



USER GUIDE

Model: BX1500 / BX1500+



VER 1.0

- *Thank you for purchasing this Drive Recorder.*
- *Please ensure that you read and understand this USER GUIDE and use it before connecting and installing this Recorder.*
- *Please store the USER GUIDE in an easily accessible location.*

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

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.**

Battery for RTC(Real Time Clock) inside



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 -10 ~ 50°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

Each BX1500/BX1500+ order includes the following items

1. Smarty BX1500 / BX1500+ unit



2. SD memory card

(The PC software is on the provided SD card. The SD card capacity should be at least 4GB.)



3. Power cable (cigarette jack)



4. Video out cable (3m)



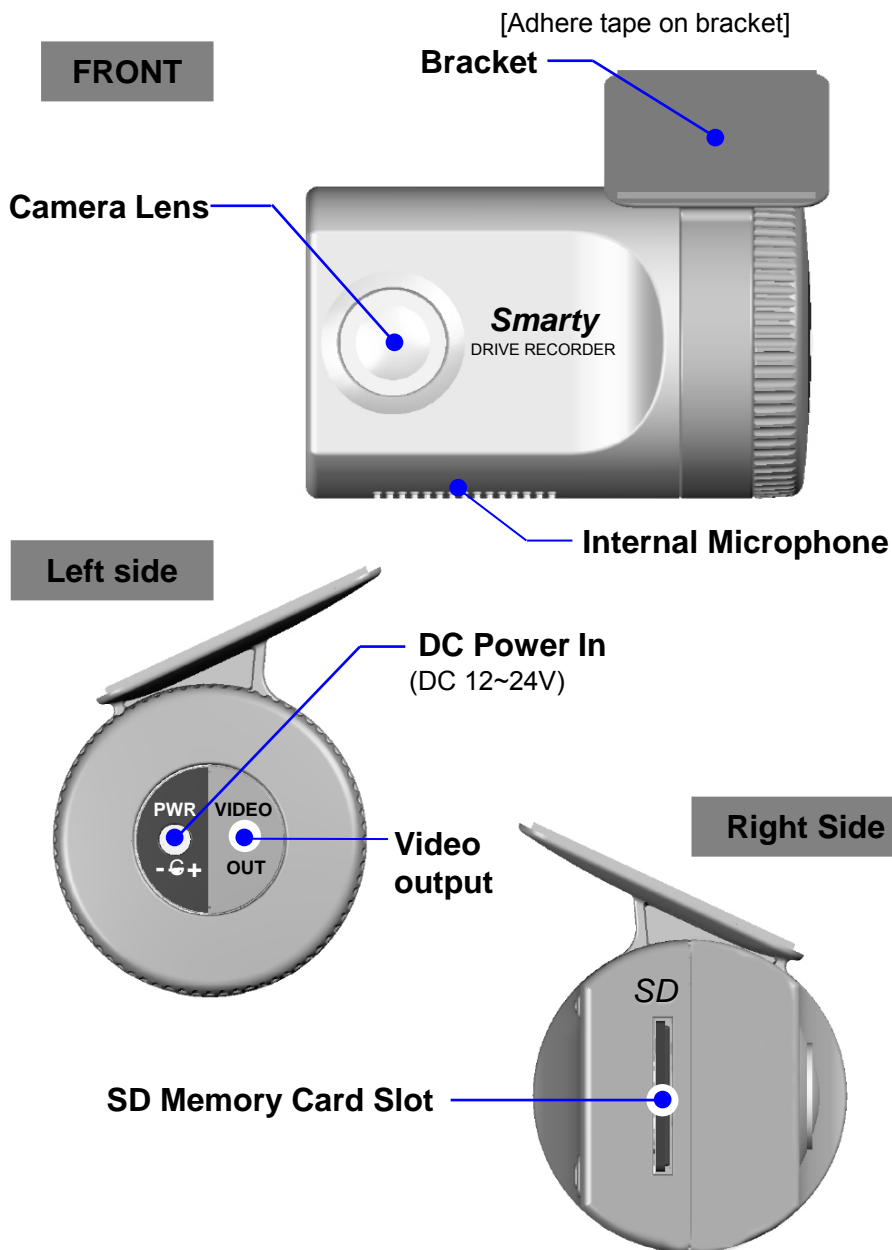
5. Wire Splice clip (5pcs)



6. 3M Adhesive for windshield mounting

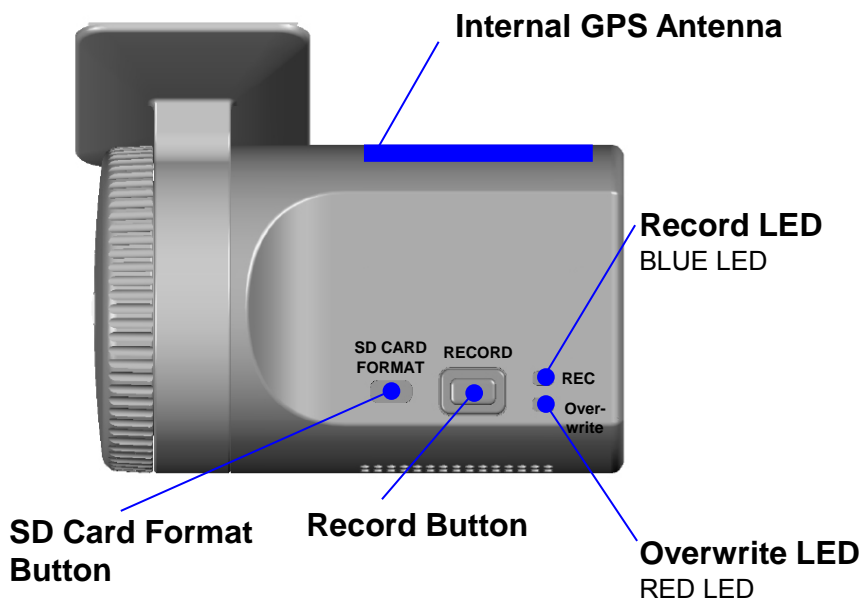


INTRODUCTION



INTRODUCTION

BACK



[Note] 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 on your PC.



Holder : Before installing on the windshield, unscrew the cap and adjust the angle. Rotate clockwise to attach the body. The lens should preferably be parallel to the ground.

INSTALLATION

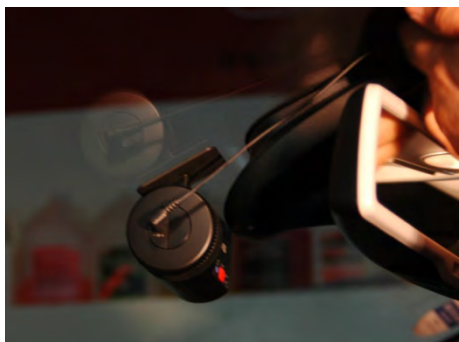
Park your vehicle on a flat level surface.

Turn off the engine before installing the BX1500 / BX1500+.

- 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 BX1500/BX1500+ 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 30 degrees centigrade) 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. **The BX1500/BX1500+ 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 BX1500/BX1500+ 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

Connect your vehicle's power cord to the BX1500/BX1500+ after starting the vehicle. Then BX1500/BX1500+ 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 (when Record Method set as "Event record")

The event recording will be automatically started by G-sensor.

G-sensor sensitivity can be set with your PC.

