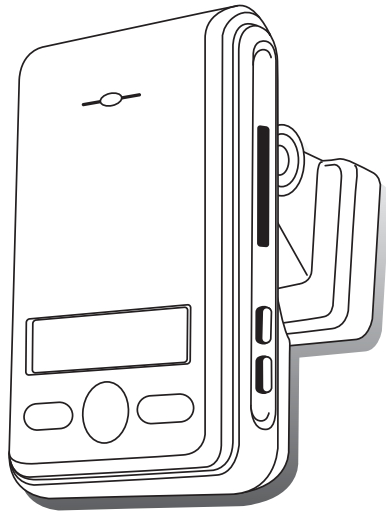Automated Drive Recorder

User Manual

Teye ADR3311

Main Features

Unlike other in-car recording systems, the 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. Added to the recording are vehicle speed and direction and GPS location.

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 oldest files are overwritten by the latest ones in a "round-robin", first in, first out fashion.

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 manual emergency record button, the recorded video data is locked-in and is erased only by an authorized party and by using a PC or laptop, accessing the SD card. Event data records 1 minute before and 1 minute after(Note: The User may set the pre-event time to either 1 minute, 2 minutes or 3 minutes of pre-event recording). The next time the SD card is read by the unit, the unit's set up parameters will be uploaded into the recorder. As previously mentioned, stored event recording data in the SD card will not be erased by the unit, and where this must be done manually by the user.

Playback of video/audio data

The recorded data can be played back using the provided playback soft ware which resides on the SD card. By removing the SD card and accessing the Player folder and double clicking on the "Player.exe" line starts the playback soft ware.

Data analysis

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

Contents

Before using the product

Warranty and responsibilities

◆ Damage 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 Drive Recorder is a device used for recording/storing videos, the device is not guaranteed to record information on every accident in the case of a malfunction.

◆ In the case of an accident, a minor force will not trigger the G-Force sensor to activate Event Recording. Therefore the user must use the Manual Record Button located on the device itself.

◆ For stable use of the product, check the product and SD card regularly to ensure its proper operation.

Safety Instructions

User Manual
● To ensure proper operation please read the manual before installation and use. Failure to follow this safety notice may cause a malfunction and may void the warranty.

Power
● Use only the provided cables and specified power input. A cable not supplied by the manufacturer may cause product damage, a fire or a short circuit.
● Please use rated capacity for the fuse and confirm the message if the product correctly connected after the installation.

SD memory card
● Insert the SD card to the product.
● 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.
● Please make sure to turn off the device power when inserting or ejecting the SDcard.
  ※ Inside SD memory data loss may occur due to SD error.

⚠ Caution!

- Do not remove the SD card during product operation while power is on.
  Product or SD card could be damaged.
- Ejecting the SD card
  - Parking Surveillance mode is not set: Turn the car engine off. LCD will be turned off within
    10 seconds. Eject the SD card if the device system is safely finished with beef sound.
  - Parking Surveillance mode is set: Turn the car engine off and wait to move
    "Parking surveillance mode".
    Press the emergency button over 3 seconds and the device system will be finished.
    safely with LCD off and beef sound.

Tip. For safe and long-term use of the SD card.

◆ Please make sure to turn off the device power when inserting or ejecting the SD card.

◆ Generally, the SD card has a set lifespan and may not be able to store new data after a certain period of time. In such a case, please purchase a new SD card for use. Please take caution as loss of data due to overuse of the SD card as it shall not be the responsibility of the manufacturer.

◆ Always store data within a storage case as data loss may occur during storage or transport due to static electricity or external voltage.

◆ Always back up all important data in a different storage media.
  (Hard disk device, CD, portable disk drive, etc)

◆ Please refer to the SD card precaution for safe and long term use of product. (Refer to 8p.)

