Drive Recorder for Front / Interior View

User Guide

T-eye ADR-3000

For safe and correct use of the T-eye product, be sure to read through this user guide before using the product.

Automated Drive Recorder

Main Features

Unlike other in-car recording systems, the T-eye Drive Recorder is used to record both video and audio data in a continuous loop fashion. If the vehicle is involved in an accident such as a collision, impact, and sudden acceleration-related incident, this data is marked and stored. One may thereafter analyze the data to find its root cause by playing back the scenes of interest and where acceleration, vehicle speed, direction, and location are available for review.

Continuous recording

The video and audio data from the front and interior views is continuously recorded while power on. When the capacity of the SD Card has been reached, the older files are overwritten by the latest file.

Pre and post event recording

When impact or unusual acceleration or deceleration is detected by the built-in G-Sensor and has exceeded the preset limit or one activates the emergency record button, the recorded video data is locked-in and is erased only by an authorized party. Event data records 1 minute before and 1 minute after. (User may set pre-event time 1 minute, 2 minutes or 3 minutes). Stored event recording data in SD card will not be erased unless user cancels the event (in-car), or the files are erased by the person reviewing the SD card.

Night-time recording with Infra-Red Light

The included IR (Infra-Red) Light module with adjustment used this invisible light source to assist in recording nighttime views from the interior facing camera.

Playback of video/audio data

The recorded data can be played back using the provided playback software which is found on the SD card. The Record resolution is 640x480. Maximum 20 frames per second for 2 channels (Max 10 fps @ VGA for each channel)

Data analysis

The recorded data can be easily analyzed for speed, vehicle location and direction of travel including impact by using the T-eye Player that is found on conveniently on the supplied SD card.

Contents

Safety Instructions

Take note of the information below and be sure to read the following for correct use and care of the product.

Do not clean the product with water or volatile solvents.
This may damage the product, cause a fire or electric shock.

Do not apply excessive shock or never insert foreign materials into the product.
This may cause product damage, a fire or electric shock.

Video quality is affected by lighting conditions. GPS is affected by signal receipt. Nighttime or use in tunnels affects system operation

Do not arbitrarily change the product location.
This may cause a GPS communication error.

Do not disassemble, repair or modify the product.
This voids the warranty and where we take no responsibility for product damage or problems caused by the user.

Any excessive window tinting may cause an unclear or distorted image on playback.
First record and then play back the video to see if the recorded video is acceptable.

Do not cover the camera lens with any materials or objects.
This may affect recording quality.

Once installed, do not manipulate the product while you're driving a car.
This may cause a traffic accident.

Ensure that the capacity of the SD Card is not exceeded.
A full SD card will not allow one to record manual alarms or G-sensor based triggers.

Use only the provided cables and specified power input.
A cable not supplied by the manufacturer may cause product damage, a fire or electric shock.

Do not obstruct the view of the product through the front windshield.
The GPS receiver may not work properly.

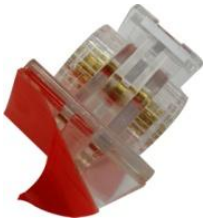
Only use factory approved parts. Use the approved power cable.
Contact your authorized Reseller for assistance.