Each event file contains 20 seconds prior & 20 seconds post event.

Manual record (when Record Method set as "Event record")

Press the [RECORD] button to begin recording manually. Each manual file contains 20 seconds prior to activation & 20 seconds post activation.


Continuous record (when Record Method set as "Normal record")

The continuous recording will be automatically started after power on.

BX1500/BX1500+ doesn't make a separate event file during the continuous recording. It will mark the Event area by G-sensor or Record button at the continuous recording file which can be easily searched for during playback.

SD Memory Card Format

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

 **Note :** PC Viewer software is pre-loaded on the SD card. Please ensure you have installed the software to your PC before you format the card.

Built-in power backup (Super Capacitor)

When power to the unit is interrupted, BX1500/BX1500+ creates the last file using the internal Super Capacitor.

BLUE LED (RECORD)

The blue LED shows the power is on. The blue LED flash during the event recording.

RED LED (OVERWRITE)

The red LED will be turned on during overwriting.

Buzzer

"Beep" sound will occur when recording starts (this can be turned off at setup page on PC viewer, if required) and to signal a system error.

OPERATION

When Record Method set as “Event record”

1. Connect your vehicle's power cable to the BX1500/BX1500+ after starting the vehicle.
2. Blue LED & Red LED will be slowly blinking simultaneously and then Blue LED will remain on. Blue LED light means BX1000/BX1000+ 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 continuously captures the video data during the second or third impact and record it to the first impact file.

When Record Method set as “Normal record”

1. Connect your vehicle's power cable to the BX1500/BX1500+ after starting the vehicle.
2. Blue LED & Red LED will be slowly blinking simultaneously and then the Blue LED will remain on and flash every 5seconds.
3. Blue LED light flashing every 5 seconds means BX1500/BX1500+ is now recording continuously.
4. The continuous recording(normal recording) will automatically begin just after power on.
5. The manual recording that started by pressing the [RECORD] button or the event recording by G-sensor make a event making in the continuous recording file.

Take out SD memory card

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

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

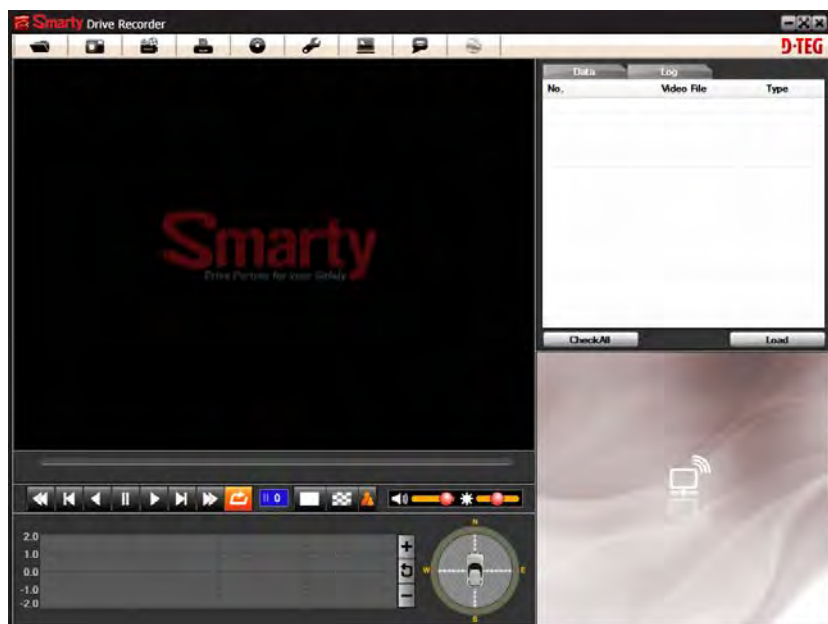
System Error Buzzer

“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 when this occurs. To solve the problem, initialize the SD card or replace the SD card.]

SOFTWARE USER GUIDE

BX1500/BX1500+ PC Viewer Guide



[PC SYSTEM REQUIREMENT]

Recommended PC specifications for PC Viewer software

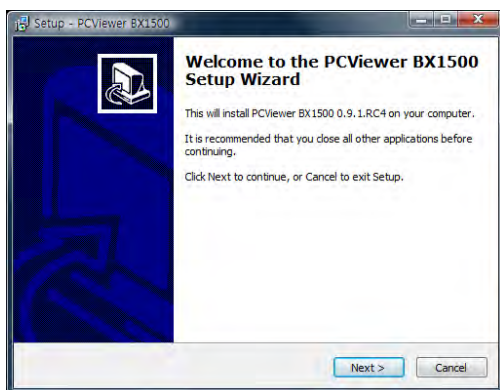
OS	Windows 2000, Windows XP Windows Vista, Windows 7
CPU	Pentium4 2.6GHz or higher
RAM	512MB or higher
Interface	SD Memory Card Reader
HDD Free space	Install 20MB or higher Backup 2GB or higher
Display	1,024 x 768 pixel/High Color(16bit) or higher

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

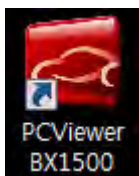
INSTALLING PROCEDURES

PC Viewer software is on the provided SD card.

1. Connect the SD card into your PC (if your computer does not have and SD card slot use the USB SD card reader) and open the “My Computer”
2. Right-click the “HDREC1” 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.



※ NOTE: To Un-install the “PC Viewer BX1500”
Open the “Control Panel”
Select [Remove Program] and remove [PC Viewer BX1500]

Connect SD memory card

1. Connect SD memory card into your PC's SD card slot or a USB SD card reader.
2. Run "PC Viewer BX1500"
3. Select [File] and then click "Select Data Folder" or Click [OPEN] button



[OPEN] button

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

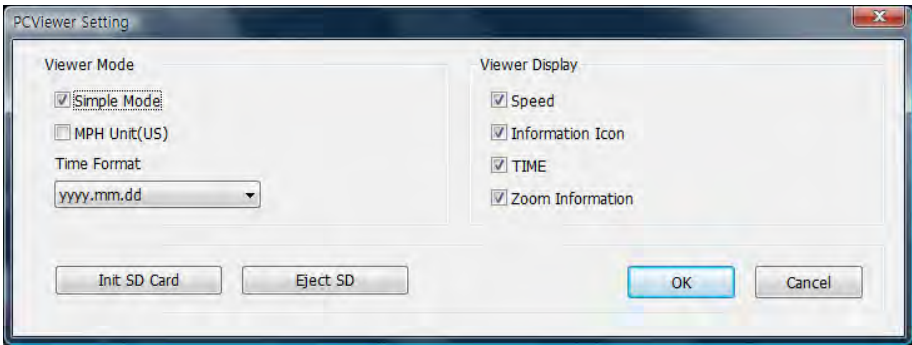


PC Viewer Setting

This setting is for the PC Viewer itself.
To set the Video Recorder (i.e. resolution, frame rate, etc. refer to page26).



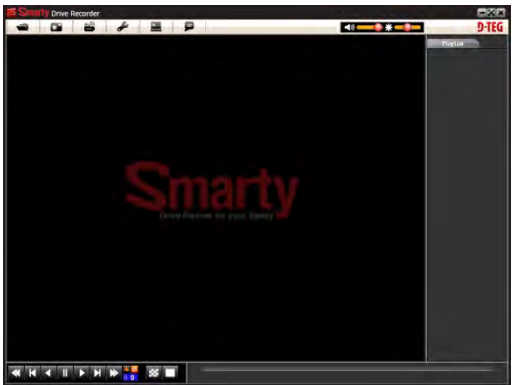
[PC Viewer Setting] button



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.

