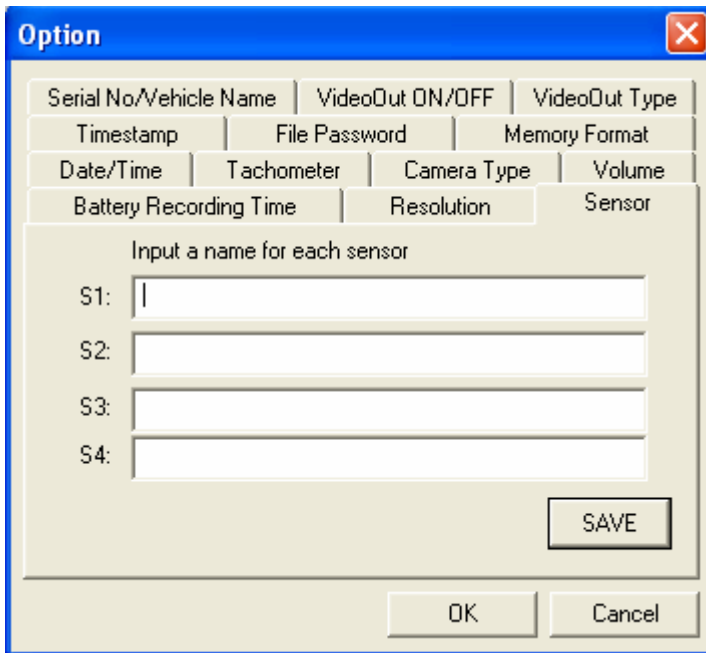


Turns on or off the timestamp feature. You may also select to display date information with month, date and year.

The process for changing the Timestamp is the same as changing "Date/Time".

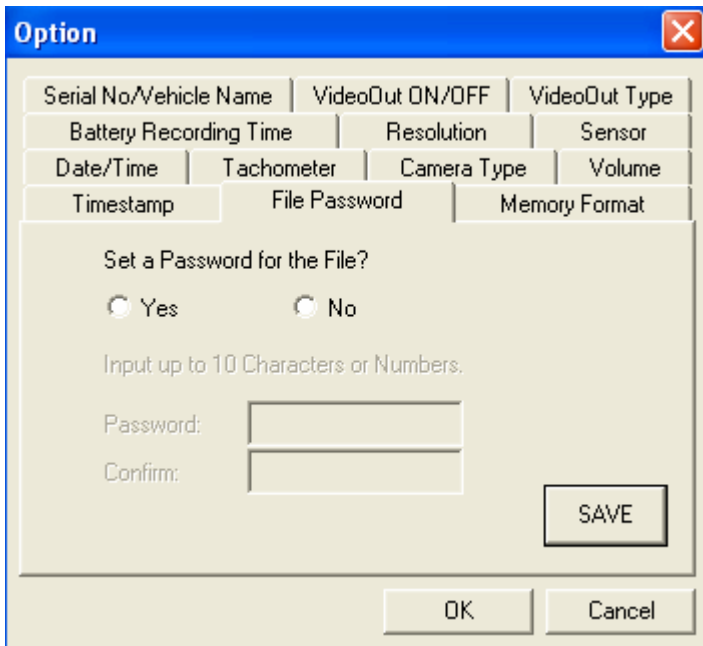


## 11. Sensor



Input sensor names (ex. Door and lights etc.) to label each sensor.  
The process for changing the Sensor is the same as changing "Date/Time".