Installation sequence and method

Caution prior to installation

- Stop the car at a safe parking lot before operating the device.
  Do not operate the product while driving. It might be a cause of car accident.
- Do not obstruct the view of the product through the front windshield.
  ※ The GPS receiver may not work properly.
- Do not disassemble, repair or modify the device.
  ※ This voids the warranty and where we take no responsibility for product damage or problems caused by the user.
- When replacing the fuse, please use a fuse with the rated capacity under the recommended power guidelines.
  Using this product in alternative power situation will void the product warranty and could result in fire.
- 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.
- Use only the provided cables and specified power input.
- A cable not supplied by the manufacturer may cause product damage, a fire or a short circuit.
- When using double-faced tape, wipe the window clean and clean the surface of the device with dry cloth before putting the tape.
- From dropage of a product by any foreign substances or dust, it may cause a fatal damage to the product or a car accident while driving.
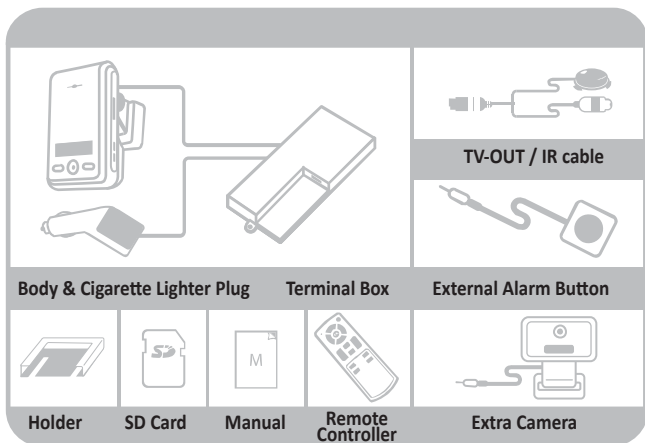
Caution prior to Storing

- Do not insert foreign substances into the product.
- Do not cover the camera lens with any materials or objects. This may affect recording quality.
- Do not drop or apply excessive shock. This may cause product damage.
- Avoid high temperature from heating device.
- Avoid placing the product under high moisture or dust level.

Caution prior to Cleaning

- Turn the device off before cleaning the device.
- Avoid placing the device under high moisture or dust level.
  Only clean the device with dry cloth if it is necessary.

Components

TV-OUT / IR cable

Body & Cigarette Lighter Plug　　**Terminal Box**　　**External Alarm Button**

Holder　　**SD Card**　　**Manual**　　**Remote Controller**　　**Extra Camera**

※Product package may change for product enhancement without any notification.

Technical Specifications

Video	Built-in Camera	2 (1.3 Mega pixel CMOS sensor)
	Compression	H.264/AVC
	Resolution	VGA (640X480)
	TV-OUT	○ (PIP mode)
Audio		1 CH, Mono (in & out)
GPS		Built-in GPS
G-Sensor		3D acceleration sensor built-in
Main car battery supported		Supported (Parking Surveillance Available)
Supported memory		SD Card up to 32GB
Power		DC 9 ~ 30V

※This manual may be changed without prior notice to users for product improvements.

SD Memory Card specifications

Recording time by frame rate & Video quality

Total Frame (Frame/Sec.)	Maximum Recording Time (Min.)				
	Lowest	Lower	Normal	Higher	Highest
15 Frame	300	240	160	120	96
10 Frame	480	300	240	160	120
7.5 Frame	600	400	300	200	160
5 Frame	800	600	400	300	200
3 Frame	1,200	800	600	400	300
2 Frame	1,600	1,200	800	600	400
1 Frame	2,000	1,600	1,200	800	600

※ Time varies depending on the amount of motion seen by the camera & lighting conditions.   (Based on 2GB)

⚠ Caution!

- Do not remove SD card when the power is connected.
  (It might cause fatal damage to the SD card.)
- Do not use the card for any other purpose or copying unrelated files.
  Check for data abnormalities once a week for stable operations and format the SD memory card at
- least twice a month for stable use of product.
  (Refer to website and download the recommended formatter program for SD formatting.)
- In case where the PC does not support the SD card and the SD SDHC2.0 memory card standard, use
  a separate SDHC2.0 USB reader. (SD card to USB adapter)
- SD memory card need to be replaced with a new card once it reached end of product life and may
  not be able to store new data after a certain period of time.
  (SD card warranty is three months after purchasing.)
- Only use the provided SD card from the manufacturer.
  Product may not function correctly if un-tested SD memory card is used.
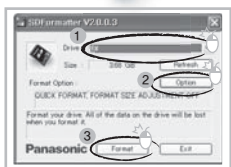 (We recommend the use over "SDHC Class4 Card". Refer to website.)