Simple Mode

Check Simple Mode and press [OK] button.
Then PC Viewer skin will change to Simple Mode PC Viewer skin.



[Simple Mode PC Viewer]

Select file for playback

When Record Method set as “Event record”

No.	Video File	Type
<input type="checkbox"/> 34	2011.06.11 19:47:00	G-Sensor
<input type="checkbox"/> 35	2011.06.11 20:05:44	Switch
<input type="checkbox"/> 36	2011.06.11 22:15:28	G-Sensor
<input type="checkbox"/> 37	2011.06.11 22:17:07	G-Sensor
<input type="checkbox"/> 38	2011.06.11 22:30:00	G-Sensor
<input type="checkbox"/> 39	2011.06.12 09:43:06	G-Sensor
<input type="checkbox"/> 40	2011.06.12 09:44:35	G-Sensor
<input type="checkbox"/> 41	2011.06.12 09:45:24	G-Sensor
<input type="checkbox"/> 42	2011.06.12 09:46:24	G-Sensor
<input type="checkbox"/> 43	2011.06.12 10:55:29	G-Sensor
<input type="checkbox"/> 44	2011.06.12 13:08:20	G-Sensor
<input type="checkbox"/> 45	2011.06.12 13:11:37	G-Sensor
<input type="checkbox"/> 46	2011.06.12 13:49:03	G-Sensor
<input type="checkbox"/> 47	2011.06.12 13:50:04	G-Sensor
<input type="checkbox"/> 48	2011.06.12 13:51:04	G-Sensor
<input type="checkbox"/> 49	2011.06.12 13:54:10	G-Sensor
<input type="checkbox"/> 50	2011.06.12 14:02:09	G-Sensor

Check the event

“Switch” means recording was activated by button

“G-Sensor” means recording was activated by impact

Blank means previous event file is more than 1 min.

Check all files Button

Load Button

When Record Method set as “Normal record”

No.	Video File	Type
<input type="checkbox"/> 9	2011.06.13 21:18:00	Normal
<input type="checkbox"/> 10	2011.06.13 21:21:00	Normal
<input type="checkbox"/> 11	2011.06.13 21:24:00	Normal
<input type="checkbox"/> 12	2011.06.13 21:27:00	Normal
<input type="checkbox"/> 13	2011.06.13 21:30:00	Normal
<input type="checkbox"/> 14	2011.06.13 21:33:00	Normal
<input type="checkbox"/> 24	2011.06.14 09:10:39	Normal
<input type="checkbox"/> 25	2011.06.14 09:12:00	Normal
<input type="checkbox"/> 26	2011.06.14 09:15:00	Normal
<input type="checkbox"/> 27	2011.06.14 09:18:00	Normal
<input type="checkbox"/> 28	2011.06.14 09:21:00	Normal
<input type="checkbox"/> 29	2011.06.14 09:24:00	Normal
<input type="checkbox"/> 30	2011.06.14 09:27:00	Normal
<input type="checkbox"/> 31	2011.06.14 09:30:00	Normal
<input type="checkbox"/> 32	2011.06.14 09:33:00	Normal
<input type="checkbox"/> 33	2011.06.14 09:36:00	Normal
<input type="checkbox"/> 34	2011.06.14 09:39:00	Normal

Check the file

Normal means continuous recording
The maximum duration is 3 minutes.

Check all files Button

Load Button

5. Check the event or normal recorded file from the list using mouse or click [Check All] button. Then click [Load] button.

FILE LOADING

6. Once click [Load] button, the [FileList] tab will be changed to the [PlayList] tab as below

When Record Method set as “Event record”

PlayList

16	2011.06.11 08:52:56 [0'40"]			
17	2011.06.11 08:56:12 [0'40"]			
18	2011.06.11 08:57:41 [0'40"]			
19	2011.06.11 10:00:02 [0'40"]			
20	2011.06.11 10:01:26 [0'40"]			
21	2011.06.11 10:04:47 [0'40"]			
22	2011.06.11 10:06:33 [0'40"]			
23	2011.06.11 10:07:58 [0'40"]			
24	2011.06.11 10:09:21 [0'40"]			
25	2011.06.11 10:25:21 [0'40"]			
26	2011.06.11 10:28:04 [1'00"]			
27	2011.06.11 10:29:04 [0'22"]			
28	2011.06.11 13:47:11 [0'40"]			

Close

Select file(s) to playback

Return to the [FileList]

When Record Method set as “Normal record”

PlayList

25	2011.06.14 09:12:00 [3'00"]			
26	2011.06.14 09:15:00 [3'00"]			
27	2011.06.14 09:18:00 [3'00"]			
28	2011.06.14 09:21:00 [3'00"]			
29	2011.06.14 09:24:00 [3'00"]			
30	2011.06.14 09:27:00 [3'00"]			
31	2011.06.14 09:30:00 [3'00"]			
32	2011.06.14 09:33:00 [3'00"]			
33	2011.06.14 09:36:00 [3'00"]			
34	2011.06.14 09:39:00 [1'23"]			
35	2011.06.14 10:07:44 [1'16"]			
36	2011.06.14 10:09:00 [1'53"]			
37	2011.06.14 10:16:29 [1'04"]			

Close

Select file(s) to playback

Return to the [FileList]

ICONS ON PLAYLIST



This file includes GPS data.



This file resolution is SXVGA (1280x960).



This file resolution is VGA (640x480).



This file recorded by G-Sensor.



This file recorded by Record button.



This file recorded by Normal (Continuous) record.

PLAYBACK SCREEN

When Record Method set as “Normal record”

Event area marking by G-sensor or button (5 seconds per each event)

Display frame/Total frames number

Google Map location data only available with BX1500+ model

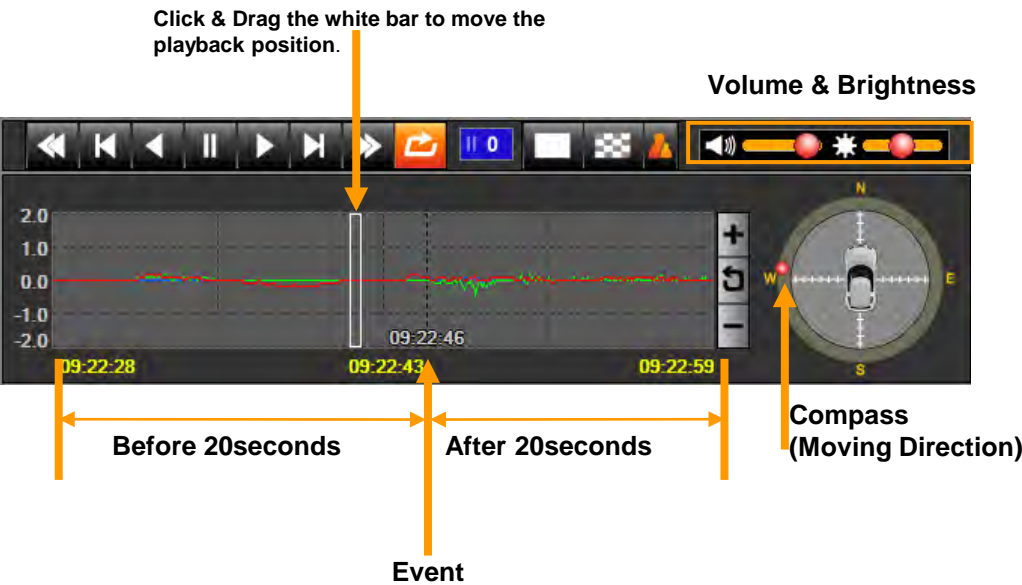
Playback Icons

Playback position indicator

- This file recorded by Normal (Continuous) record.
- This file recorded by G-Sensor.
- This file recorded by Record button.
- This file resolution is SXVGA (1280x960).
- This file resolution is VGA (640x480).
- Pre-recorded frame
- Post-recorded frame
- Continuously recorded frame

