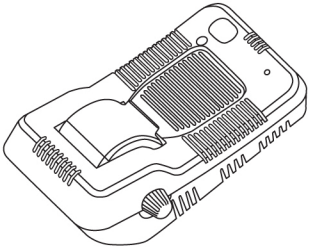
RYDEEN®

PVR15W Advanced Driving Assistance System



Read all instructions and warnings before using this system.
Please drive safely

USER'S Manual

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⚠ Warning Potential of serious accidents or damages/injuries due to violation of instructions

- This device has no user service-able parts. Any attempt to repair will void all warranties.
- To clean the lens or housing only use a soft dry cloth and products designed for lens cleaning.
- This device is designed to be mounted and used inside a vehicle only. Do Not expose to weather.
- Do not disassemble or apply physical impact.

⚠ Caution

- Install according to the manual. Otherwise the product may not operate or operate properly.
- Keep the windshield in front of the lens clean. Foreign substances may cause malfunction and hinder video input.
- Tint or any other sort of obstruction to the glass surface can hinder video input.
- Watching the screen while driving is un-safe and may be illegale. Be aware that the user is liable for accidents and damages.
- Use only the specified installation parts to insure proper operation.

This device is a drivers aid only. It is one of many safety devices that will help a driver. This device does not interact with the vehcile in any way and is only an added warning measure. Weather, road conditions, visability, and other items may effect the accuracy of this device at any time.

⚠ Caution The PVR15W may not operate properly in the following conditions.

- When driving on a road where there is no lanemarkers or it is difficult to see the lanemarkers
- When the lane is not continuously marked or lines are broken
- When GPS reception is not good, for example : A tunnel, country roads, city or natural causes.
- When the sight is not good due to extreme weather (rain, snow, fog, etc.)
- When there are extream light level changes such as intunnel entrances/exits or the headlights while driving at night when there is no light or the outside lighting changes abruptly.
- Abrupt cutting in, changing the lane abruptly
- Sharp turn with the radius of curvature less than 250m
- Dark tint on the windshield, poor sight due to debris, dirt, and/or other accessories
- When the vehicle cannot detect the lane marker due to other conditions
- 'FCWS' function may not work depending on the color or shape of a car ahead, brightness of the headlights or whether there are natural conditions such as sunlight head on.

The conditions above are only examples of some of the factors that may effect the safety assistant systems (LDWS, FCWS). As conditions change rapidly and due to these changes the PVR15W may not work properly therefore drive carefully. The manufacturer is not responsible for any problems caused by improper use, failure to install correctly, or outside conditions that can and will effect the performance of this product.

Product Features

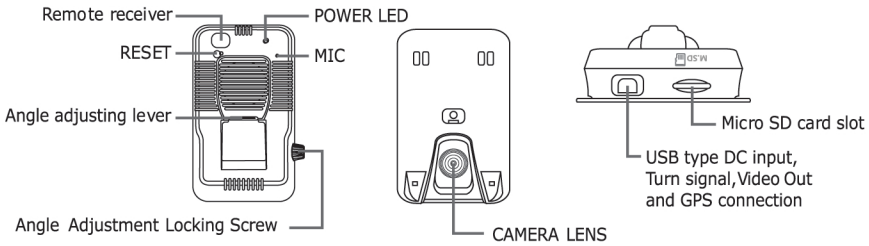
PVR15W

- It is a cutting-edge product with **FCWS (Forward Warning Collision System), LDWS (Lane Departure Warning System)** and **DVR (Driving Video Recorder)** features to deliver essential information for safe driving.
- This product incorperates a GPS receiver: It receives GPS signals, sets the operation speed and saves the time and location of the any incident recorded and noted while saving the video.

Main Features

- Forward Collision Warning System(FCWS)
- Lane Departure Warning System(LDWS)
- Driving Video Recorder
- GPS receiver
- Normal, event, manual(forced)recording
- Automatic memory managing

Features of the device



To clean the camera lens, use a soft, dry clean cloth, or specially made camera lens wipes ONLY. Periodic cleaning is required to maintain proper operation. Do NOT move the lens angle when cleaning.

