



## USER GUIDE

Model: BX1000 / BX1000 Plus



VER 1.0.0  
1<sup>st</sup> Edition

- *Thank you for purchasing this Drive Recorder.*
- *Before using the Drive Recorder, please ensure that you read and understand this USER GUIDE.*
- *Please store the USER GUIDE in an easily accessible location.*
- *Before connecting and installing this Drive Recorder, please refer to the appropriate instruction manual for proper operation.*

## SAFETY ADVICE



### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER.  
NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Please make sure you follow the safety advice/instructions given in the user guide.

#### **Caution**

**Connect your vehicle's power cable (cigarette jack) to the product after starting the vehicle.**

The instant over voltage generated when starting up the vehicle may damage the product if it is already connected.

#### **Caution**

**Install the product where it does not block driver's visibility and where there is no airbag installed.** This could cause an accident or might injure the passengers in case of accident.

#### **Caution**

Damages due to production malfunction, loss of data, or other damages occurring while using this product shall not be the responsibility of the manufacturer. Although the product is a device used for recording videos, the product may not save all videos in the case of a malfunction. In the case of an accident, the sensor may not recognize the shock when the impact is light and as a result it may not begin recording automatically.

#### **WARNING:**

**TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

# GPS Reception

**1. Activate the product in an area without large buildings to improve GPS reception.**

The commercial purpose GPS has the average range error of more than 15 meters and the range error could be more than 100 meters due to environmental conditions like buildings, roadside trees etc.

**2. The temperature range for optimum operation of the GPS receiver in your car is 0 ~ 45°C.**

**3. When using the product for the first time or after a long period (more than three days), it may take a little longer to recognize your current location.**

It may take between five and thirty minutes to get GPS reception.

## GPS reception may be impaired under the following circumstances.

- 1) If there is an object at the end of the GPS antenna
- 2) If your vehicle has metallic elements on the windshields
- 3) If equipment generating electromagnetic waves that interfere with the GPS signal is installed in the vehicle e.g.: Other GPS devices such as a certain type of wireless activated alarms, MP3 and CD players and camera alarms using GPS.
- 4) If you are using a receiver connected by cable, electric interference can be avoided by simply changing the location of the receiver (antenna).
- 5) On heavily overcast or cloudy days, if the vehicle is in a covered location such as under a bridge or raised roadway, in a tunnel, an underground roadway or parking area, inside a building or surrounded by high-rise buildings.
- 6) If GPS signal reception is poor, it may take longer to locate your current position when the vehicle is moving than when it is stationary.

# CONTENTS

You should have a set of the following items for each BX1000 /BX1000 Plus order.

1. Smarty BX1000 / BX1000 Plus unit



2. 2GB SD memory card

(The PC Viewer software is in the provided SD card.)



3. power cable (cigarette jack)



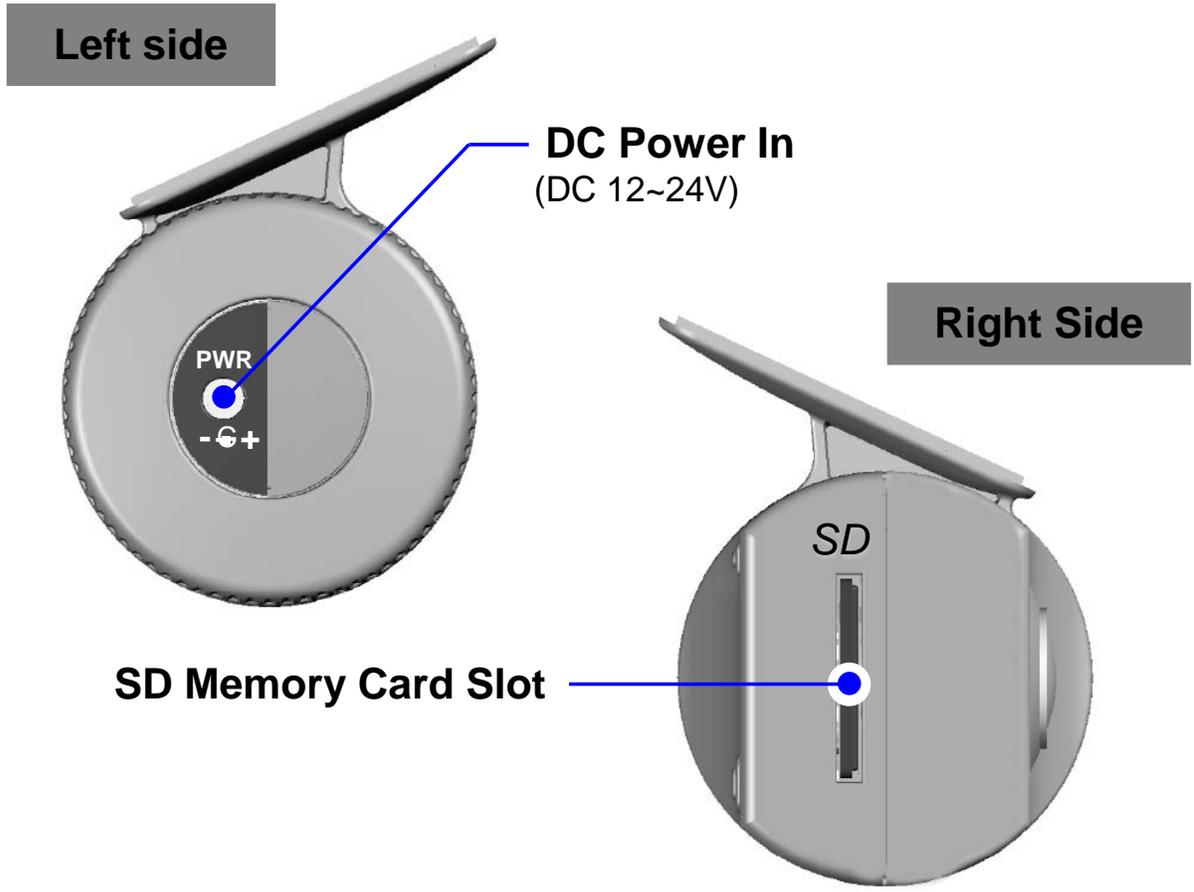
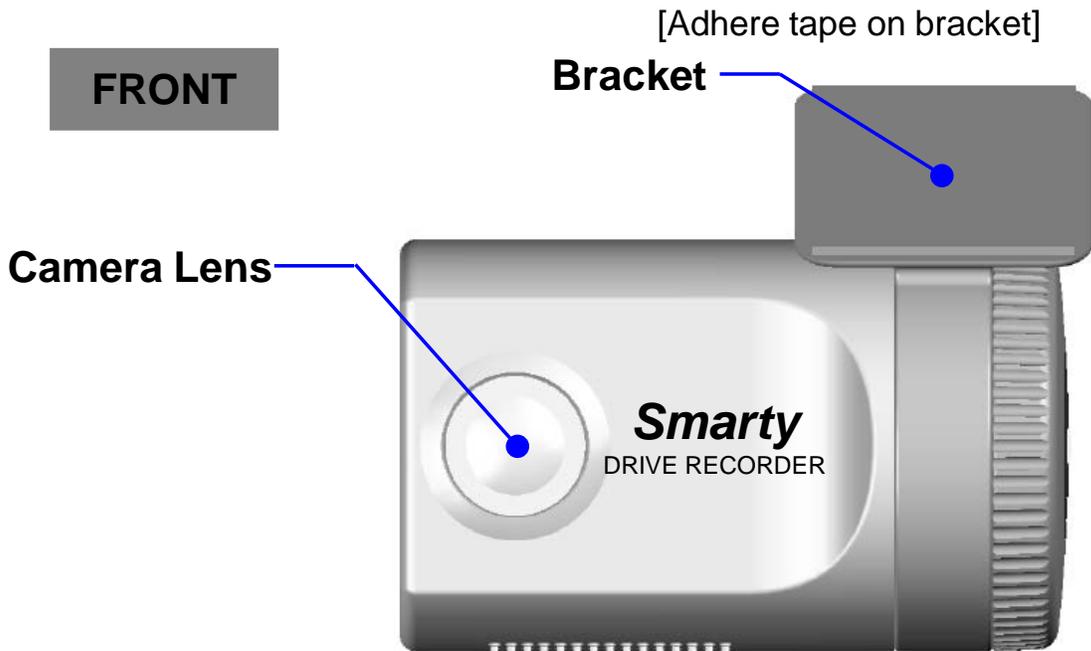
4. Wire Splice clip (5pcs)