PLAYBACK

7. Click play button for playback.



Playback buttons

X2, 4, 8, 16 Fast Reverse	X0.5, 1 Reverse	X0.5, 1 Play	X2, 4, 8, 16 Fast Forward
◀◀	◀		▶▶
Previous Image	Pause	Next Image	

	Single View		Video up/down flip
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	4x4 Multi View (Thumb-nail function)
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	Zoom In G-sensor graph		Playback speed
	Reset Zoom		
	Zoom Out G-sensor graph		

	Continuous playback next file		Playback this file only
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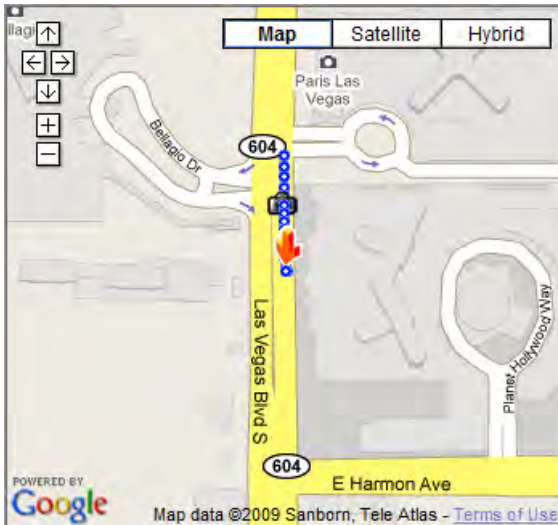
PLAYBACK

NOTE: PC Keyboard hot buttons

Function	PC Hot Keys
1280x768 mode	Enter Return to the previous mode: Enter
Playback speed control	Ctrl + F 0.5 => 1
Reverse playback speed control	Ctrl + B 0.5 => 1
Pause / Play	Space
Previous Image	→ direction button.
Next Image	← direction button

Google maps (Supported by “BX1500+” model only)

The route taken will be displayed on the Google maps at lower right corner of the software UI.



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

To see the map, the PC must be connected to the Internet.


**The playback position will be shown on the map with an arrow.
The blue markings show the route taken.**

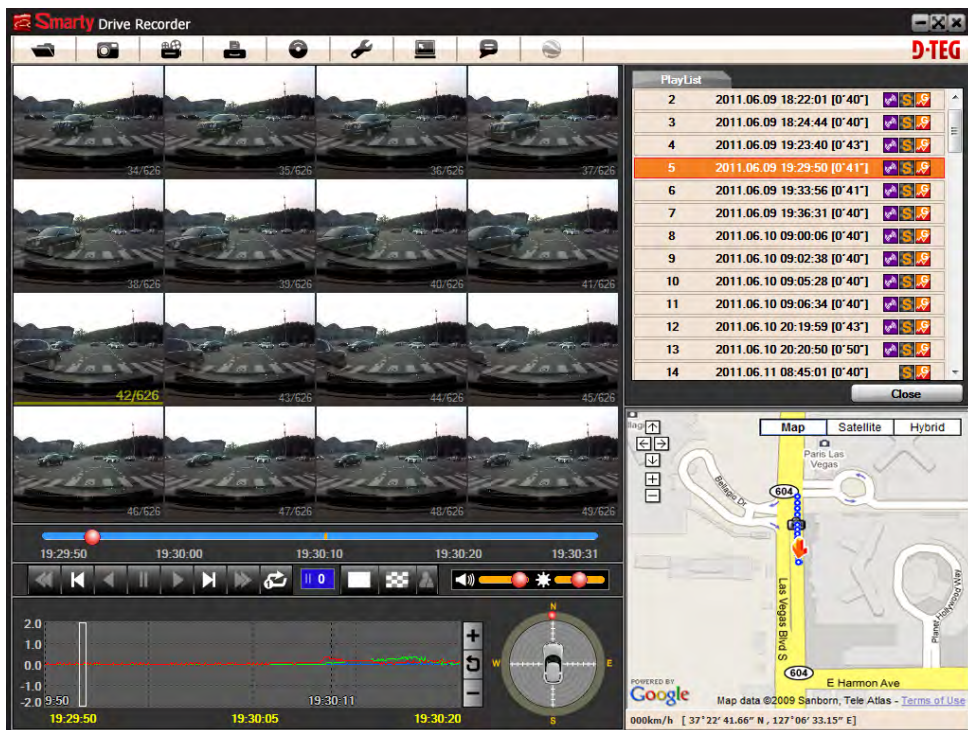
Double click the blue mark to change the video playback position to that point.

The camera icon indicates that there is a recorded file.

When the unit is set to Normal recording mode, there is no route & camera icon on the map.

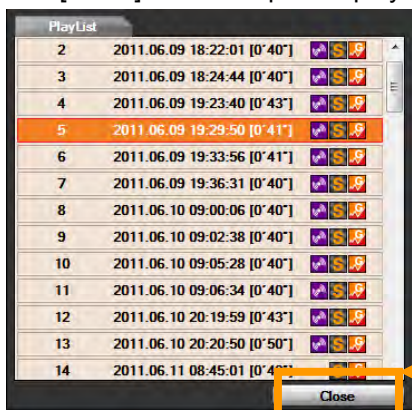
Thumb-nail Function

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



Click the thumbnail image to change the playback position.
Click right the mouse button to single image playback mode.