Components

PVR15W

Remote Control

Power, Turn Signal, Video

GPS Antenna Part #

Owners / Install

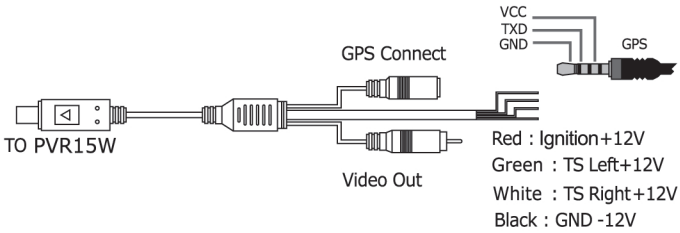
Micro-SD Card/Adapter/

Main Unit Bracket W/ 3M

Windshield Angle Wedge

- Check to make sure all components are included as shown above after purchasing the product.
- Contact the store of your purchase if any component is damaged or missing from the package.
- Components above are subject to change for better performance.
  (Images above are to help consumers with understanding the product and may be different from the actual product.)

Installation instruction and calibration



NOTE : SEE PAGE 13 FOR DEVICE MOUNT PLACEMENT ADVICE IF NEEDED

1. Clean the inside of the windshield. Be sure to use a cleaner that leaves NO RESIDUE.

2. The LDWS unit must be mounted in the center of the vehicle directly below the rearview mirror mount. Be sure that this area has a clear line of sight and is not obstructed in any way. This must also be in an area where the wipers clear the view.

3. Check the angle of the windshield (rake) by holding the main unit against the glass and looking to see if you can adjust the lens to see straight ahead. If yes go to step 5. If no you must use the Wedge adapter.

4. Remove the tape protective cover from the wedge adapter and attach the Main mounting bracket to the wedge. DO NOT use the extra Mounting tape included with the main bracket.

Installation instruction and calibration

5. The Main Unit MUST be mounted level with the road. The Camera lens will be at the bottom of the unit. Using the included mounting tape mount the main unit bracket or Wedge if used to the glass carefully. The tape is very strong and can not be moved without damaging the tape. Make sure your first try is correct.

7. The Video Output connector should be located somewhere that you can access it later for calibration of the system. The 2.5mm mini jack will connect to GPS Antenna on the windsheild.

6. At this time you must route your wiring to the Main Unit location. Always insure that you do not interfer with any safety devices such as an air bag or seatbelt. Start the harness at the Mount location and work down towards the dash.

8. The GPS antenna MUST be mounted with a clear view of the sky. Generally this can be just above the Main Unit Bracket. Remove the tape backing and attached the GPS antenna to the glass. Do not place in in an area that is obstructed or blacked out. Route the wire to the harness and plug in the connector.

Installation for Large Vehicles, RV's, Buses, Trucks

RV / Bus:
Attach the bracket to the windshield 6" from the bottom of the window frame. Arrange the cables across the dash using the provided wire clips, if needed.

Truck:
Attach the bracket to the windshield within 6" from the bottom or top, depending on model, of the window frame. Arrange the cables across the dash using the provided wire clips, if needed.

Installation instruction and calibration

9. Carefully route your power / signal harness to a location in the vehicle where you can access the needed connections.

11. NOTE: The SD card included also has the DVR viewing program installed on it. We recomend that you copy these files toyour computer for safe keeping and easier use at a later date. See your computer operating system for instructions on how to copy files.

10. Following the diagram below, connect the wireing as needed. The device should be connected to a 12 volt source that is switched. When the vehicle is off the LDWS system should be off too. Do Not Connect the main unit to the harness untill all connections have been completed.

12. Insert the Micro SD Card into the main unit carefully and mount the main unit to the bracket installed on the windshield. Connect the power cable to the unit.

Calibration

1. **Calibration requires a video monitor be connected to the video output of the power cable. Plug your monitor into the output, then power the vehicle on and allow the unit 30 - 45 seconds to start-up, You will hear a start-up confirmation chime. A picture will appear when it is in operation.**

Installation instruction and calibration

2. In order to calibrate the system correctly you must be on a road that has lines on the side.and center for the system to recognize the road. You Must drive 35MPH or above to activate the system. This should not be done in poor weather conditions or if the roads are not clear and safe or after dark.