SD Card Formatting
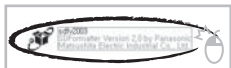
 1. Double click the downloaded files to install.
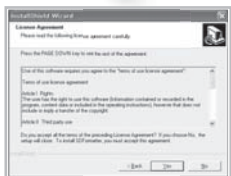
 2. Follow installation instructions.

 3. ① Select SD card drive.
(SD card will be automatically recognized if SD card is inserted.)

② Click the [Option] and choose the "FORMAT SIZE ADJUSTMENT". Check "ON" and click the OK button.

③ Click the "FORMAT" and follow the formatting instructions.

⚠ Caution!

- Format the SD card at least twice a month regularly for optimal performance.
- Format function will delete all files in the player.
  Backup all the important data before formatting the removable disk.
  (Any loss of data shall not be the responsibility of the manufacturer.)
- After formatting the SD card, set the time zone in the view program configuration (Refer to 22p.)
  If you do not configure the settings, system initialization may take up to 10 minutes and where the time and the Time zone may not match.

Operation sequence

Preparation for video recording

1. Check to see whether the SD memory card has been inserted in to the device. and connect the power cable.

2. If the device is connected to power, [HELLO] appears on the LCD display, indicating that the video recorder is initializing.

3. After a few seconds, a chime sound will occur and the continuous recording will be conducted while driving the vehicle.

Continuous recording while driving

1. Drive Recorder 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 over written for continuous recording. The data recorded by either the unit's internal G-Sensor or external manual record button are not over written. (This alarm data must be erased by the User with the SD card inserted in the computer, erasing event data in the DATA folder.)

3. When you stop the engine or remove the power cable from the cigarette lighter plug, the device stops recording.

Running the viewer program after driving

1. The player is built in the SD card so the user is able to view the recorded data on any PC.

2. Check the recorded SD card data regularly for stable operation of the device and the SD card.

3. Always back up all important data in a different storage media.
(Hard disk drive, CD, portable disk drive, etc)

4. The newly released firmware will be available to download at the website.

Name of the Parts

Built-in Speaker
Provides audio output for chime and any information

Display window
Displays time and speed information.

SD card Slot
To insert the SD card into unit.
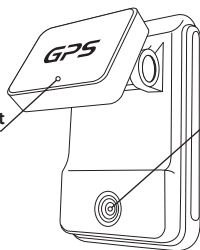
Event release button/ System power off button
Release recorded data by event locks.
System power off on the Parking surveillance mode:
Press over 3 seconds after the car engine off

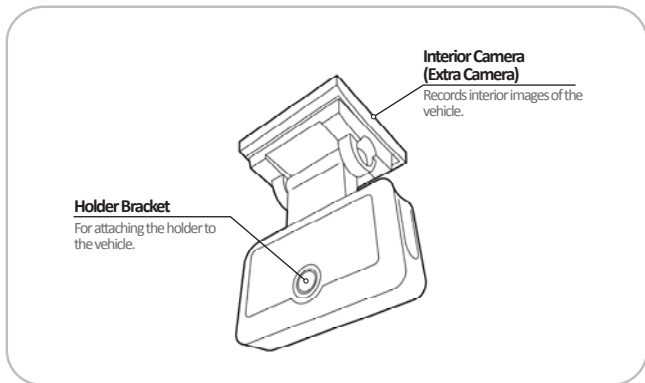**Emergency (Event) Recording button**
To perform an emergency recording.

GPS module & Holder slot
For attaching the holder to the vehicle.
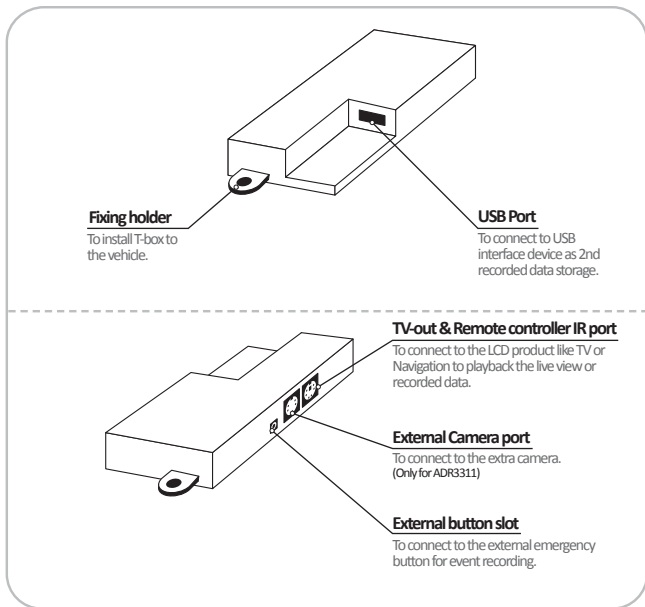
Front Camera
Records forward images of the vehicle.