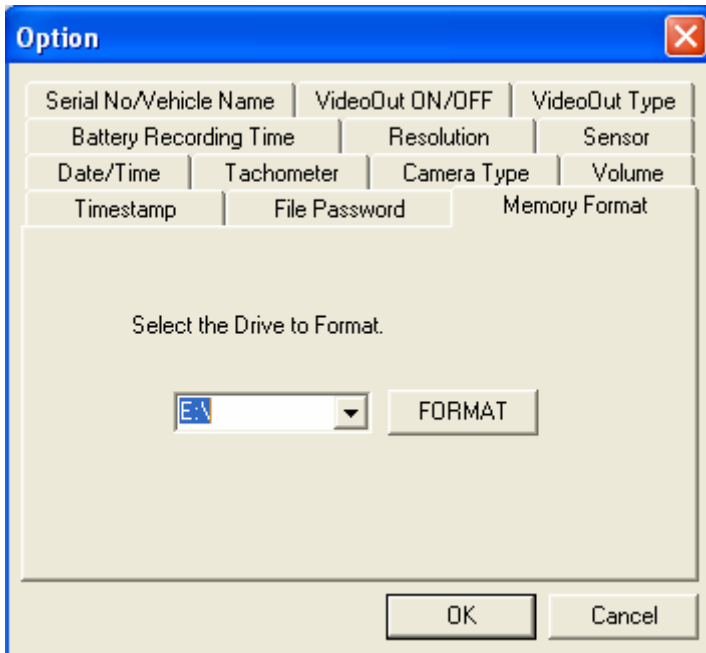
## 12. File Password



You may set a Password for the files if you want to prevent others accessing the file and viewing it without approval.

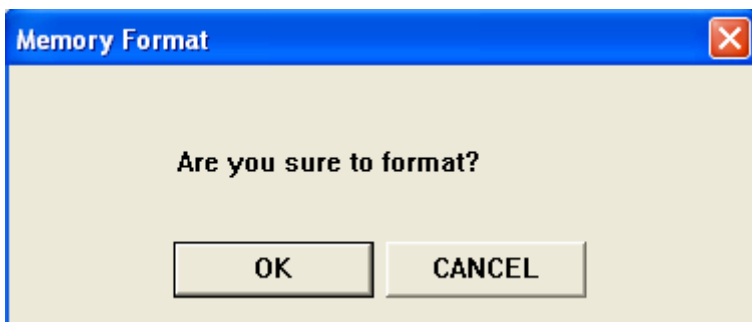
Input up to 10 characters and/or numbers for the Password.  
Password could be made of characters or numbers only or mix of characters and numbers, but it should not be more than 10.  
The process for changing the File Password is the same as changing "Date/Time".

### 13. Memory Format

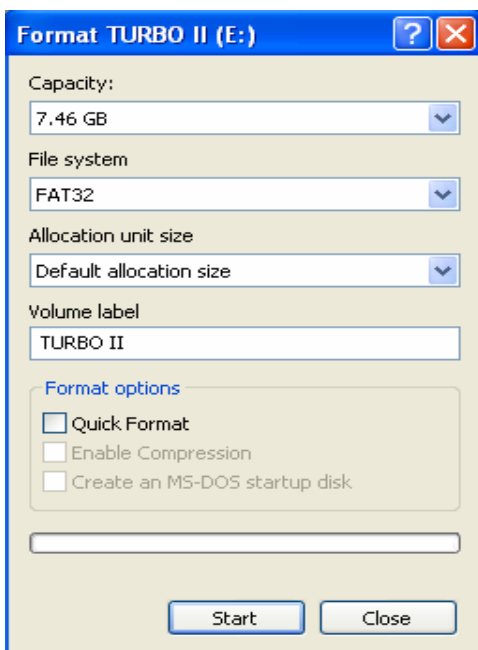


This function enables you to format USB memory with the Manager software.

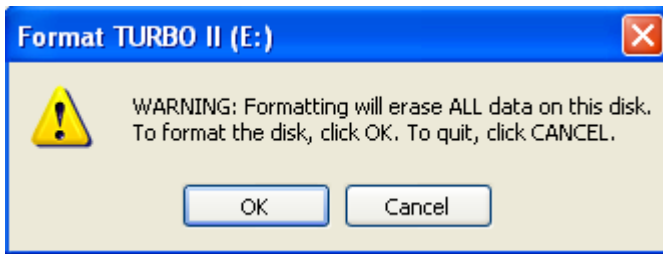
It is strongly recommended that you format the USB flash memory regularly every 2-3 months as a way of properly managing the memory.