3. To calibrate the unit the vehicle must be on a flat level road. With the vehicle stopped, parked, or a second person driving, loosen the Camera Angle Retention screw on the side slightly. Look at the monitor and using the remote (be sure the battery protective cover has been removed so the remote will operate) aim the remote at the Main unit and press the "CR" (calibration Reset) button on the bottom right corner. The unit will speak "System will reset calibration".

4. A yellow line will appear on the screen. Useing the Camera angle ajustment on the front of the main unit adjust the angle so the yellow line is even with the horizon as show here. Then carefully tighten the Camera Angle Retention screw. Do not overtighten.

NOTE: If Calibration is turned on by mistake, just press again and drive. As long as the camera angle has not changed it will reset.

Installation instruction and calibration

5. Now start driving. You MUST drive 35MPH(60km/h) or higher (only when allowed by the speed limit) for approximately 30-45 seconds about 0.5 mile normally.
   Stay within the lines and drive straight allowing the system to calibrate.
   When it is done you will hear the system speak "Calibration Complete". The yellow line will now be gone.

6. The system can now be tested. When in a safe area with no obstruction or on coming traffic, safely move the vehicle towards the road lines and you will hear a warning BEEP. Remeber the vehicle must be above the set working speed. Default is 35MPH(60km/h) unless it has been changed (see operational instructions for details).

NOTE: If Calibration is turned on by mistake, just press again and drive. As long as the camera angle has not changed it will reset. The system will advise "Calibration Complete".

Installation location by vehicle type

4 car types are available for installation.

Passenger car

- Install the product in top center of the
- windshield. Make sure the product is
- aligned horizontally. Select car mode: PASSENGER CAR

InstallationPosition

Large SUV, large van

- Install the product in top center of the
- windshield. Make sure the product is
- aligned horizontally. Select car mode: LARGE SUV

InstallationPosition

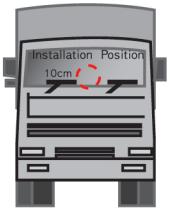
SUV, mini van, small truck

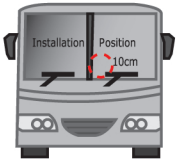
- Install the product in top center of the
- windshield. Make sure the product is
- aligned horizontally. Select car mode: SUV

InstallationPosition

Installation location by vehicle type

Truck :
Attach the bracket on the center of the front windshield about 6 Inches above the wipers and arrange the cables neatly with the provided wire clips so as not to disturb the field of vision of the driver or block any safety devices





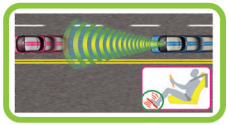
Bus :
Attach the bracket on the front window within 6 inches of the vertical line, which is typically placed on the center of the front window and 6 inches above the wipers so as not for them to disturb the field of vision of the PVR15W. Arrange the cables neatly with the provided wire clips so as not to disturb the field of vision of the driver or block any safety devices.

Caution **NOTE: INSURE THE VEHICLE IS A 12 VOLT NEGATIVE GROUND ELECTRICAL SYSTEM OR DAMAGE MAY OCCUR.**

Functions of the product

FCWS(Forward Collision Warning System)

THE PVR15W uses the latest technology and works as a driving assistance device that detects forward collision and lane deviation risks by obtaining an image of the road in front of the vehicle through its internal camera. It analyzes the data real time, and will give an audible warning to help prevent any possible accident. The driver must still react and take action. The system cannot control any vehicle system such as steering or braking.

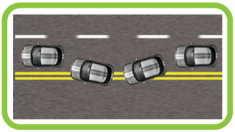


FCWS

Time To Collision / Forward Collision Warning (FCW / TTC) function: With the **TTC** function on, the **PVR15W** can provide an audible alarm to alert you to a possible front end collision. This function will only work above speeds of 10 MPH(10 km/h). See Settings for more details.

Functions of the product

LDWS



LDWS

The system will audibly alert the driver if the vehicle begins to leave the lane they are in if they do not use their turn signal when driving above the set operational speed and on marked roads.