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



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

Save as JPG & convert video to AVI file

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



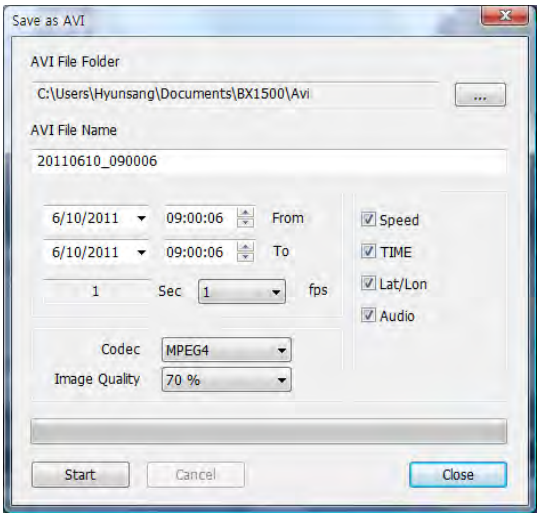
‘Save Image’ icon



10. Click the ‘Save AVI’ icon to make an AVI file.

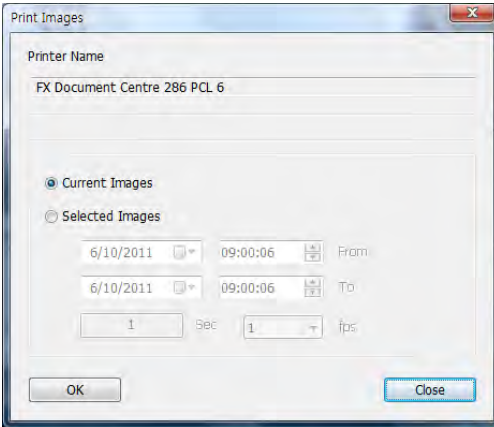


‘Save AVI’ icon

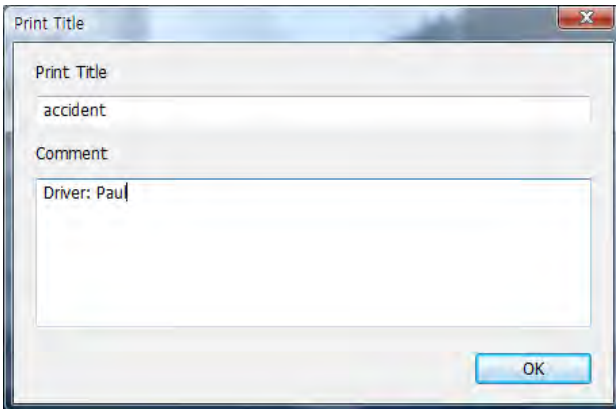


Printing an event report

11. Pause the playback and click the printer icon.



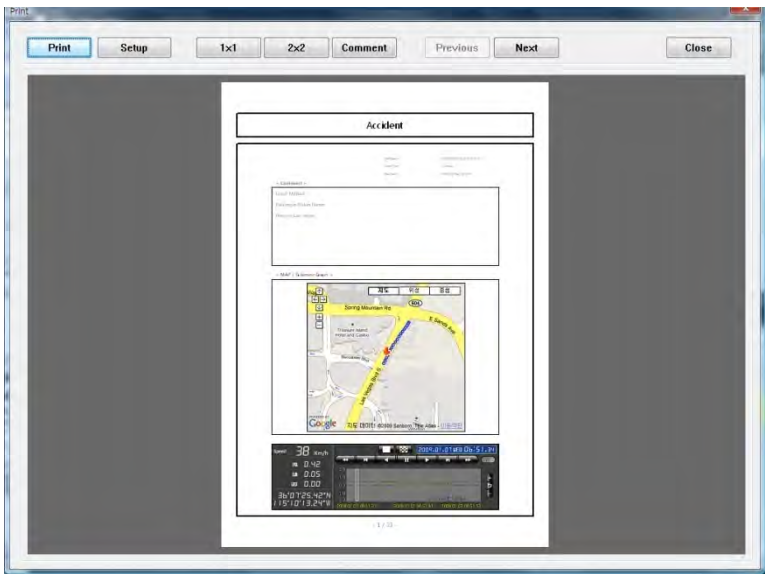
Type in the Title [Print Title] & any comments [Comment] using the Keyboard.



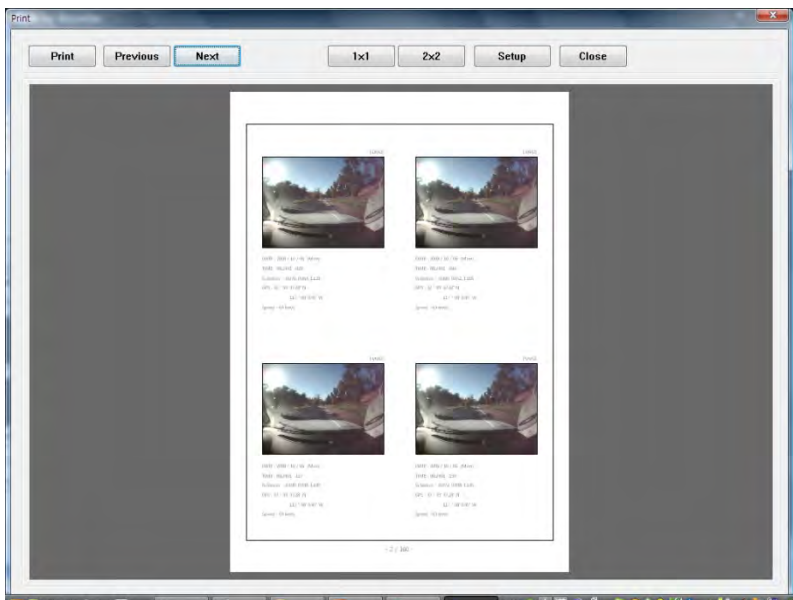
The 'Print Comment' window allows up to 7 lines total.

Make Report

12. Click [Print] button in the print preview windows for printing.
The File Name [Print Title], Comment [Print Comment], G-sensor graph & map (for BX1500+ Model only) will be printed on the first page.



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

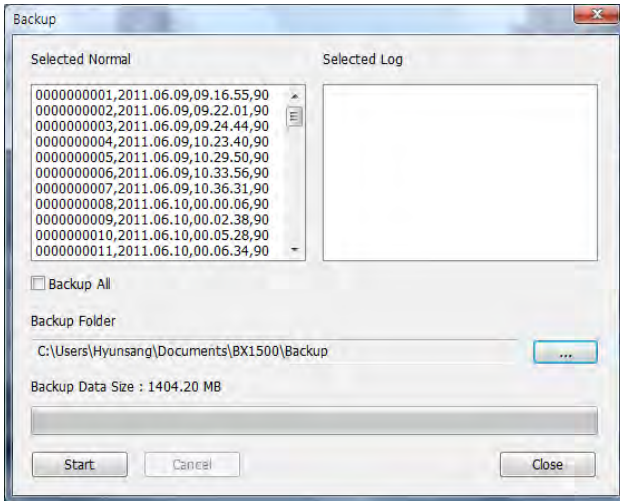


Backup Event/Log files

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



[Backup Event/Log files] icon



Select [Event data] or [Normal data] and select [Log data] first, before clicking the [Backup Event/Log files] icon. Then the selected Event, Normal, and Log data files are backed up on Windows to your preferred destination.

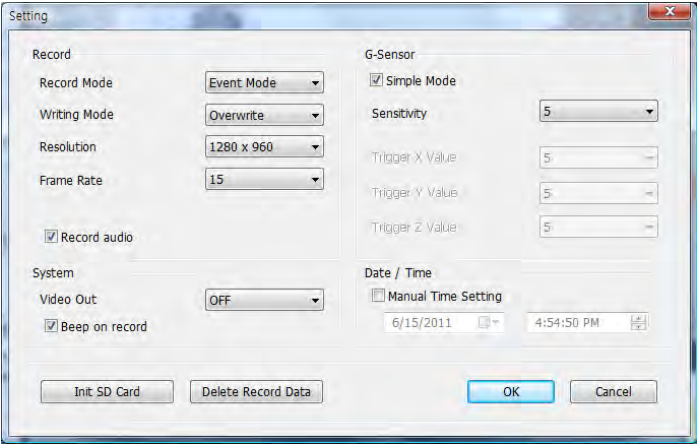
To backup the entire SD card data to the PC, check [Backup All]

Drive Recorder Settings

14. Click [Recorder Setting] icon for setup.



[Recorder Setting] icon



⚠ Caution

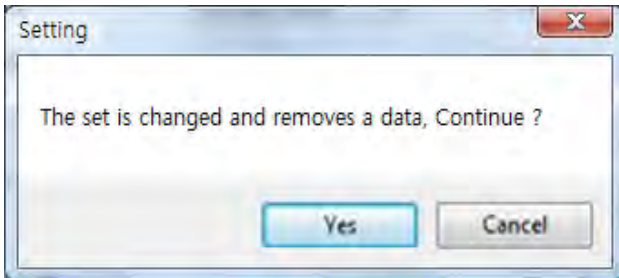
Backup the SD data first, before clicking initializing the SD card. The old data is removed when you save new settings.

