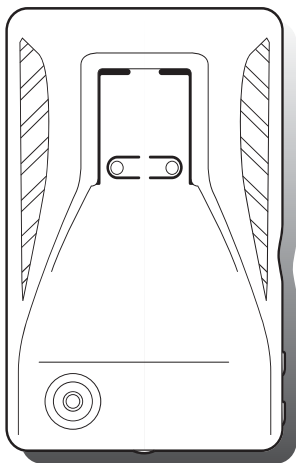


Automated Drive Recorder

User Manual

ADR3000



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.

Night view 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 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 software.

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.

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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.

Safety Instructions

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.

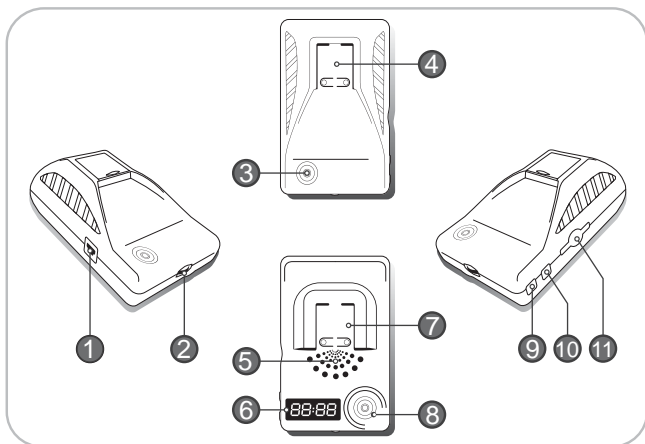
 <p>Do not clean the product with water or volatile solvents. This may damage the product, cause a fire or electric shock.</p>	 <p>Do not apply excessive shock or never insert foreign materials into the product. This may cause product damage, a fire or a short circuit.</p>
 <p>Video quality is affected by lighting conditions. GPS is affected by signal receipt. Nighttime or use in tunnels affects system operation.</p>	 <p>Do not arbitrarily change the product location. This may cause a GPS communication error.</p>
 <p>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.</p>	 <p>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.</p>
 <p>Do not cover the camera lens with any materials or objects. This may affect recording quality.</p>	 <p>Once installed, do not manipulate the product while you're driving a car. This may cause a traffic accident.</p>
 <p>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.</p>	 <p>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.</p>
 <p>Do not obstruct the view of the product through the front windshield. The GPS receiver may not work properly.</p>	 <p>Only use factory approved parts. Use the approved power cable. Contact your authorized Reseller for assistance.</p>

Components

Components		
		
Body	Cigarette Lighter Plug for Power Supply	Holder
		
IR Light Module	External Alarm Button	SD Card
		
Manual	Fuse	

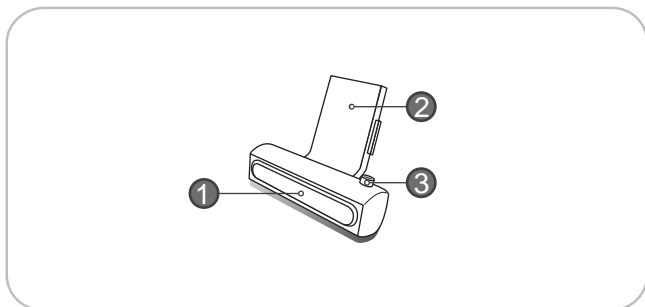
※ Depends on the model ordered, SD card cannot provide.

Part Numbers



No.	Name	Description
1	Power Connection Port	Used to connect the power cord with the unit.
2	Power Connection Port	Used to adjust the audio volume for information.
3	Forward Facing Camera	Used to record scenes through the windshield.
4	Mounting Connection	Used to mate with the mount.
5	Built-in Speaker	Provides audio output for chime and any information.
6	Status Display	Used to display the status of Drive Recorder or traffic information by using English text or symbols.
7	IR Light Connection	Used to mate with IR Light module.
8	Interior Facing Camera	Records video from inside your vehicle.
9	Emergency Record Button	Used to perform an emergency recording.
10	Emergency Record Protection Cancel Button	Used to cancel protection of all the emergency recording data.
11	SD card Slot	Used to insert the SD card into unit.

IR(Infra-red) light module



No.	Name	Description
1	CDS	Used to sense the brightness while nighttime recording.
2	reverse side	Connection port to main body
3	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	1.3 Mega Pixel CMOS sensor	
Video Resolution	VGA (640 x 480) up to 15 frames per second	
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 ~ 16GB)	
Power Input	Body	DC 5V to recording unit
	Cigarette Lighter Plug	DC 12V ~ 24V

※ 4GB SD memory card included with install package.

SD Memory Card specifications

※ Denotes an average time. (Motion affects recording duration. Times reflected see recordings made during the daytime in typical city downtown areas.)