Components

Body

Cigarette Lighter Plug for Power Supply

Mirror Mount



Fixed-type Holder

External Alarm Button

IR Light Module

SD Card

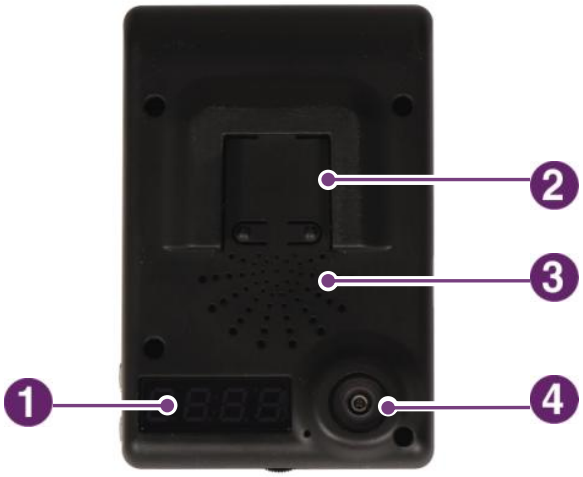
Users Guide CD

Part Numbers

Front face of Body

No.	Name	Description
1	**Power Connection Port**	Used to connect the power cord with the unit.
2	**Front Mounting connection**	Used to mate with the selected mount.
3	**Forward Facing Camera**	Used to record scenes through the windshield.
4	**SD Card Slot**	Used to insert the SD Card into unit.
5	**Emergency Record Protection Cancel Button**	Used to cancel protection of all the emergency recording data.
6	**Emergency Record Button**	Used to perform an emergency recording.
7	**Volume Control**	Used to adjust the audio volume for information.

Rear side of body



No.	Name	Description
1	**Status Display**	Used to display the status of T-eye or traffic information by using English text or symbols.
2	**Rear Mount Connection**	Used to mate with the selected mount.
3	**Built-in Speaker**	Provides audio output for chime and any information.
4	**Interior Facing Camera**	Records video from inside your vehicle.

IR (Infra-red) light module

No.	Name	Description
1	**Infrared LED light adjustment**	Used to adjust the output level of the IR auxiliary light to assist in recording nighttime views from the interior facing camera.
2	**Power Connection**	Used to connect the power cord to the IR light module.

*The effective range of the IR light module covers the first row of back seats.

Technical Specifications

Item	Specification	
Camera Type	CMOS sensor	
Video Resolution	VGA (640 x 480) up to 20 frames per second, 2 channels	
Audio	Built-in microphone	
GPS	Built-in GPS module	
Automatic Event Sensor, Alarm input	G-sensor (3-axis), Manual external alarm trigger	
Memory	SD Card (512M to 8GB) *	
Power Input	T-eye Body	DC 5V to recording unit
	Cigarette Lighter Plug	DC 12V to 24V input

* Depending on the model ordered, typically a 2GB SD Card is provided with the unit.

Memory specifications

* This is an average time. (Recorded at daytime in the downtown area)

Size of SD Memory	Maximum Storage Time	Event Recording Time	Number of Event Generated Recordings according to the Preset Recording Time		
			1min	2min	3min
512MB	23 minutes	16 minutes	6	5	4
1GB	45	32	12	10	8
2GB	90	64	25	20	16
4GB	180	120	50	40	30
8GB	370	280	90	80	70

* Time varies depending on the amount of motion seen by the camera & lighting conditions

Installation:

Caution

- Be sure to stop the engine before installing the product.
- Install the product in a location where the satellite signals are received.
- Before permanently mounting the unit, ensure that the camera views meet your requirements. (cf. where interior view camera is not hidden by the mirror inside your car)
- Mount the unit carefully.

1. Mounting the Unit

You may install the product using any of the following 2 mounting methods:

Method1. Installation with the mirror mount

1. Align the mirror mount with the guide on the rear of the body.

2. Attach the mirror mount to the mirror with the front of the unit facing forward. (LED Display Window towards the back as shown)

3. Fasten the screw on the rear of the mount after tightly pressing the body of the unit in place so that it may not be easily removed.

*In order not to lose the plastic piece, attach it to the rear of the body.

Method2. Installation using the fixed-type holder

1. Remove the fixed plastic cover of the front of the unit.

2. Insert the fixed-type holder into the guide.

3. Determine the location to attach the mount to the windshield or other surface area.

4. Clean the mounting surface and remove the red film from tape the mount. Tightly press in place the mount to the windshield.

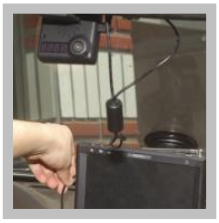
*Use isopropyl alcohol to clean the mounting surface of windshield, and leave it to dry.