Extra Camera

**Interior Camera
(Extra Camera)**
Records interior images of the
vehicle.

Holder Bracket
For attaching the holder to
the vehicle.

Remote controller

MOVE & MENU Button
Move and select the desired
menu function.
(Activate TV-Out by pressing OK
key and select the menu.)

Playback control button
Playback the selected file and
adjust the frames.

MODE button
Activate PIP function

MENU cancel button
Cancel the previous function

Page Up/Down
Adjust the playback file list page.

T-BOX

Fixing holder
To install T-box to the vehicle.

USB Port
To connect to USB interface device as 2nd recorded data storage.

TV-out & Remote controller IR port
To connect to the LCD product like TV or Navigation to playback the live view or recorded data.

External Camera port
To connect to the extra camera.
(Only for ADR3311)

External button slot
To connect to the external emergency button for event recording.

⚠ Caution!

- After inserting the memory into USB port and powering it on, USB memory will be in priority to save the data.
  - ※ If SD card and USB memory are inserted at the same time, USB memory will work only for the recording.
  - ※ Please use the USB memories which are recommended by JOUTEC.

Installing the product

⚠ Caution!

- Make sure to install with the ignition turned off and car keys removed.
  Particularly, make sure to connect the power after installation is complete.
- Reception will improve when the GPS receiver is fully exposed through the front window.
- Please keep clear the space to install the product in order to have enough viewpoint
  Without room mirrors or other attachment.
- After installation, the product should be positioned in straight vertical degree.

Fixing the unit on the bracket

1 Clean the surface with dry cloth before putting the tape.

2 Remove the plastic from the double-faced tape on the holder located on the upper rear of the rearview mirror.

3 Connect the device and T-box.

4 The device must be installed on the mounted straight both horizontally and vertically.

Installing the extra camera

1 Clean the surface with dry cloth before putting the tape and install the camera on the vehicle.
Check if there is any obstacle on the unit.

2 Connect to the interior camera port of T-BOX and clean the lines.

Installation of rear sensor

The rear sensor cable is attached with the rear camera and this cable can be connected with television, navigator, GPS monitor and small monitor to show the live view from rear side. (The rear sensor cable should be connected with rear lamp power terminal)

1 Open the trunk(boot) of the vehicle and open the rear lamp like the picture.

2 Take a look at the rear lamp and check (+) power wire and (-) power wire

3 Pill out the (+) power wire of rear lamp like picture.
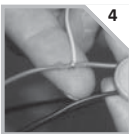
4 Connect rear sensor cable to pilled (+) power wire and wrap up by vinyl electrical tape.

⚠ Caution!

- Each vehicle has its own and different structure and system.
- The vehicle should be turned off while working and conduct with the mechanics.
- Please Make sure to be connected firmly between T-box and the rear camera.

Installing the accessories

1 Locate the best position for the remote alarm button. Secure the button by removing the adhesive film attached to the tape on the external button, press and hold.

2 Locate the best position for Remote control IR reception.
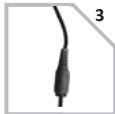
3 Connect the video cable to the connection port of the device.
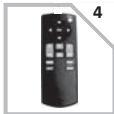
4 Keep the remote control at the safe place to be reached easily. .

LCD Display

No.	Name	Description
1	88:88	Displays Time & Speed
2	V-OUT	The sign is ON, while event recording (E button, G-Sensor detected)
3	REC	The sign is ON, while it is recording.
4	V2	The sign is ON, while front camera is recording.
5	EVENT	The sign is ON, while extra (rear) camera is recording.
6	V1	The sign is ON, while TV-out in process.
7	USB	The sign is ON, while USB connected.
8	GPS	The sign is ON, while GPS signal captured.
9	MPH km/h knot	Designated speed measurement unit.