5. Sticker (double sided tape 1pc)

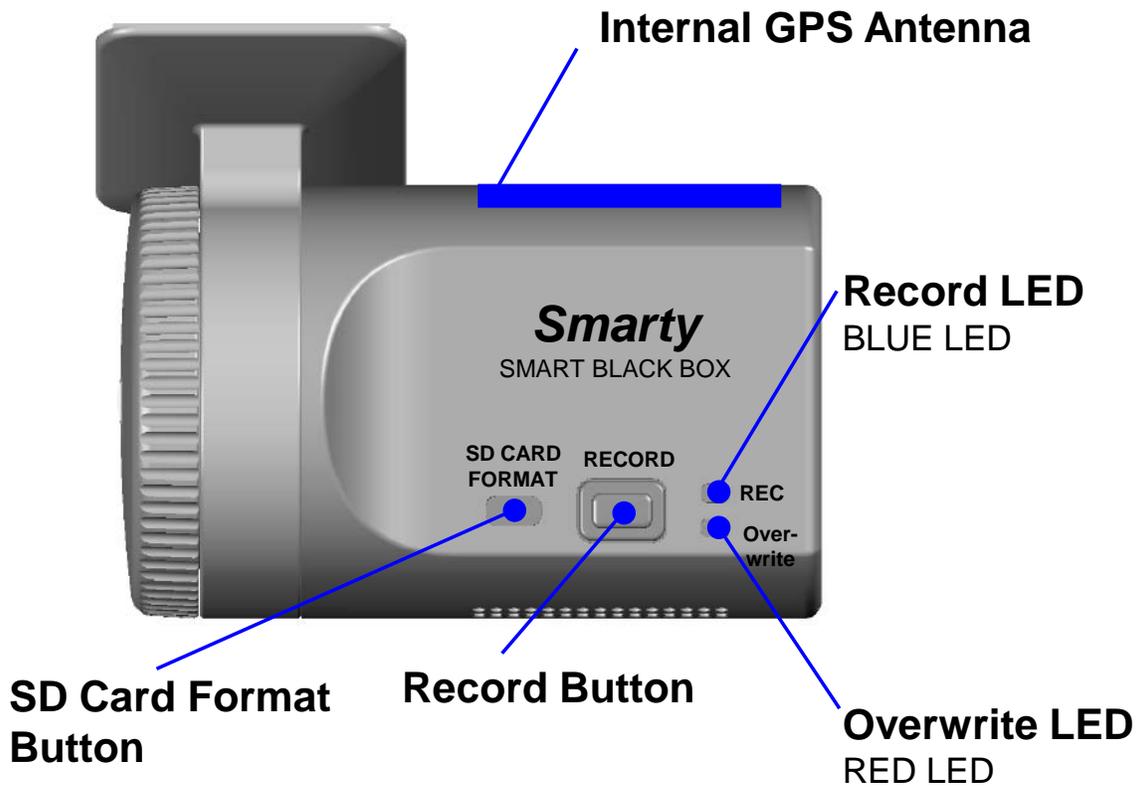


# INTRODUCTION



# INTRODUCTION

BACK



[Remark] Formatting [initializing] SD memory card can be done using SD Card Format Button. However we recommend format [initialize] SD card using the PC Viewer software at the PC.



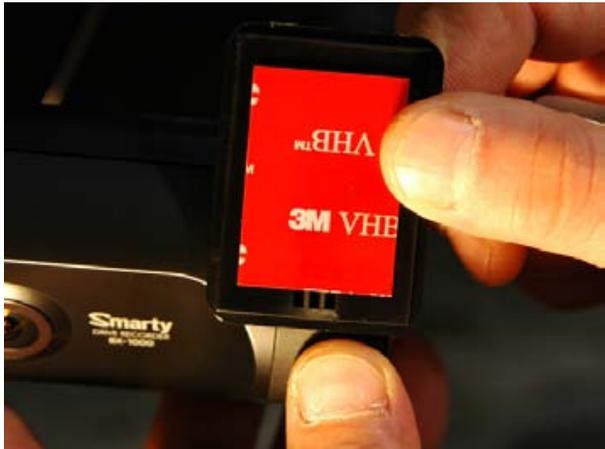
# INSTALLATION

Park your vehicle on a flat level surface.

Turn off the engine before installing the BX1000 / BX1000 Plus.

**1. Insert the SD memory card into the SD card slot.  
Please make sure to disconnect the power cable when inserting or ejecting the SD memory card.**

**2. Attach the BX1000/BX1000 Plus using the provided double sided tape. The surface must be clean and dry before you install. We recommended to install the product behind the rear view mirror on the front windshield.**



[Attachment notes] Adhesive tape will not stick well with dust or oil, etc.  
Warm temperatures are best (above 60 degrees) when applying tape.



## INSTALLATION

- 3. Adjust camera view. Make sure the lens has an unobstructed view. Check from outside the vehicle to check the camera angle.**



Arrange the power cord neatly alongside of the windshield and door pillar trim. Use the provided wire splice clip as seen in the picture on left.

- 4. BX1000/BX1000 Plus unit requires a continuous 12~24volt power source from the vehicle. Plug in the power. The provided power cord cable route should be from the left side of the BX1000/BX1000 Plus towards your power source.**



### **⚠ Caution**

When the impact is light like very light, such as a minor bump in the road, the G-sensor may not recognize the impact and as a result it may not begin recording automatically. Test and set your own G-sensor level for your vehicle.

# FUNCTION

## Automatic start

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Connect your vehicle's power cord to the BX1000/BX1000 Plus after starting the vehicle. Then BX1000/BX1000 Plus will be automatically started. (Use the provided power cord.)

 Notice : The unit will not start recording immediately after power on. It takes around 1 minute for the built-in power backup system to charge. Thereafter, the internal flash memory will be ready to record.

## Event record

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The event recording will be automatically started by G-sensor.  
G-sensor sensitivity can be set with your PC.  
Each event file contains 15 seconds prior & 5 seconds post event.

## Manual record

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Press the [RECORD] button to begin recording manually. Each manual file contains 15 seconds prior to activation & 5 seconds post activation.

## SD Memory Card Format

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Remove the power first. Press the [SD CARD FORMAT] button and hold  
Then connect the power for initialization.  
Once it done, all video & log files will be deleted.  
And the configurations will default to the factory settings.

## Built-in power backup (Super Capacitor)

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When power to the unit is interrupted, BX1000/BX1000 Plus creates the last file using the internal Super Capacitor.

## BLUE LED (RECORD)

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The blue LED shows the power is on.  
The blue LED blink during recording.

## RED LED (OVERWRITE)

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The red LED will be turned on during overwriting.

## Buzzer

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"Beep" sound will occur when recording starts and to signal a system error.