Record Mode	Event Mode (Automatically starts Recording by G-sensor event or Record Button) Normal Mode (Is always recording when powered by 12V)
Writing Mode	Overwrite (The oldest data is overwritten when the SD memory is full.) One time (The recording stops automatically when the SD memory is full.)
Resolution	1280x960(SXVGA), 640x480(VGA)
Frame Rate	30 means real-time recording 640x480 Record supports 1, 2, 3, 5, 10, 15, 30 fps 1280x960 Record supports 1, 2, 3, 5, 10, 15 fps
Record audio	Check it to record Audio
Video Out	OFF, NTSC, PAL Set it OFF, to set 15fps at 1280x960. If set it NTSC or PAL, the maximum recording frame rate of 1280x960 is 10fps.

Drive Recorder Settings

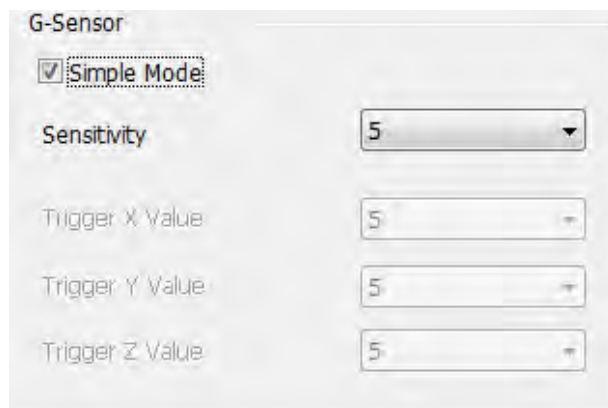
Beep on record	“Beep” sound ON/OFF when Event recordings are started
G-sensor setting	Check simple setting mode and then change the sensitivity. High sensitivity (8 or 9) means recording will be started at very low impact.
Date/Time	Automatically synchronize with GPS time. However Manual time setting is also available.
Initialize SD card	The SD configuration of the Drive Recorder will default to the factory settings. All video and GPS data will be deleted.
Delete record data	All data will be deleted.

⚠ Caution Once the record settings are changed, all recorded data on the SD card will be removed.



Backup the recorded file first and then change the settings to avoid losing all recorded data.

Drive Recorder Settings



G-Sensor

☒ Simple Mode

Sensitivity 5

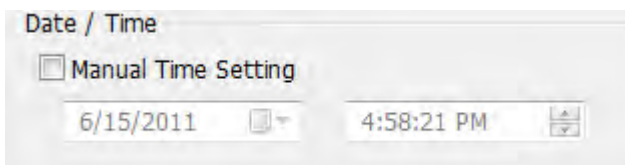
Trigger X Value 5

Trigger Y Value 5

Trigger Z Value 5

G-Sensor setting

If G-sensor sensitivity value is high (8 or 9), it may be too sensitive, it will detect even a light impact or light turn. If G-sensor sensitivity value is a low setting (1 or 2), it might not detect a notable incident. Sensitivity should be set in consideration of a vehicle's suspension and also the road condition.



Date / Time

☒ Manual Time Setting

6/15/2011 4:58:21 PM


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

If you use a NEW SD Memory card, initializing must be done first.

STEP1. Insert new SD memory card into the PC.

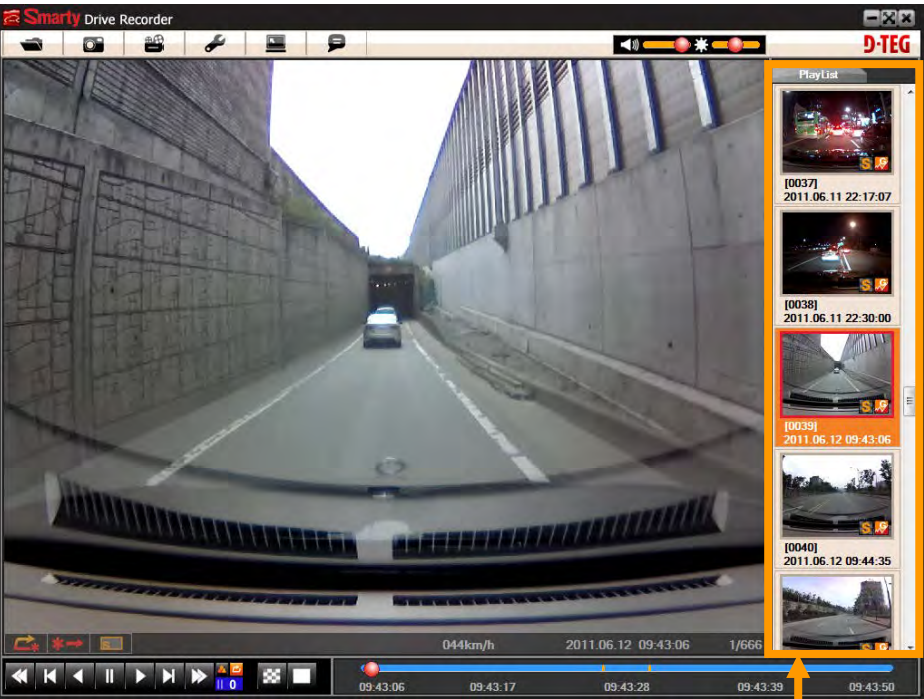
STEP2. Run "PC Viewer BX1000"

STEP3. Select [] record setting and then click [Init SD card]

We recommend the [Init SD card] at least once per month to reduce the possibility of any software errors.

Simple Mode Viewer

With this option, the video is maximized and a panel of video previews appears in the right panel.