2. Installing the IR light Module

1. Connect the “Y” power cable adapter to both the IR light module and the recorder. Then connect the cigarette lighter plug.

2. Insert the IR light module after aligning it with the top of the mirror holder

3. Arrange the power cord neatly alongside of the windshield and door pillar trim.

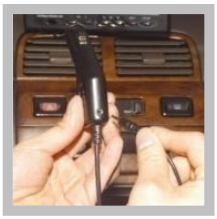


Caution

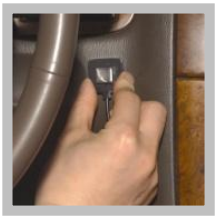
- Connect power to the unit once the IR light module has been connected.
- Aim the IR light module towards the driver and passenger area.
- If you mounting the unit with fixed-type holder, you need to install the mirror holder for installing IR light Module.

3. Installing the External Remote button

1. Insert the external input cable into the external input connection port on the upper part of the Cigarette Lighter Plug.

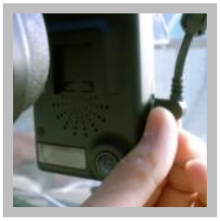


2. After removing the adhesive tape attached on the external button, attach the button to the desired position.



4. Connecting the power cord

1. Connect the power cord to the cable on the right of the unit. Pull the cable up towards the upper part of the unit.



2. Arrange the power cord neatly after inserting it in the chink of the door near the driver or passenger seat.

3. Insert the power cord into the Cigarette Lighter Plug.

Tips before Using the Product

Unit Preparation for video recording

1. Turn off the car engine. Install the unit and connect the unit to source of power such as the supplied cigarette lighter plug. This plug may or may not have power on it with the engine off. Typically one would look for an outlet that follows the status (condition) of the engine, If your cigarette lighter is constantly live it is advised to unplug the unit whilst you are not in the vehicle for long periods of time. Turn on the engine. “dR Init” sign appears on the LED display window and the video recorder start to initialize. The LED display window will show a series of numbers, this indicates that GPS satellites are beginning acquired.
2. In about 25 seconds after power on, the unit completes initializing and it chimes “ding dong”. The unit may still show a series of numbers followed by and “GPS FINE” will appears. This adjusts the unit further for increased accuracy.
3. After the chime, T-eye starts continuous recording.

Continous recording while driving

1. T-eye informs you of your vehicle’s speed, when stopped, the unit it displays the time.
2. When the capacity of the SD Card has been reached, the oldest files are overwritten for continuous recording. The data recorded by either the unit’s internal G-Sensor or external manual record button are not overwritten and these data must be erased by computer to erase in the DATA event folder)
3. When you stop the engine or remove the power cable from the cigarette lighter plug, T-eye stops recording.
4. T-eye exclusive viewer “T-Eye player .exe” is inside of the SD card. Insert SD Card into your computer to use this software.

SD Card related information

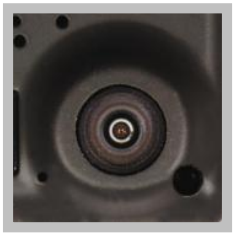
Do Not use this SD Card for any other purpose.
To use this SD card for any other purpose, any detected unrelated files can cause a fatal error.

Use only the provided SD Card with the unit to ensure proper operation. Consult your Reseller or the Company website for SD Card compatibility. In case that your computer does not support the SD SDHC2.0 memory card standard, use a separate SDHC2.0 USB reader. It is recommended to periodically format the SD Card to prevent SD card errors over a long period of time.

Caution

- After formatting the SD Card, set the time zone in T-eye configuration (see page 16).
- If you do not configure the settings, system initialization may take up to 10 minutes and where the time and time zone may not match.
- In case of formatting the SD Card, the existing recorded video files are all deleted so be sure to perform a backup for any important video files.

Functions of each part



Forward facing and rear facing/interior view camera

The camera must be horizontal and vertical. When the lens of the camera is obstructed or is dirty, clear images may not be captured. Periodic cleaning is required. To clean the lens, use a soft camera lens cloth to prevent damage.