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# OPERATION

1. Make sure that the power cable is properly connected and turn on the car power.
2. Blue LED & Red LED will be slowly blinking simultaneously and then Blue LED will remain on. Blue LED light means BX1000/BX1000 Plus is now ready for the event recording.
3. The event recording will automatically begin by G-sensor with one short “Beep” sound.
4. The manual recording will start by pressing the [RECORD] button.

## [Notice] Multiple impacts coverage

Flash memory captures the video data from the second impact even as the first impact is still occurring. It will start writing, immediately after the first recording is finished.

## Take out SD memory card

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Turn off the power and then check the BLUE LED light. Once the LED light is off, take out the SD memory card.

## Insert SD memory card

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Turn off the power and then check the BLUE LED light. Once the LED light is off, insert the SD memory card.

## System Error Buzzer

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“Beep” “Beep” sound will occur and the BLUE & RED LED light will blink simultaneously when there is a system error or SD card is not inserted.  
[Check the SD memory card!]

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# SOFTWARE USER GUIDE

## BX1000/BX1000 Plus PC Viewer Guide



### [PC SYSTEM REQUIREMENT]

Recommended PC specifications for PC Viewer software

OS	Windows 2000, Windows XP Windows Vista
CPU	Pentium4 2.6GHz or higher
RAM	512MB or higher
Interface	SD Memory Card Reader
HDD Free space	Install 20MB or higher Backup 2GB or higher
Display	1,024 x 768 pixel/High Color(16bit) or higher

If the PC does not meet the minimum system requirement, the PC Viewer may not function properly.

# INSTALLING PROCEDURES

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PC Viewer software is in the provided SD card.

1. Connect the SD card and open the “My Computer”
2. Right-click the “DRIVEREC1” drive and select [Open]
3. Double click [SETUP.EXE] at [pcsw] folder.
4. Select the language and then follow the dialog box.



5. The “PCViewer” icon will be displayed on your desktop.



**※ Remove the “PC Viewer BX1000”**

Open the “Control Panel”

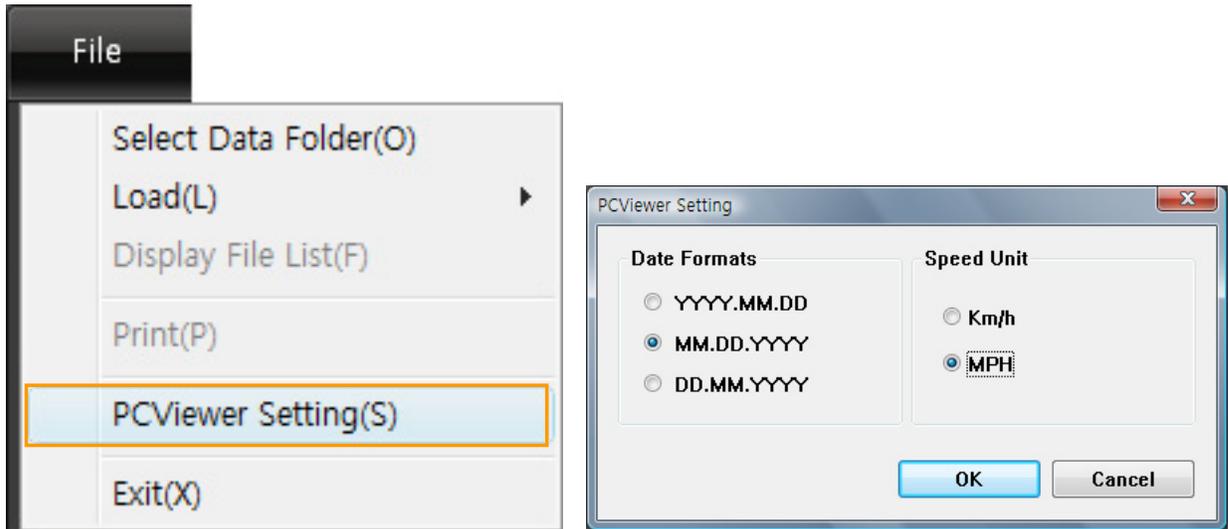
Select [remove program] and remove [PC Viewer BX1000]

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# Connect SD memory card

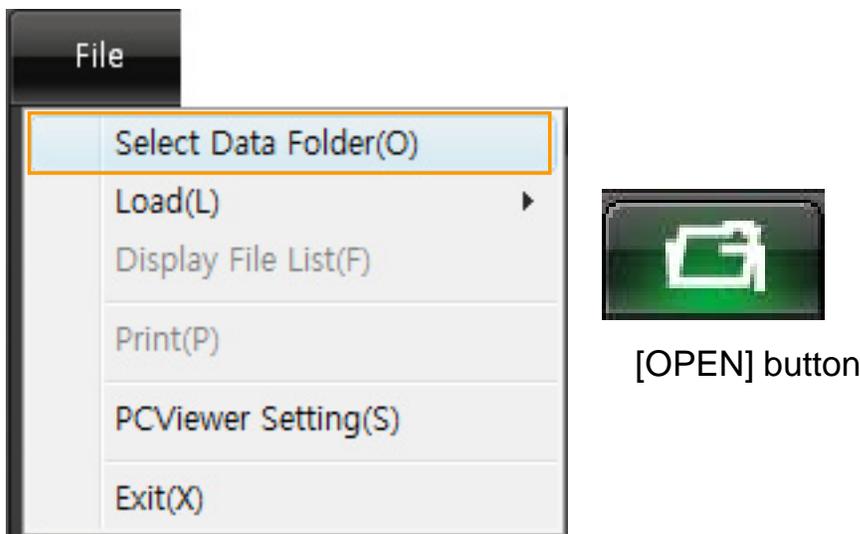
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1. Connect SD memory card in to the SD card reader.
2. Run "PC Viewer BX1000"
3. To set PC Viewer select [File] and then click" PC Viewer Setting"



The 'date' formats and 'speed' unit will be set automatically according to the PC Windows setting. However it can be changed with this PC viewer setting menu.

3. Select [File] and then click "Select Data Folder" or Click [OPEN] button



4. Select SD memory card folder at the folder select window.



# FILE LOADING

4. Check the event from the 'Event file' list using mouse or click [Check All] button. Then click [Load] button.

No.	EVENT File	Type
<input type="checkbox"/> 0	2009.01.08 03:51:03	G-Sensor
<input type="checkbox"/> 1	2009.01.08 03:51:28	G-Sensor
<input type="checkbox"/> 2	2009.01.08 03:52:47	G-Sensor
<input checked="" type="checkbox"/> 3	2009.01.08 03:54:15	Switch
<input checked="" type="checkbox"/> 4	2009.01.08 03:59:27	Switch
<input type="checkbox"/> 5	2009.01.08 04:02:44	G-Sensor
<input type="checkbox"/> 6	2009.01.08 04:07:35	G-Sensor
<input type="checkbox"/> 7	2009.01.08 04:08:54	G-Sensor
<input checked="" type="checkbox"/> 8	2009.01.08 04:12:37	G-Sensor
<input checked="" type="checkbox"/> 9	2009.01.08 04:15:56	Switch
<input type="checkbox"/> 10	2009.01.08 04:17:52	G-Sensor
<input type="checkbox"/> 11	2009.01.08 04:19:32	G-Sensor
<input type="checkbox"/> 12	2009.01.08 04:21:30	Switch
<input type="checkbox"/> 13	2009.01.08 04:22:34	G-Sensor

Annotations:

- Check the event (points to event 3)
- "G-Sensor" means Recorded by impact (points to event 1)
- "Switch" means Recorded by button (points to event 9)
- Load Button (points to the 'Load' button)