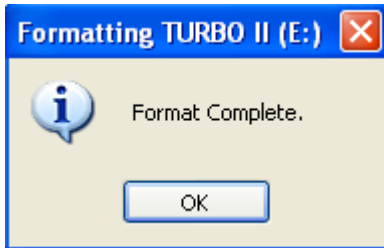
Click OK to format or Cancel to quit.



Click Start.



Formatting will erase ALL data on this disk. To format the disk, click OK. To quit click cancel.



Click OK.

**L.** About

Checks the version of your Manager software

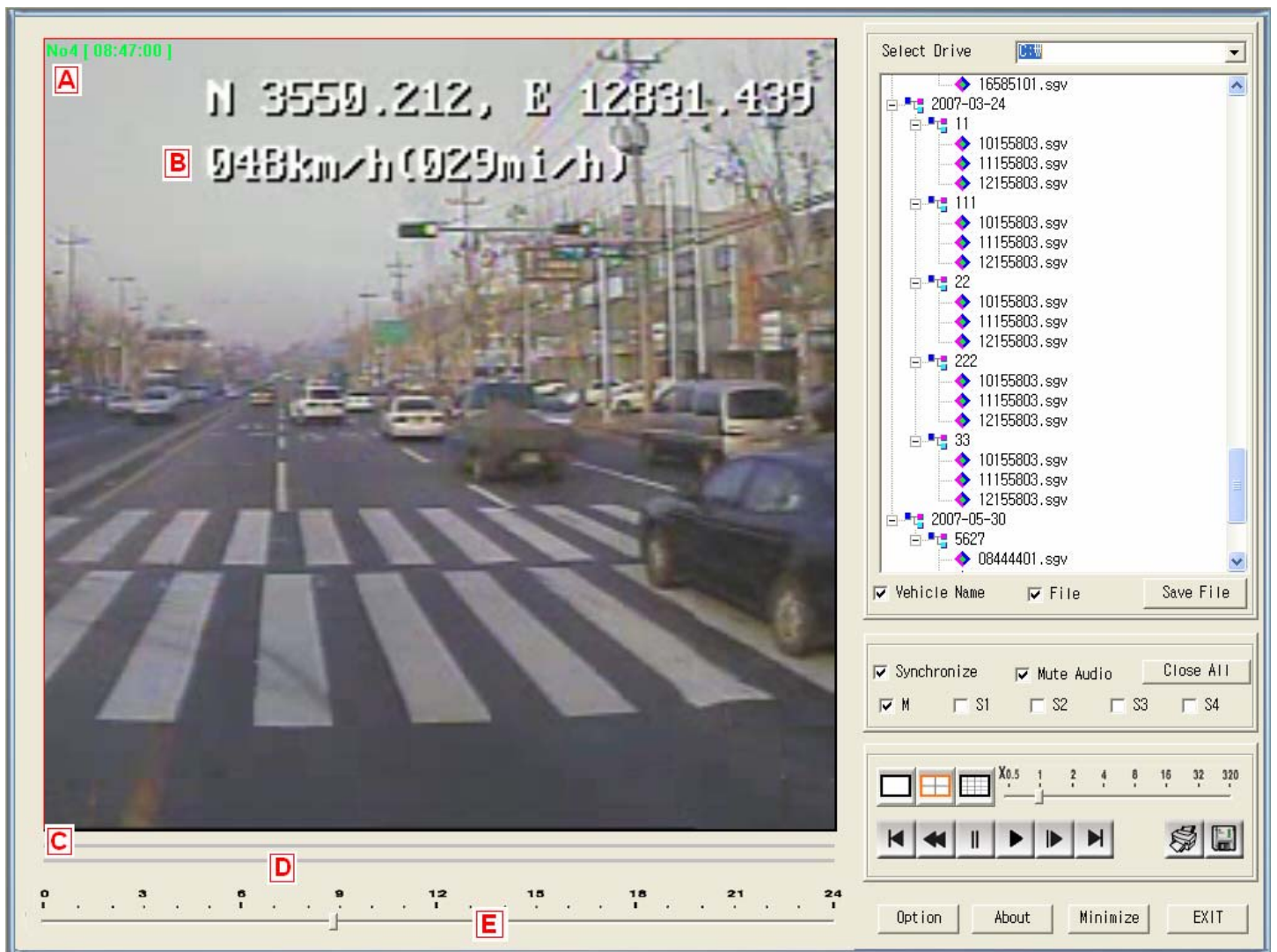
**M.** Minimize

Minimizes the Window Screen

**N.** Exit

Ends the Program

## Playback Example



A. Vehicle Name, Playback time

B. When the GPS module is connected, it will display longitude, latitude and speed information on the screen. When Tachometer is connected, then it will display speed information only on the screen.

C. motion detection period over time

D. sensor detection period over time

E. playback status bar

### III. General Notice

- Never try to open the case of the unit or attempt your own repairs. High-voltage internal components create the risk of electric shock when exposed. Always leave maintenance and repair work up to the manufacturer.
- Should you ever notice smoke or a strange odor coming out of the unit, immediately turn it off, and contact the official distributor or service center. Using the Vehicle-Guard under these conditions creates the risk of fire and electric shock.
- The unit may get heated when used for an extended amount of time.
- Before using, check for the connection status for each terminal.

### IV. Specifications

Feature	Description	Remark
Video Input	4CH	NTSC / PAL
Video Output	1CH	Camera test
Audio Input	1CH	SG-V200 only
Sensor Input	4CH	
Tachometer Input	1CH	
GPS Port	GPS Module	Optional
Video Compression	Stanex's own algorithm	Similar to MPEG4
Resolution	Up to 640x480 pixels	
Recording Speed	Up to 12 fps	depending on resolution
Recording Mode	Continuous, Sensor Motion Detection	Digital Image Processing External Signal Input (PIR Sensor etc)
Storage	USB Flash Memory Stick	Up to 16GB
Storage Capacity	2~3 days / 4GB USB Memory 5~7 days / 8GB 10~14 days / 16GB	
Power	Built-in Li-Polymer Battery & 10V-30V DC	
Power out for Cameras	12V, 200mA for each Camera	