Size of SD Memory	Maximum Storage Time	Event Recording Time	Number of Event Generated Recordings according to the Preset Recording Time		
			1mins	2mins	3mins
2GB	90 minutes	64 minutes	25	20	15
4GB	180 minutes	80 minutes	50	40	30
8GB	370 minutes	160 minutes	90	80	70
16GB	750 minutes	320 minutes	120	100	80

※ 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.
- Remove all power to any areas where wires will be connected.
- 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. (ex: where the interior view is not hidden by the mirror inside your car)
- The Unit must be installed on the mounted straight both horizontally and vertically

Installing the Unit



- 1** Insert the holder into the mounting connection.



- 2** Clean the mounting surface and remove the red film from tape the mount, and press in place the mount to the windshield tightly.



- 3** Clean the mounting surface and remove the red film from tape the mount, and press in place the mount to the windshield tightly.

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.

Installation of the IR (Infra Red) light



- 1** Insert the IR light module's knob, on the rare face of the body.



- 2** Connect the other side of "Y" power cable to the power connection port of the attached IR light module of the unit.

Installing the Remote External Alarm Button



1 Insert the Jack of the manual alarm input cable into the connection port on the upper part of the Cigarette Lighter Plug. Run the Cable, hiding and securing it in place.



2 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.

Connecting the power cord



1 Connect the "Y" power cable to the power connection port on the right side 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. Take the SD card out of the Drive recorder. Access the Player.exe menu and enter the set up mode, setting time zone, daylight savings time and other settings (as noted in the programming section of the manual). Re-insert the SD card in the recorder. Following the installation instructions. When you connect the unit to power, or turn the engine on, "dR Init" appears on the LED display on the unit, indicating that the video recorder is initializing. 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, longer if one has not set the local time zone on the SD card, the unit completes initializing and a "ding dong" chime is heard along with the words "Hello". The unit may still show a series of numbers followed by and "GPS FINE" will appear. This adjusts the unit further for increased accuracy.
3. After the chime, the Drive Recorder starts continuous recording without GPS data. The unit is recording video and audio as well as vehicle speed, direction and location, when: a) when the vehicle is stopped, the unit shows local time; b) when the vehicle is in motion, it displays the

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 overwritten for continuous recording. The data recorded by either the unit's internal G-Sensor or external manual record button are not overwritten. (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, T-eye stops recording.

SD card related information



Warning

Do Not use this SD card for any other purpose.
To use this SD card for any other purpose or copy 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 where the computer used to mplayback the video does not support the SD card and the SD SDHC2.0 memory card standard, use a separate SDHC2.0 USB reader. (SD to USB adapter). Periodically format the SD card so as 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.
- 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.

To playback video, use the T-eye exclusive viewer that is located on the SD card. With the SD card inserted in your computer, explore the SD card, locate the “player .exe” file which is located on the SD card. Then explore the “DATA” folder and select the file that you wish to playback.

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 diver detected scenes of interest, press the emergency record (E) button to record. This 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 (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 / removing the SD card, Power must be OFF.
The LED Display must be off. (BLANK!)



Manual Cancellation of the Emergency Manual Record if enabled in software

Press the "M" button for about 3 seconds until you hear a chime from the speaker. This is used in the rare case if the SD card is full and was not replaced. This function is typically not enabled so to secure all recordings. If enabled in system setup, all the previous events and the overwritten record protection is disabled when this button was activated, allowing the system to overwrite alarm data. (rarely used)



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

System status is displayed on this multi-segment display.
Used for system status and system diagnostics.

Using the Player: Playback, SD card and Initial System Set-Up

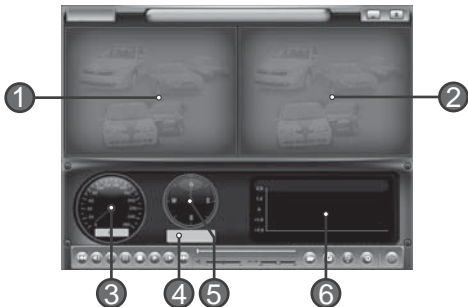
PC Minimum Systems Requirements

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

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















To Review Video

Remove Power from the unit. Remove the SD card from the unit and Insert the SD card into a PC or SD card reader and connect it to a computer. Explore the SD card. Locate the 'Player.exe' file that is found in the 'PLAYER' folder. Double click on 'Player.exe'. The following window will appear.