The driver can set his/her own timing and sensitivity of an alarm (five levels for left and right lines,

Drive Recorder

DVR

The PVR15W features a **DVR** function. An internal G-sensor (a shock-detection sensor) can detect an event which will trigger the unit to record an image from the camera for 30 seconds. This video is locked into the memory card before, during, and after an event. It will also record the time, date and location of said event. 15 Second before and 2 min's after will be locked. The unit is always recording and the files can be viewed on any windows based computer.

A 8GB Micro SD (expandable to 32GB) card is included with the Main Unit, the files will be stored on this card automatically. Larger cards can be purchased at any Office Supply store.

A free PC viewer program that allows you can check the recorded images on a desktop or laptop computer is included and stored on the included SD Card. Copy this to your computer and install for easy use.

Settings

You can set all of the functions and modes with the included remote.

PVR15W Power on confirmation tone.

The **PVR15W** has a turn on confirmation tone and locked DVR video tone. To turn the tone on / off press the button shown as #1.

CT(Car Type): Type of vehicle the **PVR15W** is installed in.

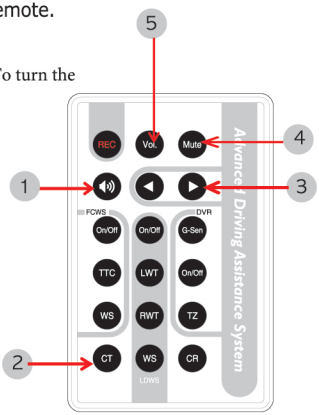
1. Press button #2 to select the vehicle type. Car, SUV, Truck, Bus.
2. Press the arrow buttons (#3) and keep pressing the arrow buttons until you hear the system state your vehicle type. Once your vehicle type is announced, it will be automatically set. the system will automatically re-calibrate as you drive.

MUTE: Mutes all sounds

1. Press button #4 to activate/deactivate alarm sounds and voice instructions.

VOL: Volume control

1. Press button # 5 to select the volume level.
2. Press the arrow buttons (#3) and keep pressing the arrow buttons to adjust the volume up or down.



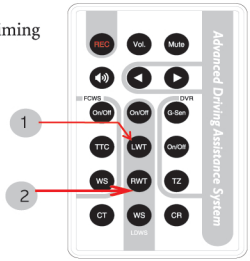
Settings

LDWS: Lane Departure Warning system.

LDWS watches while you drive: When on a road that is marked with side and middle lines or even just a middle line the system will recognize this and when used correctly it will warn if you happen to come close or cross the line based on how you set the system. The unit will sound a solid BEEP tone to warn you. The system only operates above 35MPH so you will not hear tones while driving in parking lots, side roads, or slow conditions.

LWT(Left side Warning Time): Alarm timing for left line deviation

1. This is to set the timing of an alarm for a left line deviation. If you feel that the timing of the alarm is too fast or slow, you can change the alarm timing for every 4".
2. Press button #1 to select the warning time / level for the Left side of your Vehicle
3. Press the arrow buttons until you hear the system state your desired time / sensitivity. Once the desired time is announced, it will be automatically set.



RWT(Right side Warning Time): Alarm timing for right line deviation

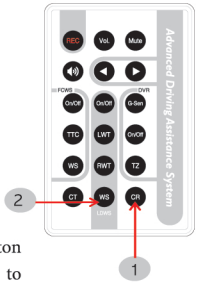
1. This is to set the timing of an alarm for a right line deviation. If you feel that the timing of the alarm is too fast or slow, you can change the alarm timing for every 4".
2. Press button #1 to select the warning time / level for the right side of your Vehicle.
3. Press the arrow buttons until you hear the system state your desired time / sensitivity. Once the desired time is announced, it will be automatically set.

Settings

LDWS

CR: Calibration Reset

1. The system was calibrated when you had it installed. If the system operates incorrectly, or erratically and the camera angle has not been changed. While driving on a straight marked road over 35MPH(60km/h), press button #1 and drive until the unit announces "Calibration complete". If the unit will not re-calibrate see your installing dealer.