Emergency record button (Video image removal protection)

In order to record driver detected scenes of interest, press the emergency record (E) button to record. This stores and records 1 minute before and 1 minute after the driver pressing this event button. (The User may set pre-event time 1 minute, 2 minutes or 3 minutes). These events will not be erased unless the User cancels the capture by pressing the M button or the file is erased using the software. (A remote button is also provided for this function for covert recording) The recording time is determined in prerecording time.

SD Card slot

Before inserting or removing the SD Card, TURN OFF the power of the unit.
Make sure you should set the time zone in T-eye configuration before start.
To replace the SD card with a new one,

1. Format the new SD card as follows;
   2GB, 4GB, 8GB or higher: FAT32,
   less than 2GB:FAT
2. Copy “Player” folder from used SD card and paste to new SD card.

Emergency Record Protection Cancel Button

Press the button for about 3 seconds until chimes “ding dong”. All the previous event record protection is cancelled to be able to overwrite. When the unit record as Emergency Record, it also can cancel the emergency record protection.

Volume control

Adjust the audio volume level for driver’s convenience. When you turn it left (<<), it increases the volume while a right (>>) turn decreases the volume.

Power connection port

Connect one end of the cigarette lighter plug cable into the matching connector of the power port of the unit. Plug the other end of this cable to the cigarette lighter plug of the vehicle. {Power may be hard wired (permanently wired) into the ACC (accessory) switched power of the vehicle for a more secure installation. REFER THIS TO TRAINED PERSONEL ONLY.} Do not lose the supplied power cord or use other cables. If damaged or lost, contact your Reseller for a replacement.

LED Display window

The LED display Shows the current status of T-Eye and other features, for further understanding of displayed messages please refer to the table on page 21

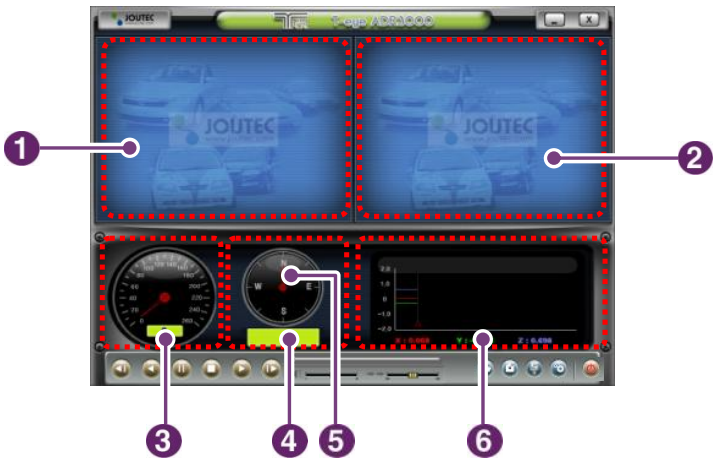
Using T-eye Player: Playback, SD Card and Initial System Set-Up

Minimum Requirements

Component	Requirement
CPU	Pentium 4 / 1GHz processor or higher
Memory	512 MB of RAM or higher
Operating system	Microsoft Windows XP Home Edition or higher
Graphics	DirectX 8.1b or higher
Hard disk drive space	200 MB or higher

*When it runs on Windows Vista computer for the first time, run the T-eye Player in administrator mode.

Insert the SD Card into the SD Card reader and connect it to a computer. Double-click TeyePlayer.exe in the PLAYER folder. The following window will appears.



Name	Description
Front View Display	Displays the video images recorded by the forward facing camera.
Interior View Display	Displays the video images recorded by the interior facing camera.
Speedometer	Displays the speed of your vehicle.
Coordinate	Displays the coordinates (latitude and longitude) of the vehicle. (Requires GPS signal lock)
Compass	Displays the vehicle's direction of travel.
Analyzer	Displays impact detected by the G-Sensor sensor with a graph.

