



PERODUA SIART DRIVE ASSIST

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PERODUA SINART DRIVE ASSIST

Perodua Smart Drive Assist is a suite of active safety systems to protect you and the people around you.

The system combines your Perodua driving experience with camera and sensor-based response measures and assistance, to mitigate risks, reduce blind spots, and enhance safe driving practices*.

The active systems are divided into **4 MAIN CATEGORIES** based on the core parts of your driving experience.



As you read further, you will have a deeper look into the features of each category, as well as some of the things to keep in mind while using these features.

*PLEASE NOTE:



ADVANCED SAFETY ASSIST (A.S.A.)*

Advanced Safety Assist or A.S.A. is a camera-based safety system that acts to reduce low to medium speed accidents due to inattentive driving.

Protection from harm is the main priority of this safety system, as its Stereo Camera guides drivers away from otherwise avoidable collisions.

A.S.A. consists of the following functions:



HOW DOES IT WORK?

The system is activated by a Stereo Camera installed on the windscreen which detects vehicles and pedestrians.



*Availability may vary according to the vehicle grade and options.

STEREO CAMERA FACTS

The Stereo Camera shares similar characteristics with human eyes; the camera will have difficulty detecting an obstruction not fully visible to the driver.

The Stereo Camera will not operate properly if conditions are too bright or too dim, or if its view is obstructed by dirt, fog, raindrops, sticker, cracks, scratches, etc.

SMART DRIVE ASSIST

HOW DOES THE A.S.A. FEATURE HELP DRIVERS AVOID COLLISIONS?

Frontal collision may occur even when driving slowly. For example, being unable to react in time to sudden brakes in traffic jams, or inattentive driving in general.



PRE-COLLISION WARNING

Upon detecting a risk of frontal collision, the driver is alerted via buzzer and warning lights on the display meter.

Danger of Collision





NOTE:

Pre-Collision Warning alerts the driver when there is a vehicle or pedestrian in front of the car. However, it is unable to recognise a pedestrian if parts of their body are obscured. e.g. by long skirts or shopping bags.

The function operates when the vehicle speed and speed difference between the front obstacle are

- 4km/h to 120km/h (For vehicles & two-wheeled vehicles)
- 4km/h to 60km/h (For pedestrians)

REMINDER:

PRE-COLLISION BRAKING



This function controls the brake to assist in collision avoidance and mitigate collision damage.

If the system recognises the front obstacle and determines that there is a high risk of collision, it will alert the driver with a buzzer and control the brakes.

High Danger of Collision





Warning buzzer + primary brake (weak)

Extremely High Danger of Collision





Warning buzzer + secondary brake (strong)

NOTE:

Pre-Collision Braking only activates in response to vehicles and pedestrians. However, any driver action such as steering, braking, or accelerating while the system is in operation will override the system.

The function operates when the vehicle speed and speed difference between the front obstacle are

- 4km/h to 120km/h (For vehicles & two-wheeled vehicles)
- 4km/h to 60km/h (For pedestrians)

REMINDER:



The system is designed to complement safe driving practices, and MAY NOT OPERATE under the following conditions:



When steering, braking or accelerating while Pre-Collision Braking is engaged.



When distance to the obstacle is too close.



When driving against intense light (strong sunlight, high beams from oncoming vehicles).



When an insufficient amount of the obstacle's surface area overlaps with the Stereo Camera's field-of-view.



When visibility is poor due to bad weather (heavy rain, fog, etc).



When driving in dark or dim conditions (night time, tunnels or indoors).



When road surface is bumpy, uneven or slippery.



When the obstacle is small, low in height or irregularly shaped (car carrier, platform trailers, etc).



When driving on a sharp curve or slope



When the obstacle suddenly appears in front of the car.



When the Stereo Camera's field-of-view is obstructed by dirt, fog, etc.

Pre-Collision Warning MAY NOT OPERATE under the following conditions when detecting pedestrians:



When parts of their body are obscured (e.g. by long skirts or shopping bags)



When a pedestrian is in motion (e.g. crouching, lying down, waving hands, running, etc).