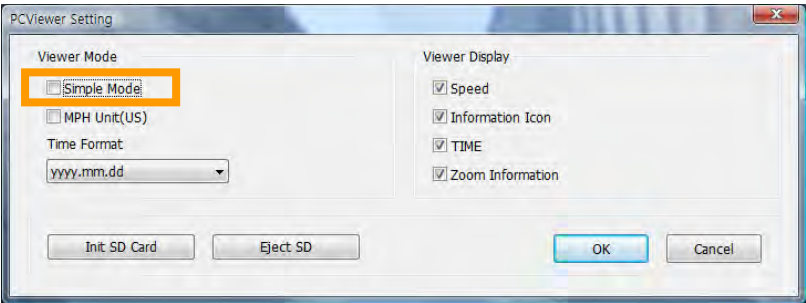


Preview images

To change it to Normal Mode Viewer:



Click [Setting viewer program] icon



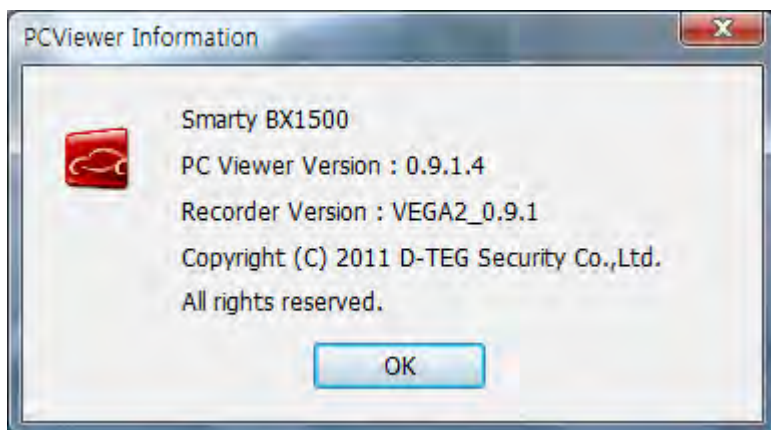
Un-check Simple Mode and press [OK]

Product Information

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



About icon

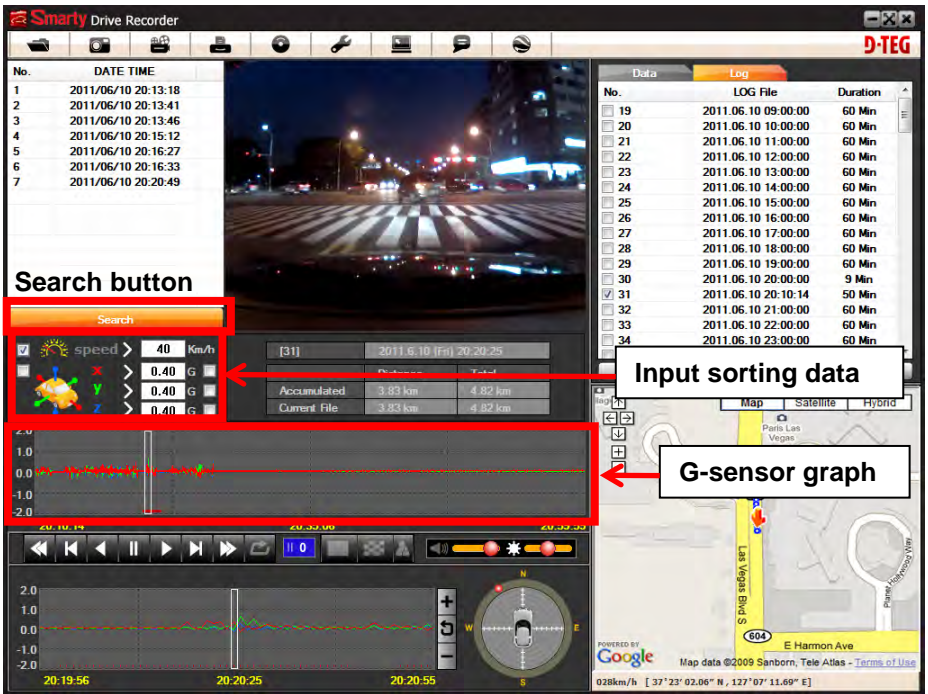


LOG FILE PLAYBACK

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 or video. The maximum amount of log data saved is 60MB. The log data overwrites the oldest data when 60MB is reached. Using this log data, we can use the data sorting function which helps to find specific data or driving behaviors, such as more than 80mph(or 80km) or 1G of X-axis force exceeded.



GPS speed, G sensor X value, G sensor Y value, G sensor Z value,
Can each be checked first on the right side of each value. And then specify the input data for data filtering.
If there is recorded video data, [Switch] or [G Sensor] a black dotted line will be displayed on the graph.

- G sensor X value: Front & Back (i.e. hard brake or quick acceleration)
- G sensor Y value: Left & Right (i.e sharp turn)
- G sensor Z value: Up & Down (prominence and depression)

GPS LOG TO KML CONVERTER (for Google Earth)



Google Earth icon

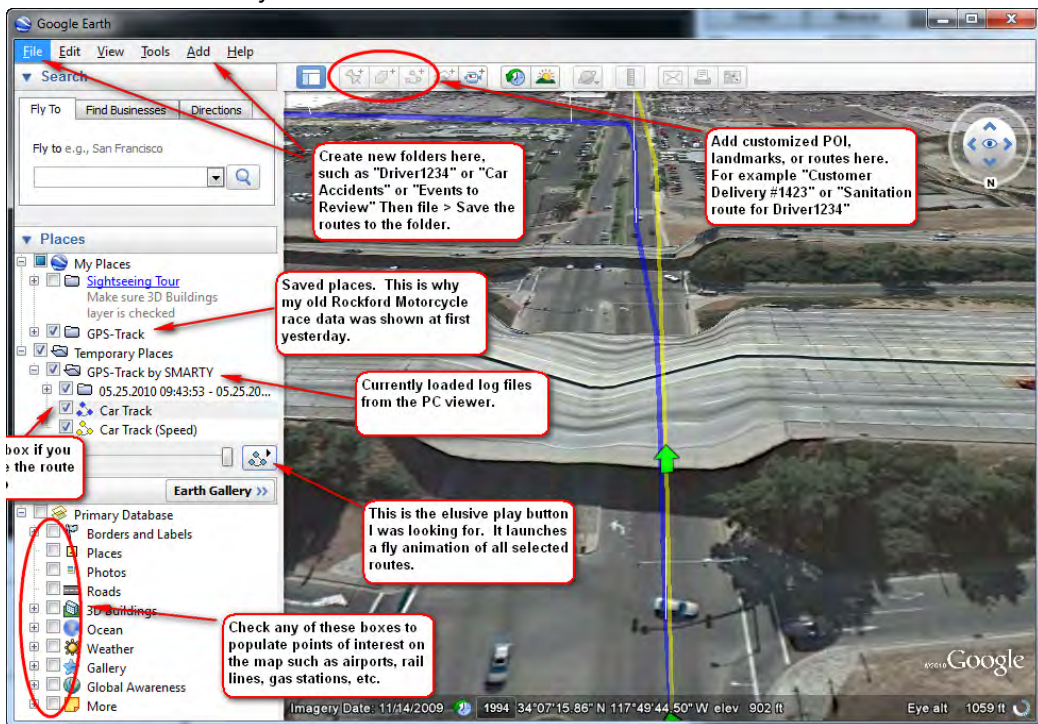
To see the whole route on Google Earth, select a log file and click Google Earth button. (BX1500+ only)

STEP1. Install the Google Earth on your PC. It is free of charge.
(<http://earth.google.com/>)