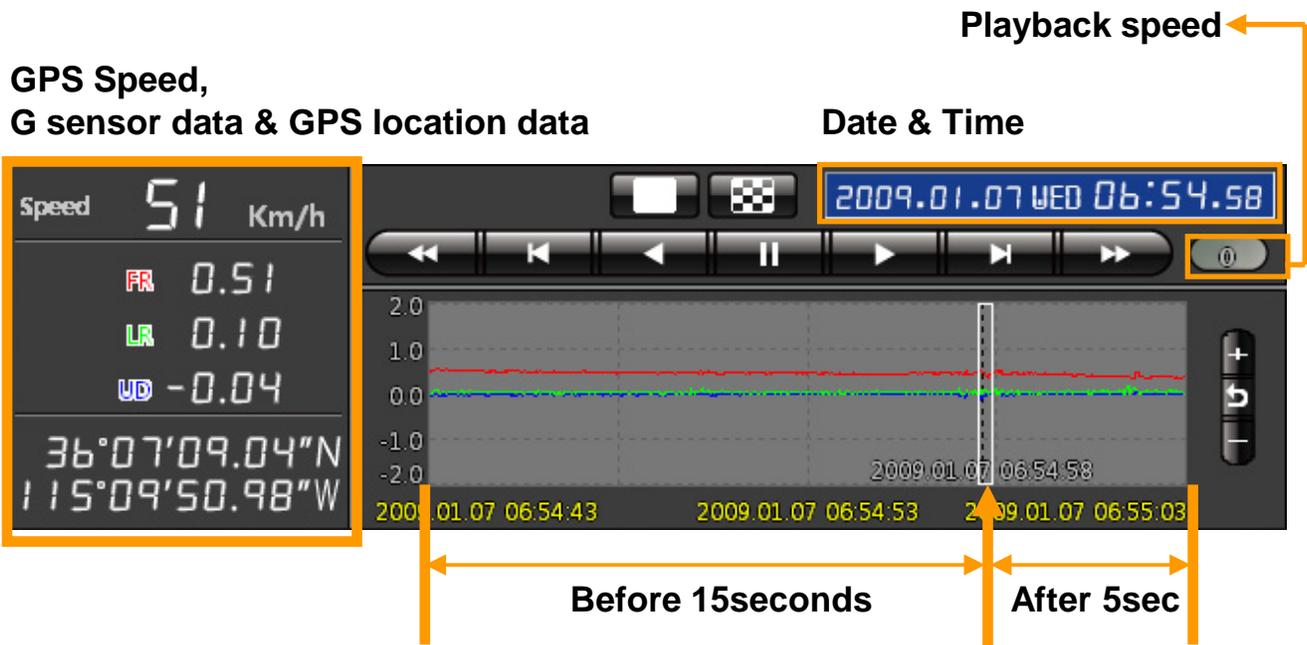
5. The event list tap will be changed to [PlayList] tap as below,

Annotations:

- G-Sensor [POST] (points to playlist item)
- [POST]: post-recorded frame [PRE]: pre-recorded frame
- Check it for continuous playback (points to 'Continuous Play' button)
- Display frame/Total frames number (points to '465 / 630')
- Frame size (points to '38 KB')

# PLAYBACK

6. Click  (play) button for playback.



Drag & Move the white line to move the playback position.

Event

### Playback buttons

X2, 4, 8, 16	X0.5, 1	X0.5, 1	X2, 4, 8, 16
Fast Reverse	Reverse	Play	Fast Forward

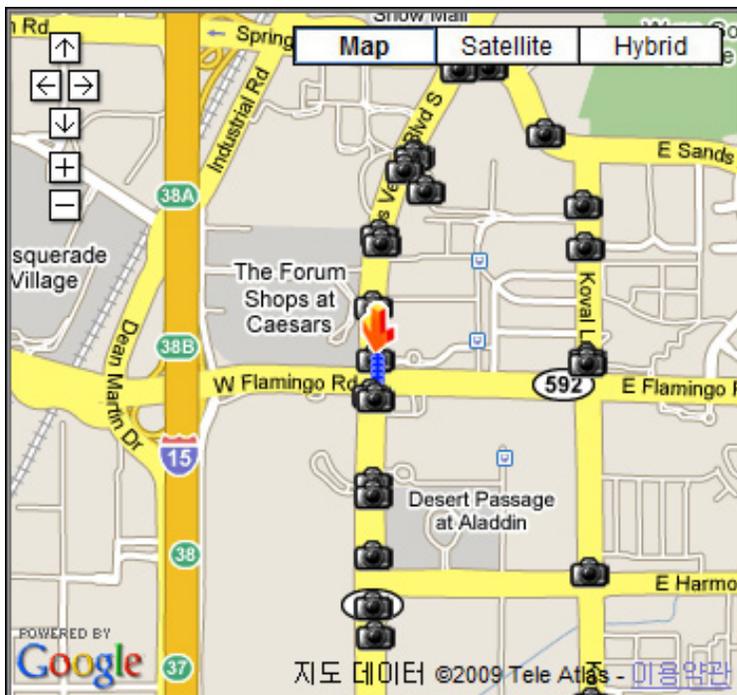
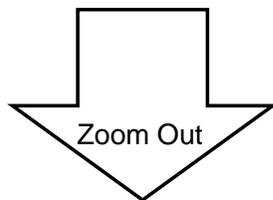
Previous Image      Pause      Next Image

- Single View
- 4x4 Multi View (Thumb-nail function)
- Zoom In G-sensor graph
- Zoom Out G-sensor graph

[REMARK] PC keyboard hot buttons  
 [Space]: Pause/Play  
 [→] direction: Next image  
 [←] direction: Previous image

# Google map (Support “BX1000 Plus” model only)

The route are on the Google map at lower right corner of the software.



**⚠ To see the route & position on the Google map, the GPS data should be recorded with video.**

**To see the map on the PC, the internet line should be connected.**

**Playback position is the arrow mark on the map.  
And blue mark is the route.**

**Double click the blue mark then the video playback position will be changed.**

**Camera icon means there is a recorded file.**

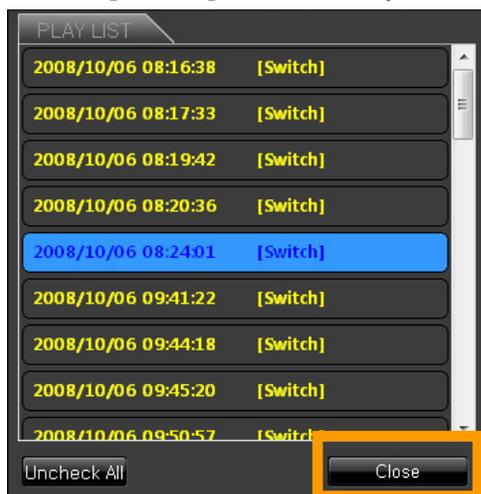
# Thumb-nail Function

7. Click  button for 4x4 multi view (Thumb-nail function)



Click the thumb-nail image to change the playback position.  
Click right button of mouse for the single image playback mode.

8. Click [Close] button to quit the event playback.



Click [Close] to finish the event playback.  
Then the [PlayList] window will be changed to the initial status.