Buttons

Button	Function	Button	Function
	Jumps to the previous frame		Opens a file
	Reverse Playback		Converts the file into an AVI format
	Pauses the Playback		Links the recorded data with map
	Stops Playback		Accesses the System Set Up Menu
	Playback, normal speed		Exit, closes the program
	Jumps to the next frame		Hide/closes the window

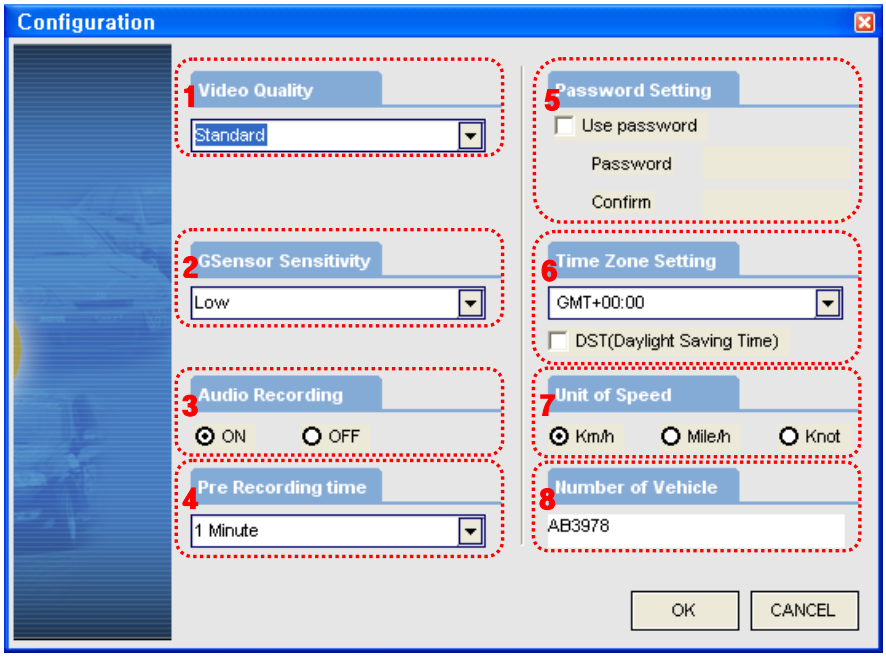
Controls

Volume control **Playback speed control**

- Volume control: It adjusts the volume level while playing back the recorded data.
- Playback speed control: It adjusts the video playback speed.

System configuration

Insert the SD Card into the SD slot or SD Card reader and connect it to computer. When the player's main screen appears, click on the System Setup configuration icon ( ) located at the lower right corner. The following window will then appear.