STEP2. Check the log file

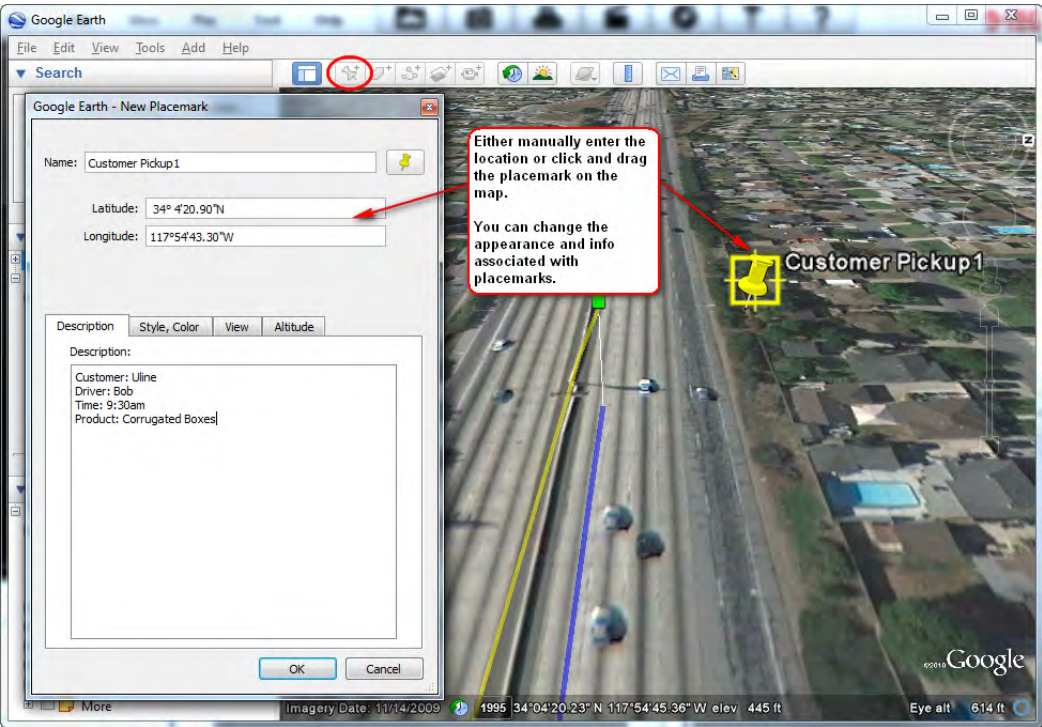
STEP3. Click Google Earth button

Then the route will be exported to Google Earth, which will automatically launch.



Google Earth Cont'd

Google Earth lets you import the log data and save routes, add place marks (i.e. customer pick up locations, or other points of interest), add driving routes (to compare with the actual route taken, and it lets you save it all within Google Earth for easy and free data management!



You can view and download Google Earth tutorials and user guides here:

http://earth.google.com/support/bin/static.py?page=guide_toc.cs

SPECIFICATIONS

Image sensor	1/4" CMOS Digital Sensor 1.3M pixels
Angle of View	BX1500/BX1500+ : 120° (horizontal: 88° , vertical: 65°) BX1500+ 170 : 170° (horizontal : 131° vertical : 96°)
Video resolution	1280x960(SXVGA), 640x480(VGA)
Frames per second	30 frames @ 640x480, 15frames @ 1280x960
Recording	By continuous, By impact, By emergency button
Recording time	before 20 sec after 20 sec Continuous recording: Min 65min ~ Max 148hours
GPS	Internal GPS
G-Sensor	Internal 3-axis G-sensor
Memory	SD/SDHC flash memory card (support 4GB, 8GB, 16GB, 32GB)
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~60°C

RECORDING TIME TABLE

Resolution	Quality	FPS	4GB	8GB	16GB	32GB
1280x960	SUPER	1	278 min	556 min	19 hours	37 hours
		2	225 min	450 min	15 hours	30 hours
		3	189 min	379 min	13 hours	25 hours
		5	144 min	287 min	10 hours	19 hours
		10	90 min	179 min	6 hours	12 hours
		15	65 min	130 min	4 hours	9 hours
	HIGH	1	556 min	1111 min	37 hours	74 hours
		2	450 min	901 min	30 hours	60 hours
		3	379 min	758 min	25 hours	51 hours
		5	287 min	575 min	19 hours	38 hours
		10	179 min	358 min	12 hours	24 hours
		15	130 min	260 min	9 hours	17 hours
640x480	SUPER	1	556 min	1111 min	37 hours	74 hours
		2	497 min	995 min	33 hours	66 hours
		3	453 min	907 min	30 hours	60 hours
		5	383 min	766 min	26 hours	51 hours
		10	275 min	551 min	18 hours	37 hours
		15	216 min	431 min	14 hours	29 hours
		30	130 min	260 min	9 hours	17 hours
	HIGH	1	1111 min	2222 min	74 hours	148 hours
		2	995 min	1990 min	66 hours	133 hours
		3	907 min	1814 min	60 hours	121 hours
		5	766 min	1533 min	51 hours	102 hours
		10	551 min	1102 min	37 hours	73 hours
		15	431 min	863 min	29 hours	58 hours
		30	260 min	521 min	17 hours	35 hours

Technical Support & Warranty

TECHNICAL SUPPORT

For Technical Support, please contact your local distributor.

LIMITED WARRANTY

This product is supplied with 1 year warranty from date of sale. The Warranty excludes products:

That have been misused, (including accidental damage) and damage caused by normal wear and tear. In the unlikely event that you encounter a problem with this product, it should be returned to the place of purchase.

Optional Accessory (Permanent Power Cable)

Model name: DPWR-100

The permanent power supply cable will allow you to hard wire the Smasrty BX series to the fuse box of your vehicle.



Connect (+) to the reserve fuse. It should be connected to power that is initiated with engine start. (i.e. radio)



The ground cable should be contacted to the car body/chassis.

Optional Accessory (Permanent Power Cable)

Model: LNB-100

The Locking cover can protect the SD card from unwanted removal or tampering.

LNB-100 includes: A locking cover, an end block with two-position lock, and barrel key. End block must be adhered with super glue.



Before



After

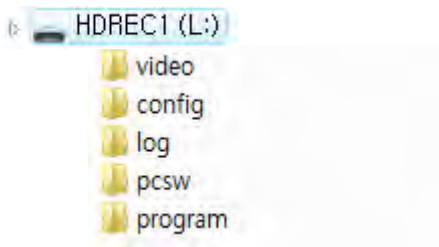
APPENDIX (Firmware Upgrade)

**First, upgrade the BX1500/BX1500+ main unit,
Second, install new PC viewer software on your PC,
and then initialize the SD card using new PC viewer software.**

[NOTE] To get the upgrade firmware, please contact your local distributor.
New firmware is released occasionally by D-Teg.

1. Preparing Firmware

Make [program] folder at SD root folder as below,



Copy “BX1500_X.X.X.bin” file in to the SD card [program] folder.

2. Upgrade BX1500/BX1500+

Insert the prepared SD card to BX1500 Series and turn on the power.

The Blue & Red LED will be quickly blink while the unit is upgrading.
It will also “Beep” continuously, Upgrading the unit usually takes about 2 to 3 minutes.

**Warning: Do not turn off the power during upgrading.
If the upgrade fails, the “Smarty BX1500/BX1500+” unit should be
returned to your local distributor.**

Once the upgrading is finished, the unit will automatically turn off and on the power.

If BX1500 series records as normal, turn off the power.

Insert the SD card into your PC and initialize it using the software once you have successfully tested the unit.

APPENDIX (Upgrade)

3. Uninstall the old version PC Viewer from the PC

PC Windows [Start] => [Control panel]

And uninstall [PCViewer]

4. Install the new PC Viewer

Run setup.exe and install the new PC Viewer X.X.X.X

Note: After installation the new PC Viewer, initialize the SD card. The new software will automatically be copied to [pcsw] folder at SD card.

To initialize the SD card.

Run the 'PC Viewer' software and select [Tool] > [SD initialize]