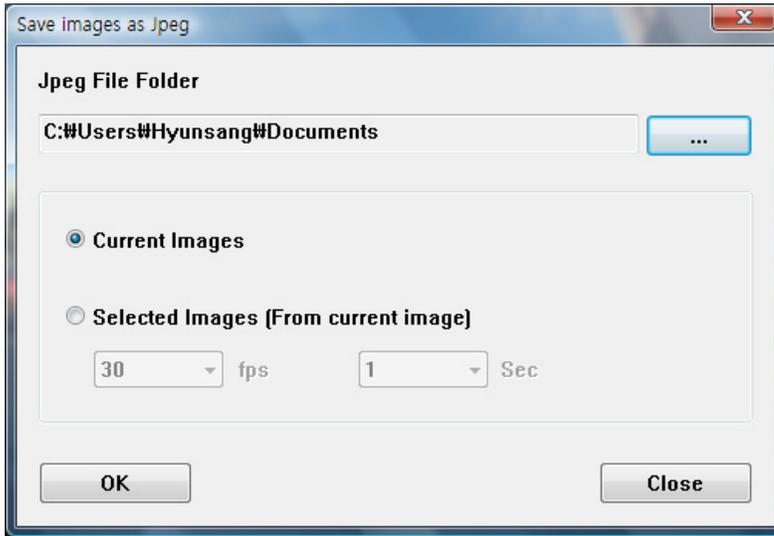
# Save JPG file & AVI file

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9. Pause the playback and click 'Save Image' icon to make a JPG file.



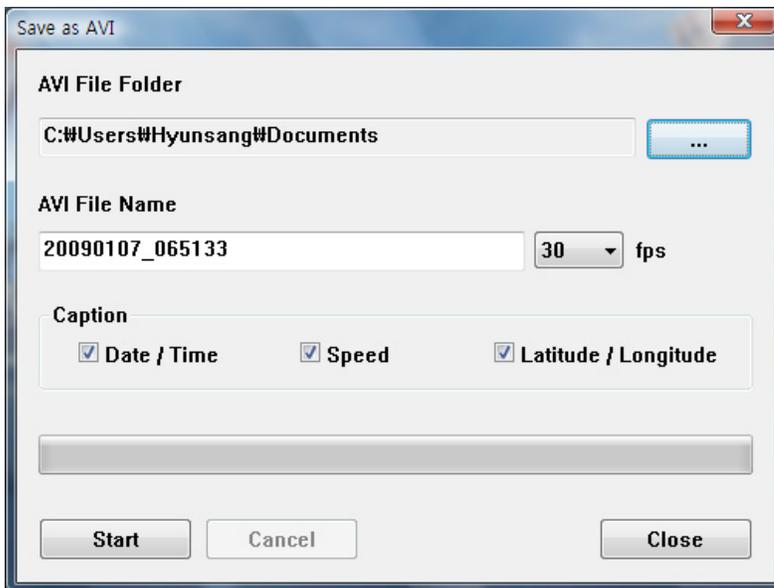
'Save Image' icon



10. Click 'Save AVI' icon to make a AVI file.



'Save AVI' icon



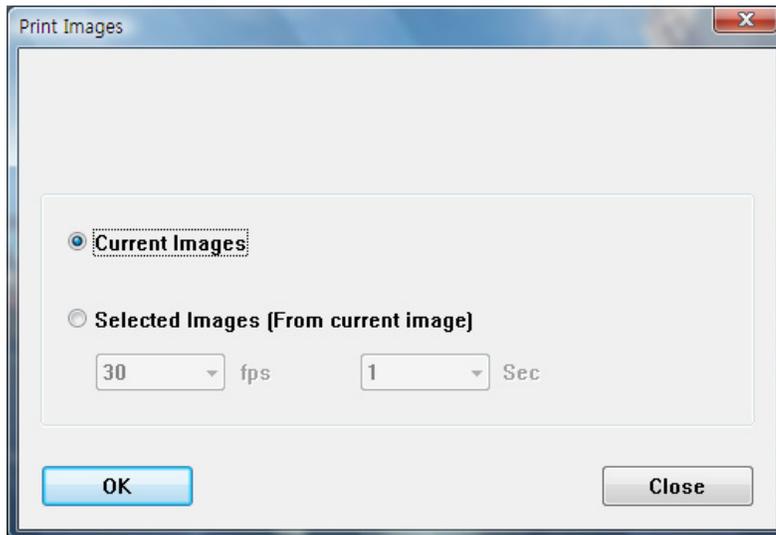
# Print image

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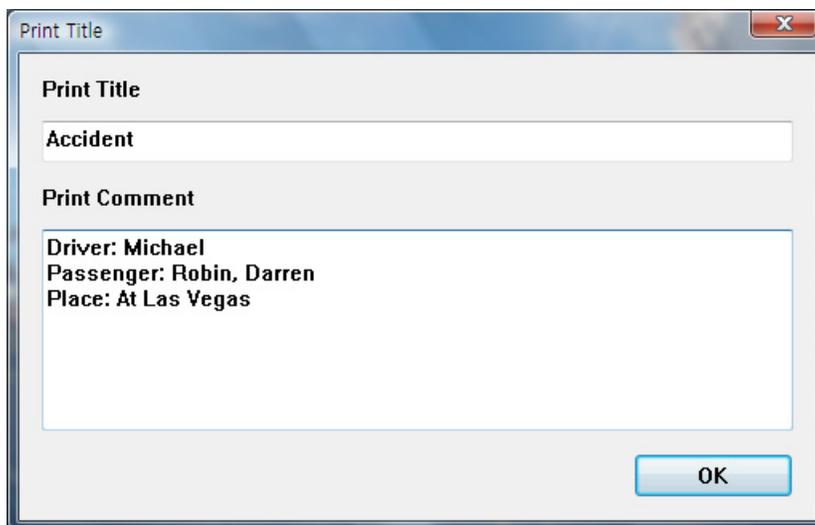
11. Pause the playback and click 'Print Image' icon.



Print image icon



Input [Print Title] & [Print Comment] using Keyboard.



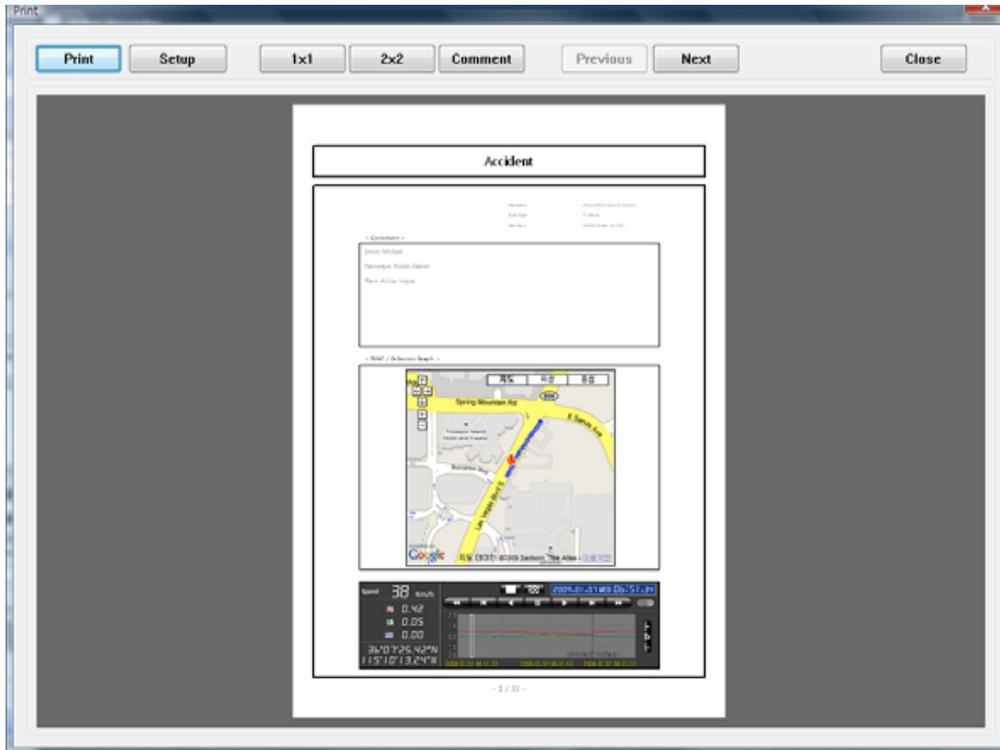
Total Print Comment window allows up to 7 lines total.