No.	Name	Description
1	F_UP	Firmwarw Updataing
2	Err1	CMOS Sensor error
3	Err2	G-sensor error
4	Err3	GPS error
5	Err4	RTC error
6	Err5	External cam disconnect
7	OFF	System Off

Parking Surveillance

Notice
- Each vehicle has its own system and features. Please conduct this manual for the installation as a reference.
- Please ignition off while installing the parking surveillance. Please contact the car technician if needed.
- In order to use parking surveillance, cigar lighter power plug should be cut and use the cable for the wiring.

Each part of T-BOX
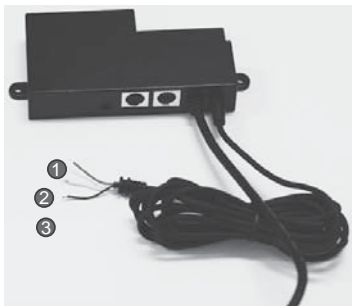
1	RED	POWER SUPPLY VCC (+) POWER SUPPLY (+12V ~ +24V)
2	WHITE	ING (Ignition) ADR33XX singal for operation
3	BLACK	GND (-) Connect to the ground
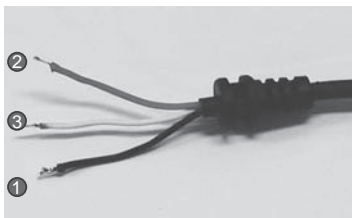
1. Connect the black wire (GND)(-) with car frame or ground wire.
2. Connect the red wire(power supply cable) (+) with all-time power supply cable. For this power supply, it should be powered on after the ignition is off. For instance, Emergency button has the power supply without ignition.
3. Connect the white wire(ING) with the power cable which can have the power with the ignition only. For instance, the cigarette lighter cable has the power while the ignition is ON only

⚠ Caution!
- For the safety reason, While installing the parking surveillance, please connect the ground wire first.
- Please connect the power cable and ignition cable through the fuses inside.

T-BOX Installation

1 Check the location of the fuse box in the vehicle.

2 Fix the place to install the T-BOX in the vehicle.
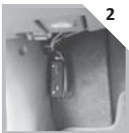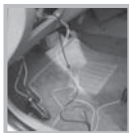
**3** Adjust the length of the wire from T-BOX to the fuse box.

4 Remove the A pillar like picture ❶ and insert (install) the cable at The gap between sealing and windshield like picture ❷

5 After adjusting the cable, connect the power cable.

- ❶ Red wire is connected to "emergency button" fuse (the fuse with power after the ignition is off) ❷ black wire should be connected to the ground of vehicle.

- At the last, ❸ white wire which is ignition wire is connected to cigarette lighter power cable after the ignition is of and check the status of cigarette lighter power. (Some vehicles are having the power at cigarette lighter power after the ignition is off.)
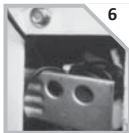
6 Check the all wires and power on and Check the following points after parking surveillance setting.

The product is turned off again after powering on the products, and then power it off again. After the power is off, parking surveillance will be in operation and it will be normal if LCD on the product is blnking.
If the LCD is keep ON (not blinking), the installation might be failed.

7 Put the wires with the cable tie in order and then install all the removed cases back.

T-BOX system operation

Item(s)	Description
Input power voltage	Min. 9V ~ Max. 30V
Low voltage detection	Min. 11.6V(12V battery) or Min. 23.2V(24V battery)

Running the program

PC system requirements

| Component	Requirements
CPU	Above Pentium4 / 1GHz processor or higher
Menory	512MB of RAM or higher
OS	Microsoft Windows XP Home Edition or higher
Graphics	DirectX 8.1b or higher
HDD space	200MB or higher

※When using MS Windows Vista and T-eye Player soft ware for the first time, you may have to run the Player in Administrator Mode.