WS: Working Speed

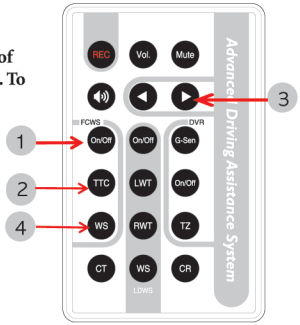
2. This feature is to set the working speed of the Lane Departure Warning System. Press Button #2 to select the speed at which the system starts working. Then press the arrow buttons to select your desired speed.

Settings

FCWS: Forward Collision Warning System.

On/Off

Forward Warning Collision will warn if you are too close to the vehicle in front of you. You will hear a series of rapid short beeps warning you when this happens. To turn this function On/Off press button #1.



TTC: Time to collision

1. This feature is for the predicted time to a front end collision. Press button #2 to select .5, 1.0, or 1.5 seconds to vehicle ahead.
2. Press the arrow buttons #3 Keep pressing the arrow buttons until you hear the system state your desired time. Once the time is announced, it will be automatically set. If you set the time at 1.5 seconds, the collision alarm will sound at a relatively longer distance. A predicted distance to a collision can vary according to the car's speed.

WS: Working speed

1. This feature is to set the working / operational speed of the Forward Collision Warning System. Press #4 to select the operational speed.
2. Press the arrow buttons until you hear the system state your desired speed. Once the desired speed is announced, it will be automatically set.

Settings

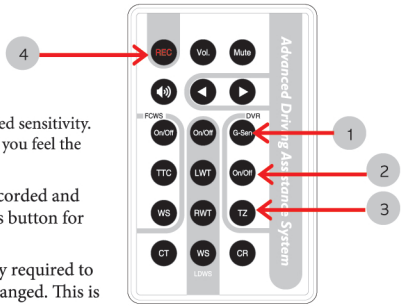
DVR : Digital Video Recorder

1. This button selects the sensitivity level for the Emergency Shock Sensor. When an event occurs the DVR will lock in a recording of the event based up this setting.

   Press the arrow buttons until you hear the system state your desired sensitivity. Once the desired level is announced, it will be automatically set.If you feel the system is to sensitive select a higher level.

2. The DVR will make the sound of a camera when a Event is recorded and locked into memory. You can select this sound by pressing this button for ON/OFF.

3. This button selects the time zone for your area of use. It is only required to be set once at installation, but this will allow the zone to be changed. This is used for your DVR data of time and date.



4. Briefly press the REC button to start manual recording. This will record and lock a 40 second video under the Event file on the SD card.

Function description

Recording Modes:

Continuous recording

- The DVR is always recording when on. The records of these recordings are called FILES, and the files are stored in the "NORMAL" folder in the Micro SD card.

- **Manual recording**

  You can lock in recordings of scenery or events by briefly press the REC button on the remote to start manual recording. The red LED will keep blinking until the recorded video file is stored.
  The file is stored in the "MANUAL" folder in the Micro SD card. If you want to extend the manual recording time, briefly press the REC button after the previous recorded file is stored. Then another 40-second video will be stored.

Function description

Event recording

- Event recording records the images of an impact (for 30 seconds) that the internal G-sensor detects and stores the recorded file as an event in.
- The file is stored in the "EVENT" folder in the Micro SD card.
- In event recording, sensitivity of the G-sensor can be set as three levels – sensitive, normal, and insensitive.
- Every time the G button is pressed, the voice message changes as follows: "sensitive detection" ▶ "normal detection" ▶ "insensitive detection". Stop pressing the button when you hear the mode you want and wait until it is automatically set.

⚠ **Caution!** The sensitivity Level will vary based upon the type and size of the vehicle.
Check to insure the system is operating correcty as a incorrect setting could keep the unit from recording as you desire.

Video-out

- With the Video-out function, you can view images real time on a monitor by connecting the Video Out RCA cable to that monitors Video In. Caution: Watching Video while driving is not advised. Watching video while
- operating a vehicle is in most areas illegal and also could result in a crash and or injury.

Power LED operation

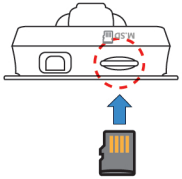
- After booting, all functions (constant/event/manual recording) are normal and operating correctly. While powering on the LED will be SOLID Red, when driving and / or recording the LED will flash.
  If the LED is not operational the device is not currently operating, return to your servicing dealer for assistance.