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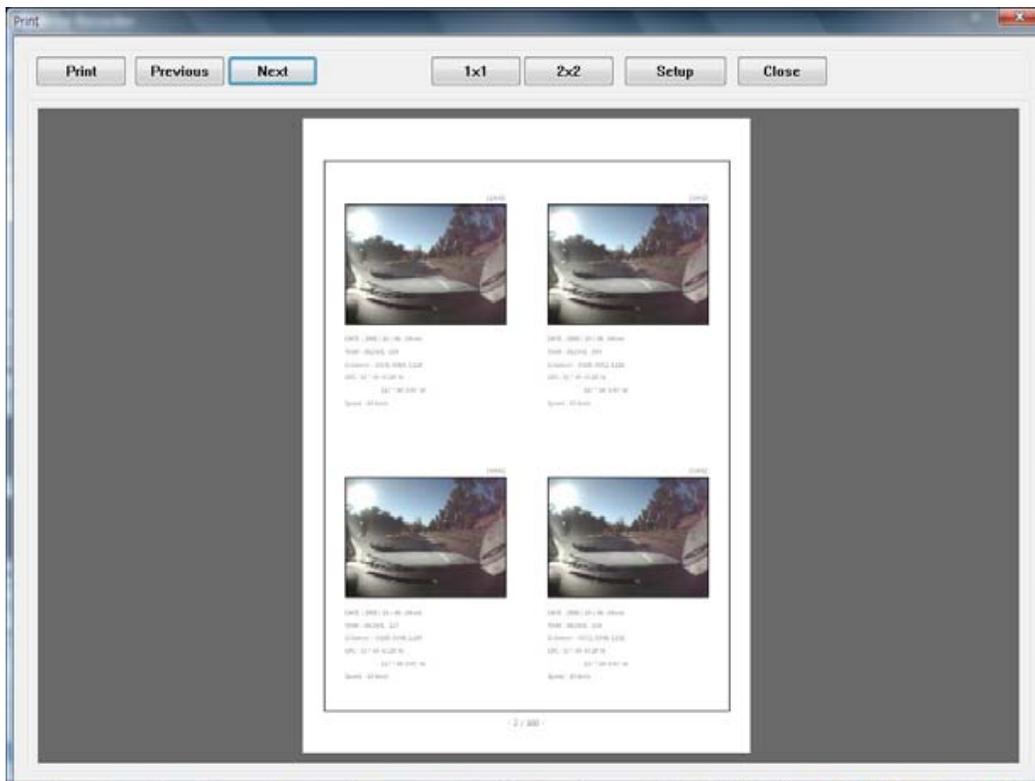
# Make Report

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12. Click [Print] button in the print preview windows for printing.  
[Print Title] & [Print Comment] & G-sensor graph & map will be printed on the first page.



Click [ 2x2 ] and then click [Print] to print 4 images in one page.



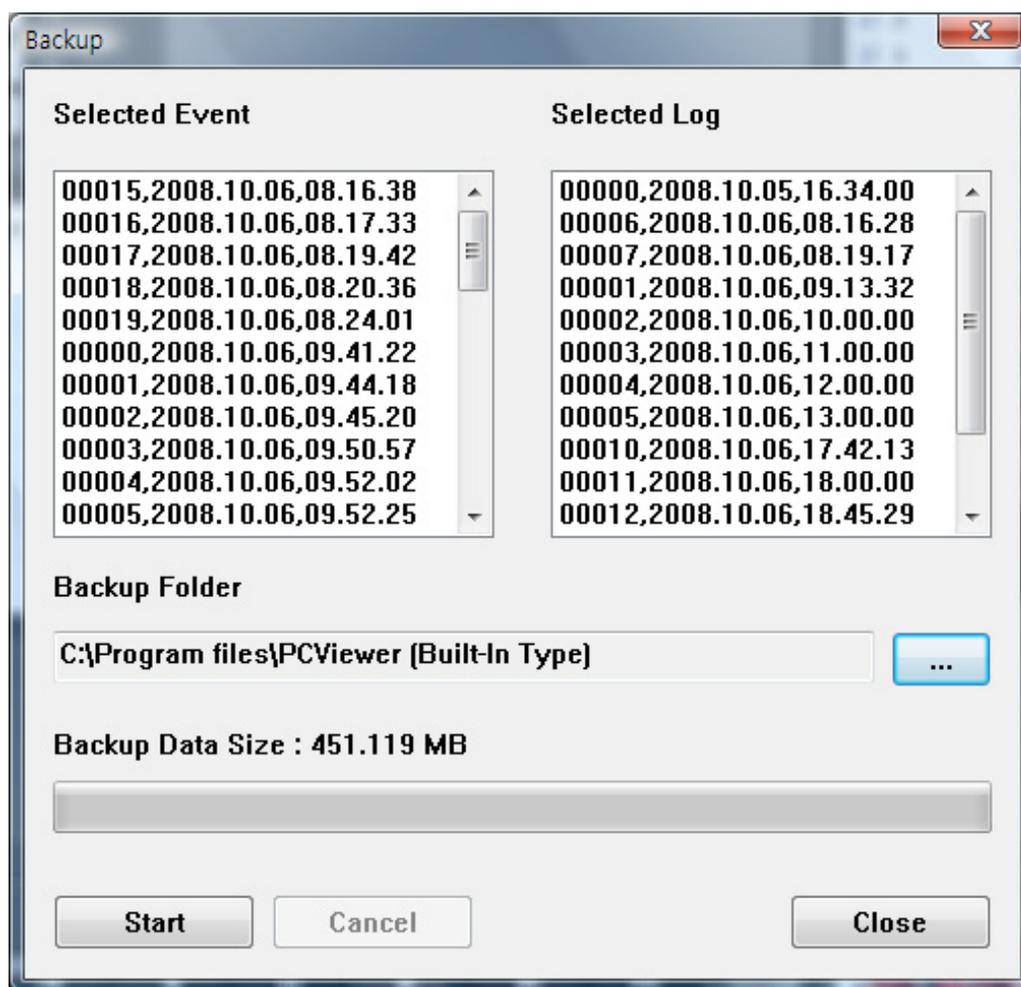
## Backup Event/Log files

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13. Click [Backup Event/Log files] icon to backup the files to the PC.



[Backup Event/Log files] icon



Check & Load [Event data] and Check & Load [Log data] first, before clicking the [Backup Event/Log files] icon. Then Event and Log list are on the Backup windows.

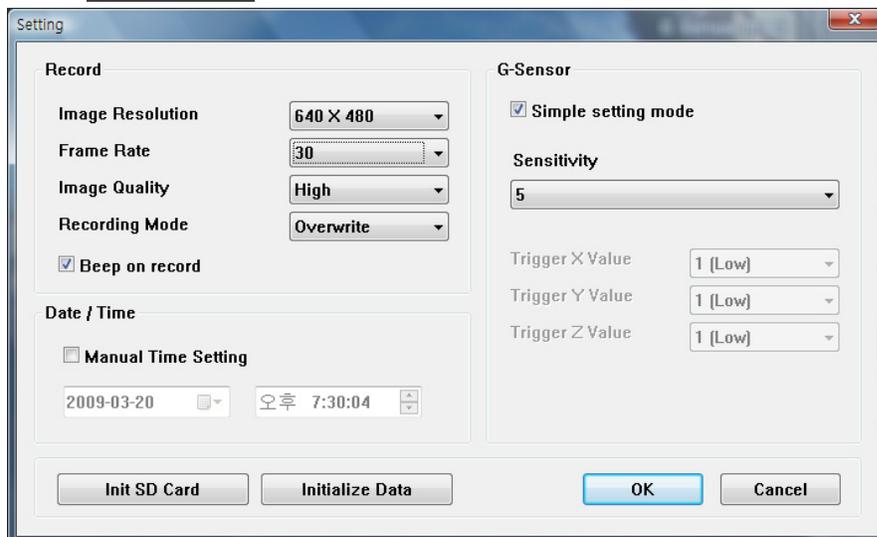
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# Setting Drive Recorder

14. Click [Setting Drive Recorder] icon for setup.



[Setting Drive Recorder] icon



**⚠ Caution**  
 Backup the SD data first, before clicking initialize SD card button. Once done, the old data cannot be recovered.