When a pedestrian is carrying or pushing items such as luggage, boxes, bicycles, etc.



When there is a group of pedestrians.





Alerts the driver when the vehicle in front has moved

The system operates when there is a stationary vehicle within 10m in front of the car. When the vehicle has moved more than approximately 3m ahead, the system alerts the driver with a



FOR EXAMPLE:

While stopped at a traffic light or in a traffic jam, the driver does not realise that the vehicle in front of the car has moved.

Perodua does not condone mobile phone usage while driving

IN SUCH SITUATIONS

Front Departure Alert will notify you to start moving.



Distance from the vehicle in front is within 10m



The vehicle in front has moved approximately 3m ahead

CAR CONDITIONS



Front Departure Alert only activates when depressing the brake pedal in gears 'D', 'S', or 'M'.

(In gear 'N', the system operates even if the brake pedal is not depressed).

OBSTACLE CONDITIONS

The system is designed to complement safe driving practices, and MAY NOT OPERATE under the following conditions:





When visibility is poor due to bad weather (heavy rain, fog, etc).



When driving in dark or dim conditions (night time, tunnels or indoors).



When driving against intense light (strong sunlight, high beams from oncoming vehicles).



When Stereo Camera view is obstructed by dirt, fog, etc.



When an insufficient amount of the obstacle's surface area overlaps with the Stereo Camera's field-of-view.

4 PEDAL MISOPERATION CONTROL



Suppresses engine output and automatically applies the brakes when the driver accidentally stomps on the accelerator pedal.

If the Stereo Camera detects obstacles within 4m in front of the car at speeds lower than 10km/h, the system suppresses engine output and alerts the driver with a buzzer if the driver accidentally depresses the accelerator pedal too forcefully.

FOR EXAMPLE:

The car is in a parking lot facing a wall. The driver intends to reverse but mistakenly shifts the gear into 'D'. When the driver depresses the accelerator pedal, the car moves forward. The driver tries to brake but due to panic, ends up depressing the accelerator pedal even harder.

IN SUCH SITUATIONS

Pedal Misoperation Control prevents the car from colliding with the obstacle ahead due to sudden acceleration.



The system not only suppresses the engine, but applies brakes automatically for 1.5 seconds - granting the driver enough time to manually apply brakes.

SMART DRIVE ASSIST

HOW DOES PEDAL MISOPERATION CONTROL HELP DRIVERS?

When the system determines that the driver's acceleration is accidental, brakes will be applied automatically and it will suppress engine output for about 8 seconds (maximum) if the accelerator pedal is depressed continuously.

CAR CONDITIONS

Speed is lower than 10km/h.

Gear is in 'D', 'S', or 'M'. VSC or TRC must NOT be switched off.

When the accelerator pedal is depressed too suddenly and forcefully.

OBSTACLE CONDITIONS

The system detects obstacles up to 4m in front of the car.



Other vehicles



Walls



Buildings*
(e.g. Convenience Stores)

*If it is a glass building, it will only be recognised as an obstacle if there are items such as shelves / posters on the glass wall.

The system is designed to complement safe driving practices, and MAY NOT OPERATE properly under the following conditions:



When the turn signal is on, or when steering or braking.



When an insufficient amount of the obstacle's surface area overlaps with the Stereo Camera's field-of-view.



When visibility is poor due to bad weather (heavy rain, fog, etc).



When driving in dark or dim conditions (night time, tunnels or indoors).



When the Stereo Camera's field-of-view is obstructed by dirt, fog, etc.



When the obstacle is glass or a mirror



When the obstacle is a wall with a uniform pattern (bricks, tiles, etc).



When the obstacle is patternless (plain wall, shuters, etc).



When the obstacle is low.



When the obstacle is not angled directly in front of the car.



Here's what to look out for when the system cannot fully operate due to certain conditions.