Player installation

1. Insert the SD card into a PC or SD card reader and connect it to PC.

2. Select SD card drive.

3. Double-click the "PLAYER".

4. Double-click TeyePlayer.exe" to execute the program.

To review video

To playback video, select the "Open a File" button, explore the SD card or other location where the recorded (or saved) data is located, (file called DATA is on the SD card), then double click the selected file from the list in order to play.
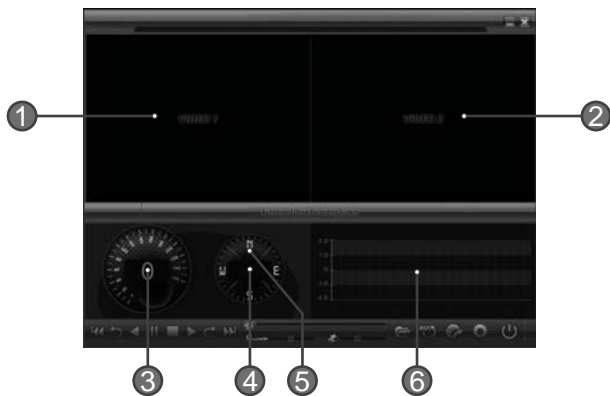
No.	Name	Description
1	Forward Camera View	Displays the video images recorded by the forward facing camera.
2	Interior Camera View	Displays the video images recorded by the forward facing camera.
3	Vehicle Speed	Displays the speed of your vehicle.
4	Vehicle Location	Displays the coordinates (latitude and longitude) of the vehicle. (Requires GPS signal lock)
5	Direction of Travel	Displays the vehicle's directi on of travel.
6	G-Force Analyzer	Displays vehicle motion and any impact detected by the G-Sensor with a graphically in 3-axis.

Playback Interface Controls

Button	Function	Button	Function
	Move to the previous file		Move to the next file
	Playback the previous frame		Open a file
	Pause the Playback		Convert the fi le into an AVI format
	Stop		Playback Link the recorded data with map Playback Access System
	Playback		Set Up Menu
	Move to the next frame		Close Player
	Move to the previous file		Hide/Close the window

Volume and Playback Speed Control

Volume control   Playback speed control
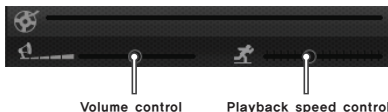
No.	Name	Description
1	Volume Control	Adjusts the volume level while playing back the recorded data.
2	Playback speed control	Adjusts the video playback speed.

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 data. Typically the first time you do this all the files are located on the data folder of 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.

※Click the list name to sort by File Name, Record Time or Event Type.

- ◆ 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 butt on recording)
- ◆ Click the list name to sort by File Name, Record Time or Event Type.

Event Type	Description
Continuous recording	No nomenclature applied. Clicking on this shows the recorded file when driving.
Manual Event Recording (EVENTXX-BUTTON)	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 push button.
G-Sensor automatic recording (EVENTXX-GSENSOR)	Annotated with G-SENSOR. This data is recorded when any impact, sudden acceleration, or accident is detected.

Converting into AVI file format

Convert a portion of the recorded data into an AVI file format to playback on "Window media player" or 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 to convert the images into the AVI file format. The video playback stops and the AVI conversion window appear as below.
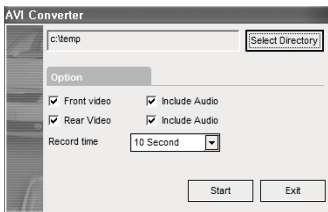
2. Set the following options from the window and click Start.
1) AVI storage directory
2) Selection of previous/next video and whether or not to include audio data
3) AVI recording time

3. The conversion progress appears as follows.

※ The AVI files cannot be created on a portable disk such as SD Card or USB memory stick but only on a hard disk first due to speed required for the conversion.

Interfacing with a GIS/City map

Drive Recorder 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.

Pop-up Display window

With double-click the display window, the recorded images are played back at the original size. Double clicking the screen returns the view to normal, original size. Use the PC's mouse to move the screens and adjust them within desktop window.

System configuration

Click on the System Setup configuration icon ( ) located at the lower right corner of the Teye player. The following window will then appear.