Image Resolution	640x480(High), 320x240(Low)
Frame Rate	30 means real-time recording
Image Quality	High (Large file size, but good picture quality) Low (Small file size, but low picture quality)
Recording Mode	Overwrite (The image data is overwrites the oldest files when the SD memory is full.) One time (The recording stops automatically when the SD memory is full.)
Beep on record	“Beep” sound ON/OFF when recording start
G-sensor setting	Check simple setting mode and then change the sensitivity. High sensitivity like 8 or 9 means recording will be started at very low impact.
Date/Time	Automatically synchronize with GPS time. However Manual time setting is also available.
Initialize SD card	All date will be deleted and set the configuration of Drive Recorder will default to the factory settings.

# Product Information

### G-Sensor

**Simple setting mode**

**Sensitivity**

5

Trigger X Value: 5

Trigger Y Value: 5

Trigger Z Value: 5

**G-Sensor setting**  
If G-sensor sensitivity value is too high like 8 or 9, it becomes too sensitive, so it will detect even a light impact or light turn. If G-sensor sensitivity value is too dull, so it might no detect a notable incident. So, sensitivity should be set in consideration of a vehicle's suspension and condition and also the road condition.

### Date / Time

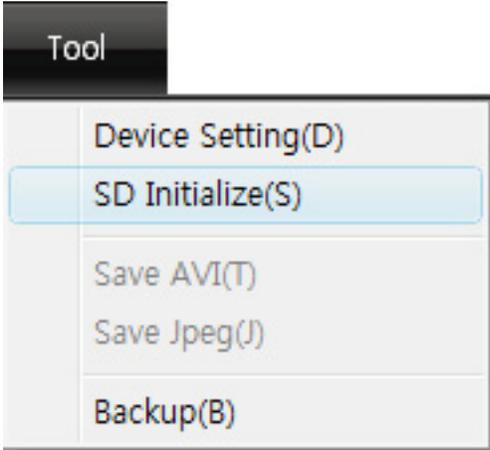
**Manual Time Setting**

2009-02-09    3:34:13

[BX1000] doesn't have the GPS time sync. function. So please click the manual time setting, and set your time before installing it in your car.

[BX1000 Plus] have the internal GPS supporting the automatic GPS Time Synchronize function. The time recording is done based on UTC at the BX1000 Plus and automatically converts to the local time at the PC according to the PC time zone setting when playing back using the PC Viewer.

**NEW SD Memory card initializing should be done using Tool menu.**



The image shows a software menu titled 'Tool' with several options: 'Device Setting(D)', 'SD Initialize(S)', 'Save AVI(T)', 'Save Jpeg(J)', and 'Backup(B)'. The 'SD Initialize(S)' option is highlighted with a blue background.

STEP1. Insert new SD memory card into the PC.  
STEP2. Run "PC Viewer BX1000"  
STEP3. Select [Tool] and then click [SD Initialize]

We recommend the [SD initialize] at least once per month to prevent the BX1000/BX1000 Plus from any software errors.

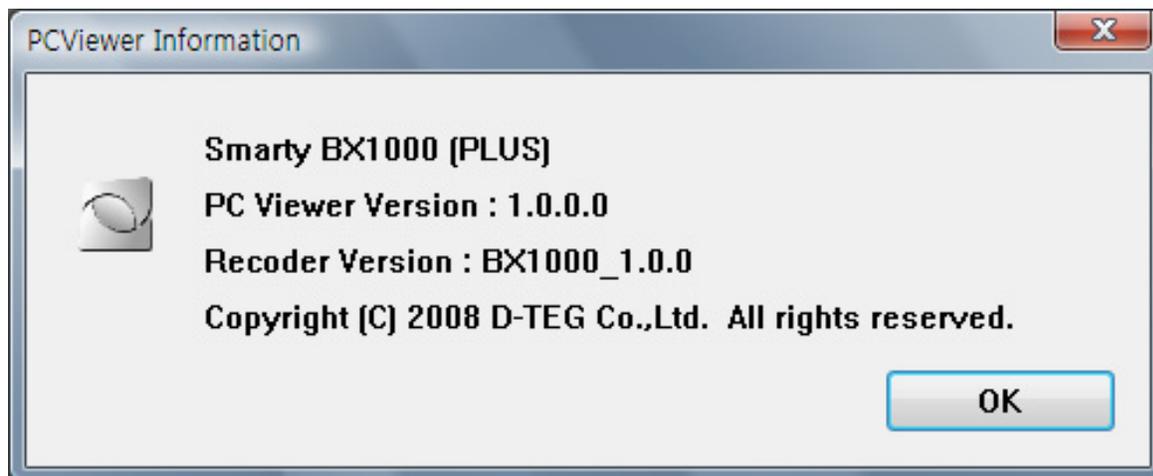
# Setting Drive Recorder

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15. Click [About] icon to check the product information.



About icon



# LOG FILE PLAYBACK

16. Select [LOG] windows and then check the log from the log list using mouse or click [Check All] button. Then click [Load] button.

**Log data** Log data will be recorded during driving even if there are no events. The total log data size is no more than 30MB. The log data overwrites the oldest data when 30MB is reached. Using this log data, we can use the data sorting function which helps to find a specific data like more than 80mph(or 80km), for example.

Search button

Input sorting data

G-sensor graph

The screenshot shows the Drive Recorder software interface. At the top, there is a menu bar with 'File', 'Edit', 'View', 'Play', 'Tool', and 'Help'. Below the menu bar, there are several control panels. On the left, there is a 'Search Log' table with columns for 'No.', 'DATE TIME', and 'Event Type'. The table contains five rows of log data, with the fifth row highlighted. Below the table, there is a 'G-Sensor' graph showing acceleration values over time. On the right, there is a 'Log' table with columns for 'No.', 'LOG File', and 'Duration'. The 'Log' table contains two rows of log data, with the first row checked. Below the 'Log' table, there are buttons for 'Uncheck All', 'Google Earth', and 'Load'. At the bottom, there is a speedometer showing '62 Km/h' and a map of the current location.

No.	DATE TIME	Event Type
1	2009.01.07 06:55:02	G-Sensor
2	2009.01.07 06:57:51	G-Sensor
3	2009.01.07 07:00:05	G-Sensor
4	2009.01.07 07:01:40	G-Sensor
5	2009.01.07 07:10:27	G-Sensor

No.	LOG File	Duration
<input checked="" type="checkbox"/> 0	2009.01.07 06:08:05	51 Min
<input checked="" type="checkbox"/> 1	2009.01.07 07:00:00	15 Min

GPS speed, G sensor X value, G sensor Y value, G sensor Z value, can be checked first on the small check box at right side of each value. And then input data for data sorting.  
If there is recorded video data, [Switch] or [G Sensor] mark will be displayed on list.