SD card Access

Inserting & Removing the Micro SD card

- Insert the Micro SD card with its logo side toward the rear case of device.
- Press the card into place until it clicks and locks in.
- To remove, press in lightly and then release..
  For details, see the picture below.

Caution! Never insert or remove the Micro SD card while the power is on.
Since the PVR15W is always recording when on removing or inserting the Micro SD card during operation can cause damage to the system and the memory card.



Micro-SD

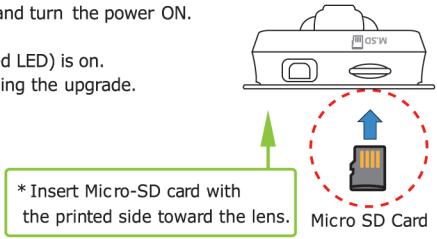
- **The Video Viewing program is stored on the SD Card when you first recieve your new PVR15W DO NOT Format or Erase this card.**
- See further instructions for installation of the Viewing program on your PC or windows based tablet.
- Your PVR15W Comes with a 8GB SD Card, forlonger recording you can use up to a 32GB SD Card.

Firmware upgrade

The PVR15W is upgradable by software if ever needed. If a firmware update is released follow the instructions below.

Read the following carefully before attempting any upgrade.

- Step 1: Copy the upgrade files onto the root directory of Micro-SD card.
- Step 2: Turn the power OFF and insert Micro-SD card.
- Step 3: Connect the power cable to the main body and turn the power ON.
- Step 4: Wait for about 10~20 sec.
- Step 5: The upgrade will start once the power LED(red LED) is on.
- Step 6: The unit will automatically restart after finishing the upgrade.



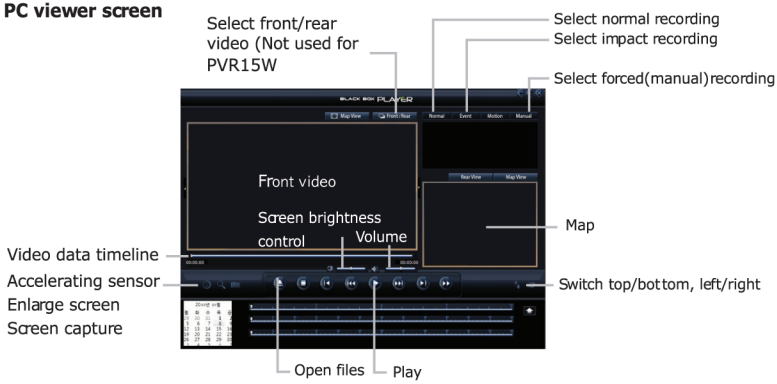
Caution

(1) Do not turn the power OFF during firmware upgrades. It may damage the system.
(2) If normal booting during upgrade or normal upgrade doesn't work, format the Micro-SD card and reinstall.

Viewer program (PC Viewer)

The Viewer program is located on the includes SD card or can be downloaded at www.Autopilot.kr. The file is located on the SD card in the GT-Player Folder. Click on SETUP to install the viewer program.

PC viewer screen



Viewer program (PC Viewer)

Switch Front / Rear

Not used on PVR15W

Switch windows

Maximize the screen size

Close program

Minimize the screen size

Select video folder to view

Nomal : Normal recording video list
Event : Impact recording video list
Manual : Manual(forced) recording video list

Open the folder, select the file and press Play button to play the video.

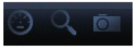
Play control buttons

Import Stop Previous file Rewind Play Fast forward Next file View by frame

Top, bottom, left and right button

Switches top/bottom/left/right of the videos.

Play controls



Accelerating sensor: Displays acceleration sensor graph.

Enlarge screen: Enlarges the screen size. Screen capture: Saves pictures from videos

MEMO

MEMO

Specifications

Model	PVR15W
Main features	FCWS, LDWS, Drive Recorder
Capacity	Micro SDHC Class10 (supports up to 32GB)
Camera	HD 1280 x 720
GPS	External GPS
Operating volt.	DC 12V ~ 24V
Operation/storage temperature	0℃ ~ 60℃ / - 10℃ ~ 70℃

RYDEEN®

find your road

rydeenmobile.com

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