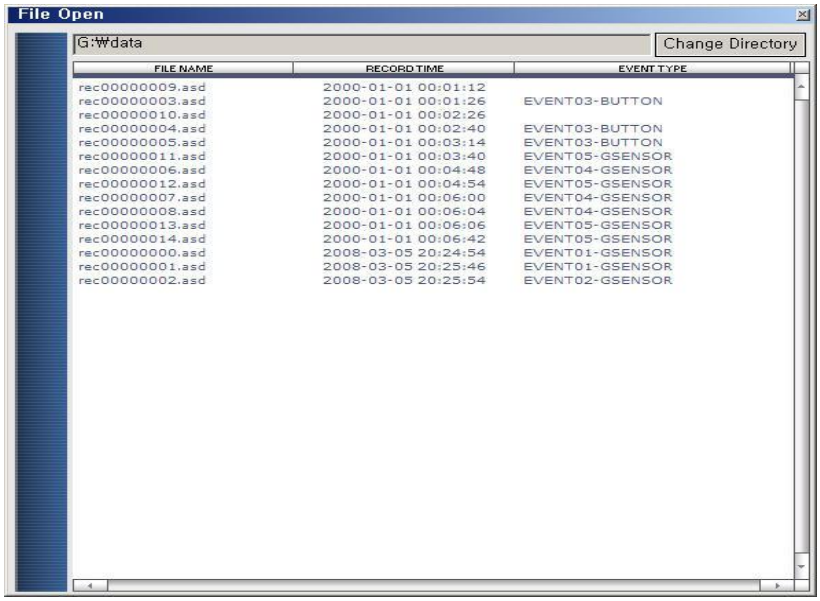


No.	Name	Description
1	**Video Quality**	Sets the video recording quality. **(Default: Standard)**
2	**G-Sensor Sensitivity**	Sets the sensitivity of G-Sensor. **(Default: Low)**
3	**Audio Recording**	Enables or Disables the audio record function.
4	**Pre Event Recording Time**	Sets the time to record the previous scenes before the event. (Ex. in case of 3 minutes, T-eye records scenes for previous 3 minutes and next 1 minute.)
5	**Password Setting**	Sets the password for the recorded data.
6	**Time Zone Setting**	Sets the time zone for the user. **(Ex. USA , New York — GMT-05:00)**
7	**Unit for Speed**	Sets the unit of the car speed (MPH or KPH).
8	**Vehicle ID Number**	Sets the license plate number or fleet vehicle ID number associated with the vehicle where the SD card is installed in.

Playback

1. After clicking the folder icon ( ) on the lower right corner of the viewer, click **Change Directory** to select the location for the recorded videos typically the first time you do this, the files are located on the SD card. If saved elsewhere, use this utility to explore your computer to locate the file for playback.

2. When the file list appears, double-click the desired file to play back.



- FILE NAME: File name of the recorded video images.
- RECORD TIME: Date and time when the images have been recorded.
- EVENT TYPE: Displays the recording type (Continuous recording/event button recording/remote event button recording).
- Click the list name to sort by File Name, Record Time or Event Type.

* Event Type:

- Continuous recording:

Clicking on this shows the recorded file when driving.

- Manual Event Recording:

Annotated with the word **BUTTON**. This allows you to locate files that were marked by the driver using the push button on the recorder or the remote event pushbutton.

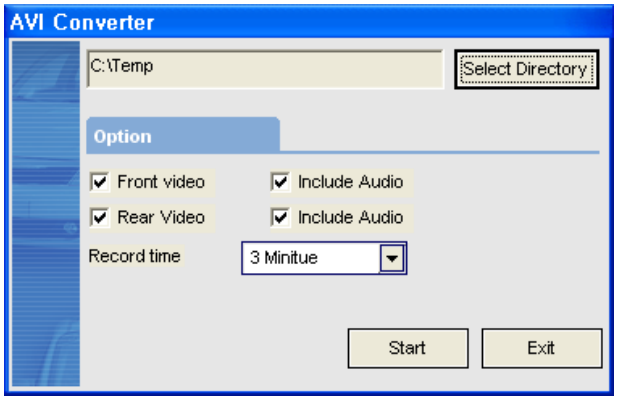
- G Sensor (shock sensor) automatic recording:

Annotated with **G-SENSOR**. This data is recorded when any impact, sudden acceleration, or accident is detected.

Converting into AVI file format

One may convert a portion of the recorded data into an AVI file format when one wants to share the recorded data with someone else or email a file.

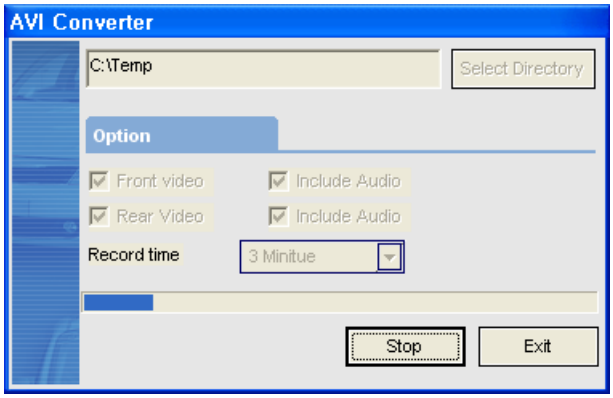
1. Click the AVI conversion button ( ) at the start of video clip position where you want to convert the images into the AVI file format. The video playback stops and the AVI conversion window appear.