# GPS LOG TO KML CONVERTER (for Google Earth)

To see the whole route on Google Earth, select the log file and click Google Earth button. (BX1000 Plus only)

Event		Log	
No.	LOG File	Duration	
<input type="checkbox"/>	1	23.02.2009 21:20:39	10 Min
<input type="checkbox"/>	2	23.02.2009 22:33:41	1 Min
<input type="checkbox"/>	3	23.02.2009 22:52:49	6 Min
<input checked="" type="checkbox"/>	4	23.02.2009 23:00:00	10 Min
<input type="checkbox"/>	5	23.02.2009 23:11:04	2 Min
<input type="checkbox"/>	6	24.02.2009 00:56:00	3 Min
<input type="checkbox"/>	7	24.02.2009 01:00:00	9 Min
<input type="checkbox"/>	8	24.02.2009 08:42:28	17 Min

Check All **Google Earth** Load

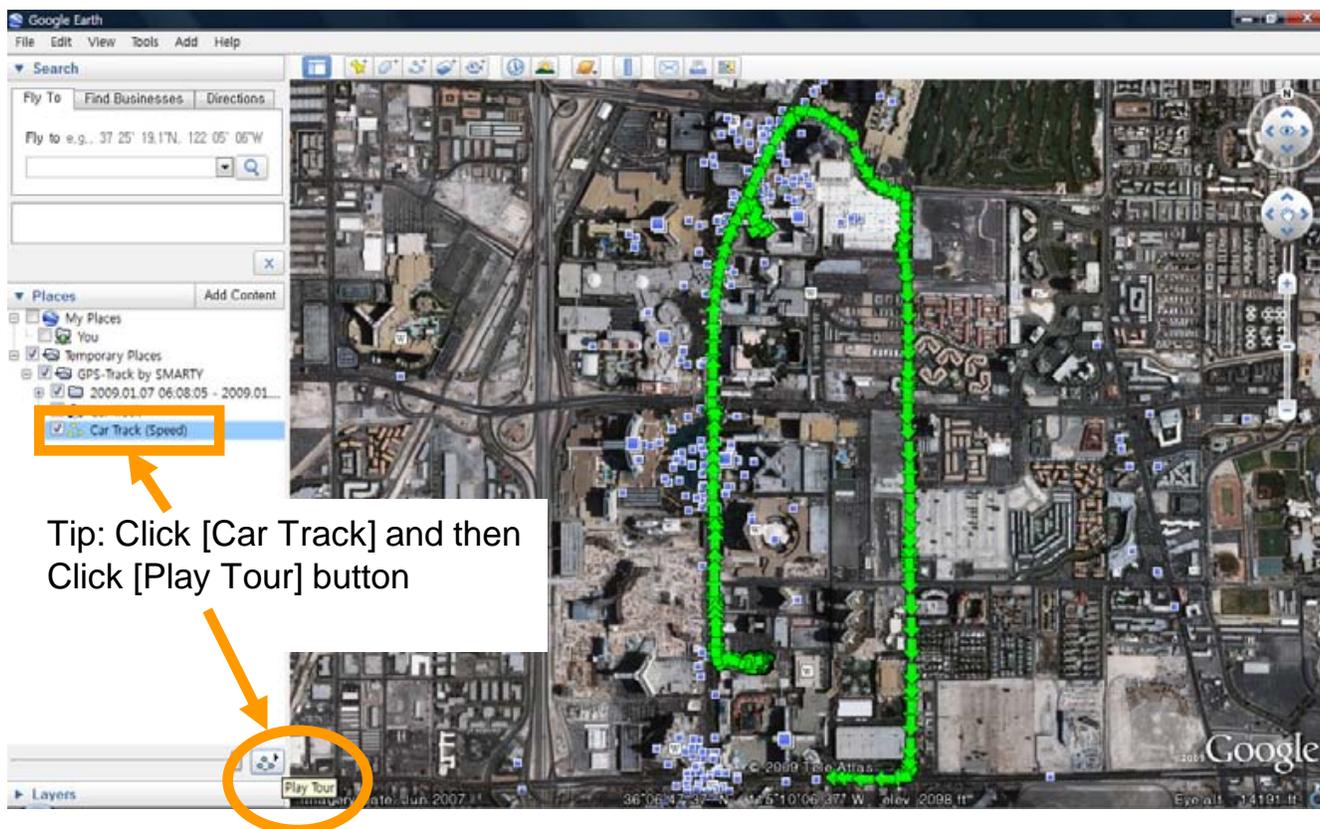
STEP1. Install the Google Earth on your PC.  
(<http://earth.google.com/>)

STEP2. Check the log file

STEP3. Click Google Earth button

Then the route will be on the Google Earth.

We recommend to use Google Earth Version 5.0 or above.



## SPECIFICATION

Image sensor	1/4" CMOS Digital Sensor 310K pixels
Angle of View	170 ° (horizontal : 131° vertical : 96 ° )
Video resolution	640*480, 320*240
Frames per second	30 frames
Recording	By impact By emergency button.
Recording time	before 15 sec after 5 sec
GPS	Internal GPS
G-Sensor	Internal 3-axis G-sensor
Memory	2GB SD memory card (support SDHC)
RTC	Internal battery
Buzzer	Recording start, error
LED	2 LED (Record, Overwrite)
Supper Capacitor	Enable recording last file and shut down
PC software	PC Viewer
Power input	12V ~ 24V (cigarette plug)
Power consumption	2.8W
Size/Weight	80 mm X 50 Ø , 100g
Operation Temp.	-10°C~50°C



## LIMITED WARRANTY

Drive Recorder

D-TEG Security Co., Ltd. ("D-TEG") warrants this product against defects in material or workmanship for the time periods and as set forth below. Pursuant to this Limited Warranty, D-TEG will, at its option, (1) repair the product using new or refurbished parts or (2) replace the product with a new or refurbished product. For purposes of this Limited Warranty, "refurbished" means a product or part that has been returned to its original specifications. In the event of a defect, these are your exclusive remedies.

Term: For a period of one(1) year from the original date of purchase of the product, D-TEG will, at its option, repair or replace with new or refurbished product or parts, any product or parts determined to be defective.

This Limited Warranty covers only the hardware components packaged with the Product. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the Product; any such software is provided "AS IS" unless expressly provided for in any enclosed software Limited Warranty. Please refer to the End User License Agreements included with the Product for your rights and obligations with respect to the software.

Instructions: To obtain warranty service, you must deliver the product, freight prepaid, in either its original packaging or packaging affording an equal degree of protection to the Sony authorized service facility specified. It is your responsibility to backup an data, software or other materials you may have stored or preserved on your unit. It is likely that such data, software, or other materials will be lost or reformatted during service and D-TEG will not be responsible for any such damage or loss. A dated purchase receipt is required. For specific instructions on how to obtain warranty service for your product,

Visit D-TEG's Web site:

[www.d-teg.com/support/support01.htm](http://www.d-teg.com/support/support01.htm)

Or call the D-TEG Customer Information Service Center

+82-31-706-2514

For an accessory or part not available from your authorized dealer, call:

+82-31-706-2514

**Repair / Replacement Warranty:** This Limited Warranty shall apply to any repair, replacement product for the remainder of the original Limited Warranty period or thirty(30) days, whichever is longer. Any parts or product under this Limited warranty will become the property of D-TEG.

This Limited Warranty only covers product issues caused by defects in material or workmanship during ordinary use; it does not cover product issues caused by any other reason, including but not limited to product issues due to acts of God, misuse, limitations of technology, or modification of or to any part of the D-TEG product. This Limited Warranty does not cover D-TEG products sold AS IS or WITH ALL FAULTS or consumables (Such as fuses or batteries). This Limited Warranty is invalid if the factory-applied serial number has been altered or removed from the product.

**LIMITATION ON DAMAGES:** D-TEG SHALL NOT BELIABE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT.

**DURATION OF IMPLIED WARRANTIES:** EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.