As outlined in previous disclaimers, some of the functions of A.S.A. may be disrupted, depending on the conditions surrounding the car – or sometimes due to the system's loading process. In the event that the A.S.A. is disabled for any particular reason, the Advanced Safety Assist indicator will light up on the multi-info display.





Along with this indicator, the display will also include a System Error code. Below are the three possible codes and what they mean:

A.S.A. System Error Code

CODE 11F

DE CODE

CODE 14E



Stereo Camera is unable to detect objects due to poor visibility.



Stereo Camera is unable to operate due to high temperature.



A.S.A. is in initial setting up process.

Error codes	Reason	Restoration	
CODE 11E	Stereo Camera is unable to detect objects due to poor visibility.	Code clears once proper functioning conditions are restored.	
CODE 12E	Stereo Camera is unable to operate due to high temperature.		
CODE 14E	A.S.A. is in initial setting up process.	Code clears after driving for a while.	



DRIVING ASSIST*

Driving Assist is a suite of features engineered to assist in your day-to-day drive, keeping you in control of safe driving practices.

Driving Assist comprises the following functions:











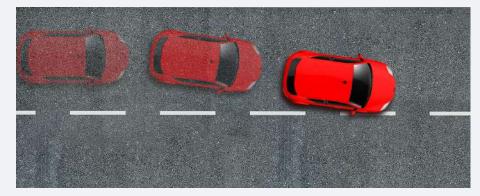
*Availability may vary according to the vehicle grade and options.





Lane Departure Warning alerts the driver when it detects unintentional departure from the travelling lane.

The Stereo Camera recognises the left and right lane markers in front of the car when travelling at 60km/h and above. It warns the driver to get back into the travelling lane and take corrective action depending on the surrounding location.



Scenario example:

While driving on a straight road, the driver loses focus due to fatigue – and begins to steer towards the opposite lane.

IN SUCH SITUATIONS

Lane Departure Warning & Prevention help to avoid risk of collision from unintended lane departure.



The Stereo Camera detects visible white and yellow lines and your vehicle's position on the road.



When deviation is detected, the warning buzzer will sound



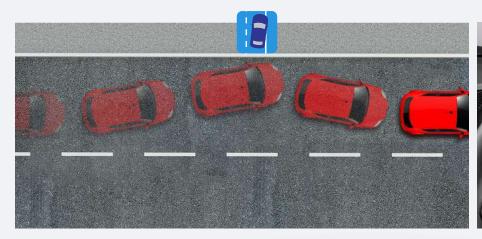
The indicator will light up when it recognises the left and right lane lines.





Lane Departure Prevention assists the driver to avoid unintended lane departure.

If the driver does not respond to the warning buzzer, the system applies a small corrective force to the steering wheel to assist the driver in keeping the vehicle in its lane.





A small corrective force is automatically applied to the steering wheel, and alerts the driver with indicators.

NOTE:

The LDW and LDP will not activate when you properly use the turn signal while changing lanes. So do always practice safe driving by using the turn signals as needed.

OBSTACLE CONDITIONS

The Lane Departure Warning & Lane Departure Prevention functions **MAY NOT OPERATE** properly under the following conditions:



When the lane lines are thin.



ahead is poor (due to heavy rain, etc).



When the windshield is dirty.



when receiving strong light from the front.



When the road lane is narrow.



When there are complicated lane lines along merging or branching lanes.



When driving in a dark place (such as at night or in a tunnel).



When driving on a steep slope or sharp curve.

REMINDER:





Adaptive Cruise Control allows the car to travel in a constant pre-selected speed, and automatically adjusts the vehicle speed to maintain a safe distance from the vehicle ahead.

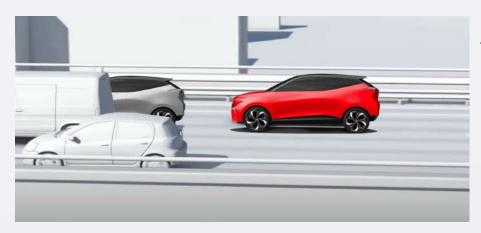
ACC has two control modes:

Constant speed control mode:

Allows the driver to drive at a constant speed, as set by the driver.