2. Set the following options from the window and click **Start**.

1) AVI storage directory
2) Selection of previous/next videos and whether or not to include audio data
3) AVI recording time

3. The conversion progress appears as follows:



* The AVI files cannot be created on a portable disk such as SD Card and USB memory stick but only on a hard disk.

Interfacing with a GIS/City map

T-eye simultaneously records the GPS data while driving so you can check the driver's route on the map. Click the GIS/MAP icon ( ) on the lower right corner. The map window appears for the user to see the vehicle location and travel onto a city map.

* To use this function, the system must access the Internet.

Movement, scale up/down on the map

Map — View normal map

Satellite — View satellite map

Hybrid — View both normal and satellite maps

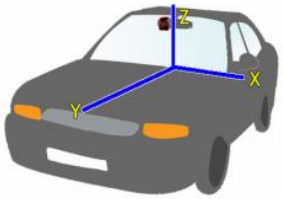
Viewing the pop-up display window

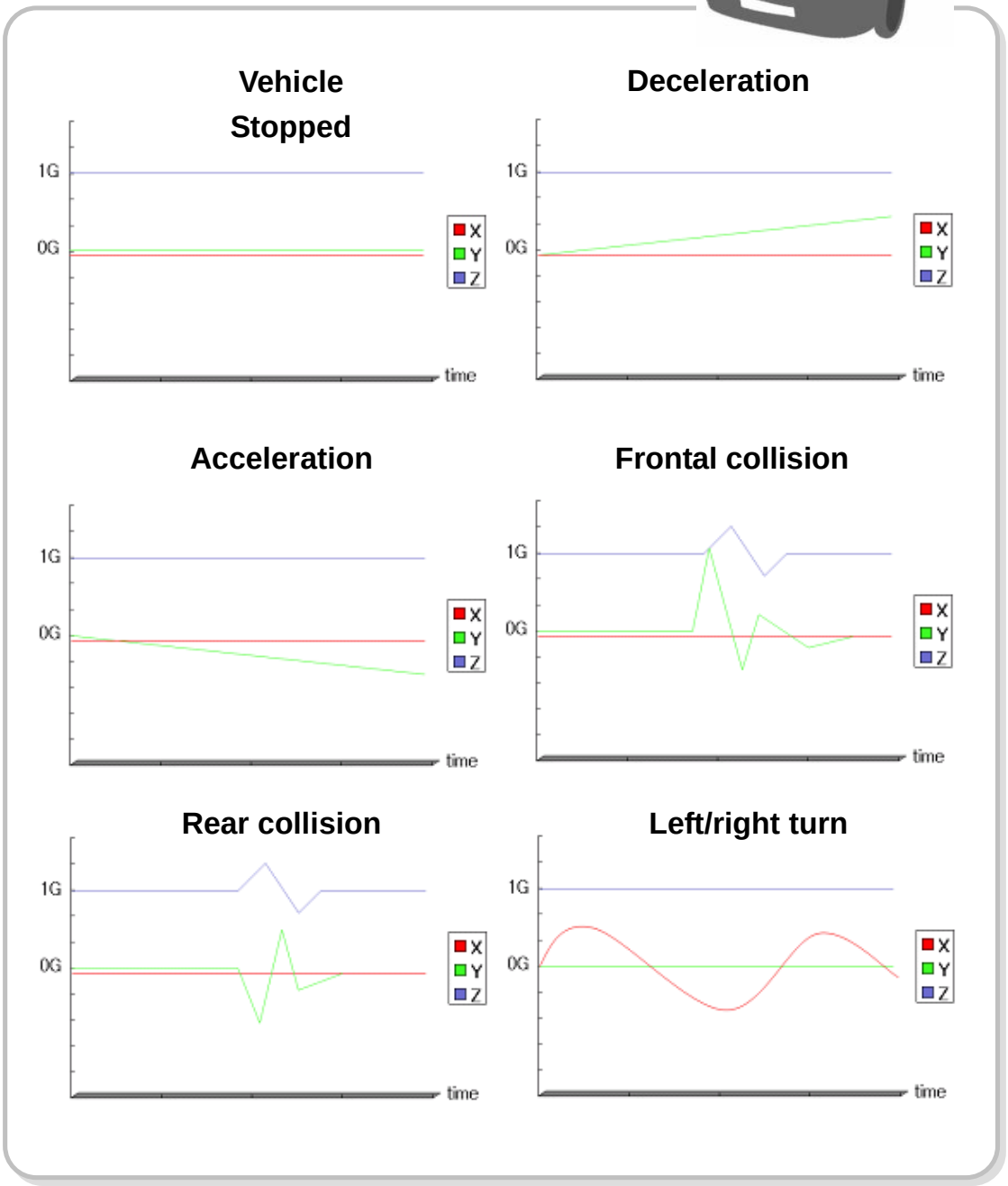
When you double-click the display window, the recorded images are played back at the original size.