Battery Duration	2~8 hours	depending on no. of cameras connected
Back up	4 Tera Byte Server	Sorts and Saves data by Vehicle Name or Number
Dimensions	114(W) x 150(H) x 54(D)mm 4.5(W) x 5.9(H) x 2.1(D)Inch	
Weight	595g (1.31 lbs)	including Battery
Operating Temperature	-10°C to + 60°C (14°F to 140°F)	
Humidity	Under 80%	

Available Data Backup & Management Server (1, 2 & 4 Tera Bytes) with the multiple USB reader (100EA)

## Warranty Guide

This product has passed through quality control and testing. If this product shows any manufacturer's defects during normal use, then there is a 12 months warranty service period from date of purchase. Check this warranty sheet first. Please contact the distributor or dealer after checking out any problems in the product. The standard for repairing, replacement or reimbursement follows Customer.

## Warranty Content

Any defects under normal use within the warranty service period we give you free repair service according to the warranty sheet.

We charge you with the fee of parts and services despite the free warranty service period.

1. Any breakage made without care.
2. Breakage or trouble made by natural disaster.
3. Breakage or trouble made by breaking the product guide or manual.
4. Breakage or trouble made by wrong power voltage or frequency.
5. When you want to resemble for full system or replace parts within warranty service period.
6. When an unauthorized engineer modified or made damage on the product trying to repair it, we may charge you with the fee.

We don't support the breakage after warranty service period. If the customer wants to get it repaired, we charge them with the fee.

## Product Warranty Service Sheet

Product & Model name		
Product serial number		
Distributor or Agency		
Date you purchased		
Warranty period		12 months
Customer	Name	
	Address	

\* This warranty sheet may not be provided again.

\* Please fill out this sheet as soon as you purchase the product.

\* You should show this warranty service sheet when you get a warranty service.