No.	Name	Description
1	Video Quality	Sets the video recording quality. (5 Levels)
2	Frame rate setting	Sets the video frame rate (1, 2, 3, 5, 7.5, 10, 15 frame/sec)
3	Video Format	Sets the video format for TV-OUT & external camera (NTSC, PAL)
4	Audio Recording	Enables or Disables the audio record function.
5	Password Setting	Sets any Password to access the recorded data.
6	Time Zone Setting	Sets the time zone for the user. (Ex. Korea - GMT+09:00)
7	Unit for Speed	Set the unit of the car speed
8	Vehicle ID Number	Registeres the license plate number
9	G-Sensor Sensitivity	Sets the sensitivity of G-Sensor. (Available to set each X,Y,Z axis by 0.1G)
10	Pre-Event Recording Time	Sets the time to record the previous scenes before the event.
11	Parking surveillance Setting	Sets video frame rate of parking surveillance. (Refer to Page.23)

Parking surveillance Setting

No.	Name	Description
1	Timer for parking	Sets the parking surveillance time (none ~ 24h)
2	Video Quality	Sets the video recording quality. (5 Levels)
3	Frame Rate	Sets the video frame rate during the parking surveillance
4	Audio Recording	Enables or Disables the audio record function.
5	G-Sensor Sensitivity	Sets the sensitivity of G-Sensor. (Available to set each X,Y,Z axis by 0.1G)

※ The setting for parking surveillance will be different from the normal operation.
※ The parking surveillance will be off if the status(capacity) of battery is lower than the required capacity regardless of Time setting.

TV-OUT Viewer

No.	Name	Description
1	Live Video	Displays live video streaming
2	Playback	Playback video and audio data recorded
3	System	Configuration settings
4	Exit	Closing TV-out

Live Video

1. Displays live video streaming.

2. With the extra camera (the 2nd CH), PIP (picture in picture) function will be activated by [MODE] button.

Playback recorded video data

1. Playback video and audio data recorded previously.

2. By Page [Up / Down] , it moves page of the file list.

3. By [∧ / ∨], it moves files.

4. Selects file by press [OK] button..

1. By [Playback control button], move to previous/next frame or rewind/pause the playing files.

2. Press [MODE] and activate PIP function..

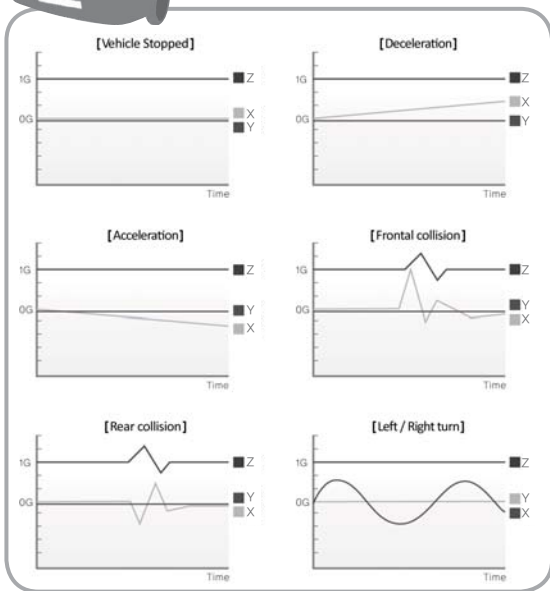※ Drive recorder must stop the recording during the playing recorded files.

System Setting

1. Setting page consist with total 11 sections.

2. Setting value will be shared with its viewer program
※ For the setting detail, refert to the viewer program option. (Refer to 22p.)
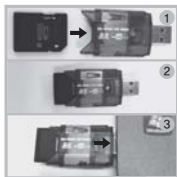
Analyzing G-SENSOR data

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

[Vehicle Stopped]

[Deceleration]

[Acceleration]

[Frontal collision]

[Rear collision]

[Left / Right turn]

Software Update

1. Remove the SD card from the device and insert to the SD card reader.
2. Connect the SD card reader to PC through the USB port.
3. Download the latest software at the website and copy the update files to the update folder of SD card.
(Create "update" folder and copy the update files, if "update" does not exist in the SD card.)
4. Insert the SD card to the device and turn on the vehicle ignition. Software will be updated automatically.
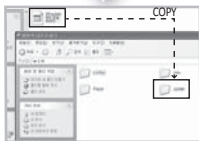
⚠️ **Caution!**
Do not turn off the ignition or power off the device during the software updating.

Warranty

Warranty Cover

The warranty period covers for one full year for this device, return to base from the date of purchase. Should you believe that your device is defectives within the warranty period, please contact to the service center.
The product may be repaired or exchanged for a factory refurbished unit. Faults reported outside of the warranty period are subject to a chargeable repair.

MEMO