Analyzing G-SENSOR data

The G-sensor (Gravity Sensor) furnishes data for X, Y and Z axis and stores it along with the other recorded data on the SD card. When using the playback software, this information is represented in a graphic format. The resulting graph may be used to analysis the driving condition and driver's habits. Depending on the type of the vehicle, the amplitude of the curve of shown may vary.

* X axis: left and right of the vehicle
* Y axis: front and rear of the vehicle
* Z axis: top and bottom of the vehicle





Displaying T-eye status using the built-in Display

Status	Event	Sound or Status	Display
System Initialization after application of power to the unit	Initialization after power applied	No sound.	[dr][Init]
	When SD Card is not inserted	Chime is heard (“Ding dong”) from the speaker. (Turn off the power, re-insert the SD Card, supply power again.)	[Err][Sd]
	GPS update Error	Resolution: remove power, wait 10 seconds, re-apply power.	[Err0]
	While GPS is updating	GPS data is now being received and is being downloaded	[dbUP]
G-sensor automatic activation, or User driven Event Button or Or Remote Event Button activation	Event recording	One chime	
	Number of events recorded (5) by the system and available	Two chimes	[FULL][---5] ~ [---1]
	Event recording is not available as not enough memory is available	Three chimes	[FULL][----]
	Event captured	Chime	

Information and Status Display

You can see information or the corresponding status is displayed.

Status	Event	Sound or Status	Display
DR initialization is completed	Greeting	Chime	HELLO
	Satellite information (Satellite reception quality)	No sound	5-45
	GPS loading	No sound	GPS FINE

Firmware and Playback SW Update

1. After removing the SD Card from the unit, install the SD card slot on the computer.

2. If your computer doesn't have SD card slot, connect first a memory card reader to the USB port on your computer.

3. After accessing the site (http://www.joutec.com) and download the related firmware or playback software as there may have been important changes made since the time your unit was manufactured.

4. After downloading the update file, copy it to the update directory on the SD Card. (If update directory folder is not present in the SD Card, create a new folder and change the folder name as 'update'. Then, try to copy it again.)

5. After downloading the Playback SW file, copy it to the player directory on the SD Card

6. After installing the SD Card on the body and connecting the power, update automatically starts.

Caution	Do not remove the cigarette lighter plug or interrupt power to the unit or stop the engine during update.
Note	For further information, access the website (http://www.joute.com) or contact your retailer

Automated Drive Recorder

JOUTEC

JOUTEC CO., LTD.
#D-402, Bundang Technopark 151, Yatap-dong, Bundang-gu, Seongnam-si,
Gyeonggi-do, Rep. of Korea (Zip 463-760)
TEL: +82-31-607-5900 FAX: +82-31-607-5903
Htt://www.joutec.com Email: info@joutec.com