No.	Name	Description
1	Forward Camera View	Displays the video images recorded by the forward facing camera.
2	Forward Camera View	Displays the video images recorded by the interior 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 direction 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 frame		Move to the next file
	Move to the previous frame		Open a file
	Pause the Playback		Convert the file into an AVI format
	Stop Playback		Link the recorded data with map
	Playback		Access System Set Up Menu
	Move to the next frame		Exit, close the program
	Move to the previous file		Hide/close the window


Volume and Playback Speed Control

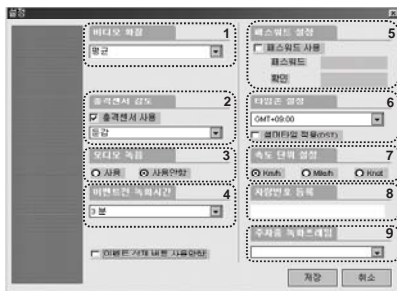


No.	Name	Description
1	Volume Control	Adjusts the volume level while playing back the recorded data.
2	Playback speed control	Adjusts the video playback speed.

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.


System configuration

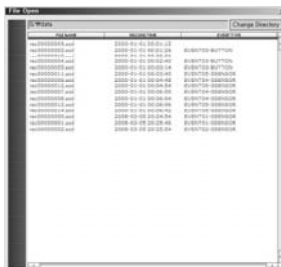
Before using the system, remove the SD card from the recorder and insert the SD card into the SD slot of a PC or in the SD card reader of a computer. MS Windows will automatically see the device. Locate the Folder called "Player". Double Click on "Player.exe" When the player's main screen appears, click 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 for a manual record event.)
5	Password Setting	Sets any Password to be used to access the recorded data. (Default: none)
6	Time Zone Setting	Sets the time zone for the user. (Ex. Wellington—GMT+12:00)
7	Unit for Speed	Set 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 to be installed in.
9	Frame rate of parking surveillance	Sets video frame rate of parking surveillance. (1 or 3 Frame)

Playback

1. With the Playback interface Open: 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 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.

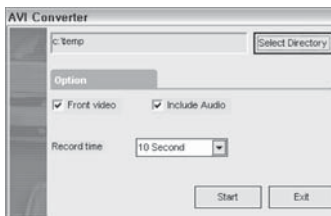
- ◆ FILE NAME: File name of the recorded video images.
- ◆ RECORD TIME: Date and time when the images have been recorded.
- ◆ EVENT TYPE: Displays the recording type (Continuous recording/event button recording/remote event button recording)
- ◆ Click the list name to sort by File Name, Record Time or 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 pushbutton.
G-Sensor automatic recording (EVENTXX-GSENSOR)	Annotated with G-SENSOR . This data is recorded when any impact, sudden acceleration, or accident is detected.

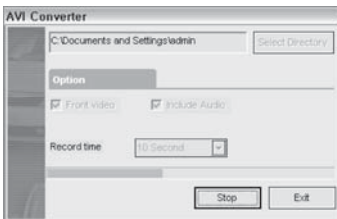
Converting the Authenticated files into AVI file format

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 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.



Additional Functions of Player: Pop-up Display window

When you 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. You may use your PC's mouse to move the screens and adjust them within your desktop window.



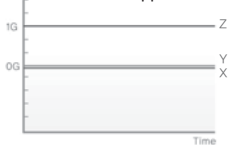
Analyzing G-SENSOR data

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



System Diagnostics via the Teye LED Display

Status	Event	Sound or Status	Display
After power on, initializing on.	Initializing after power ON	Booting the system to get the DR ready	[INIT]
	Ready to record	Recording is ready	[HELLO]
	GPS loading	GPS searching in progress	[----]
	GPS ready	GPS has been received	[GPS][FINE]
Event Recording	Event recording begins	Chime 1	[---]
	Event recording finishes	Chime 2	
Trouble-shooting	GPS update Error	Remove the cigar jack cable, and then re-plug in	[GPS][erro]
	Camera sensor Error	Contact local A/S center	[GPS][err1]
	GPS error	Contact local A/S center	[GPS][err2]
	SD memory instable	SD memory check required & format the SD (if necessary)	[GPS][err3]
	SD card is NOT inserted	Power off and insert SD card into the DR unit	[sd_e]

Firmware and Playback S/W Update

Firmware Update

1. With the Unit unpowered (blank unlit multi segment LED display), remove the SD card from the unit, Insert the card into either the SD card slot on the computer.
2. If your computer doesn't have SD card slot, connect the memory reader to the USB port on your computer.
3. If you have received new firmware or have been directed to a web or ftp site to receive new firmware and after accessing the site, first download the related firmware or playback software.
4. After downloading the update file, copy it to the update directory on the SD card. (If the update directory folder does not already exist on the SD card, create a new folder on the SD card and rename the folder name to "update". Then copy the file again into this folder.) Then insert the SD card into the Recorder, power up the recorder, and the new operating file or firmware will be uploaded to the Recorder. You need to do this only once per recorder per update.

Software Update

1. After downloading the Playback S/W file, copy it to the player directory on the SD card.
2. 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.joutec.com>) or contact your retailer.

Automated Drive Recorder