Distance control mode:

Detects the presence of the front vehicle (by Stereo Camera) and automatically accelerates or decelerates based on changes in the front vehicle's speed.



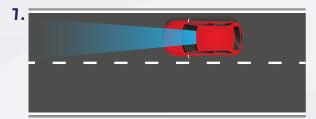
Scenario example:

Extended periods of driving on the highway can be made easier on the feet and eyes, when you have the option to control your speed.

IN SUCH SITUATIONS

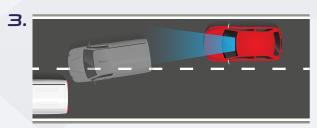
Adaptive Cruise Control eases the journey and keeps a safe distance from vehicles ahead.

Constant speed driving



Enables the driver to drive at a constant speed, as configured by the driver (only if there are no vehicles in front).

This feature cannot be used while moving at approximately 30km/h or less, even if there are no vehicles in front.



Once the slower-moving vehicle ahead is no longer in front, your vehicle will then accelerate to the set speed and return to constant speed driving.



Decelerated driving: the system automatically decelerates when it detects a vehicle in front that is moving slower than the set speed.

Brakes will be applied if more deceleration is needed.

Warning buzzer will sound if the system is unable to fully decelerate to match the vehicle ahead.

REMINDER:



How To Activate

The ACC button is located on the right side of the steering wheel for the driver's convenience.





WARNING

The performance of this system may be limited in its accuracy of distance or deceleration control, and will be subject to driving conditions. Drivers are still required to be attentive to their surroundings, and as such cannot overly rely on the system.



Setting and changing speed

The speed control can be set at 30km/h and above by pressing the +RES or -SET buttons to obtain the desired speed.

OPERATION	CONSTANT SPEED MODE	
Quick tap of button	Changes 1km/h per tap	
Hold down button	Adds by increments of 5km/h	



Setting distance

Once the speed of the vehicle in front has been detected, you can set the distance between that vehicle and your car by pressing the button on the left.

25m	40m	50m
P Q	₩ =	<u> </u>

OBSTACLE CONDITIONS

Please DO NOT use the Adaptive Cruise Control system in the following situations:



When traffic conditions require repeated and frequent acceleration and deceleration.



When driving in dark conditions (at night, or in tunnels, etc). without headlights.



On winding roads or roads with sharp turns.



When the vehicle distance alarm sounds frequently.



On roads with pedestrians and bicycles.



On general roads (other than highways).



When visibility is poor due to bad weather (heavy rain, fog, etc).

REMINDER:





Lane Keep Control is a function that supports necessary steering operations to keep your car within your road lane.

LKC works together with Adaptive Cruise Control (ACC) and does not work when the ACC is inactive.

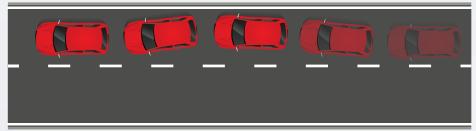


Scenario example:

Long-distance driving requires extra attention on the road, which could be tiring and dangerous when constantly following vehicles in front.

IN SUCH SITUATIONS

Lane Keep Control assists your long distance driving by ensuring you stay in your current lane.





With LKC, the system will detect the deviation by recognising the white or yellow lines on either side of the road.

If there is no steering operation, or driving continues without firmly holding the steering wheel, the driver is alerted with the display in the meter – and the LKC function will be cancelled.

Note:

Although LKC is activated, for safety, please keep your hands on the steering wheel at all times.

REMINDER:

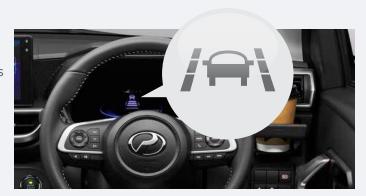


How To Activate

While the ACC distance control mode is in operation:

Press the LKC button to switch ON.
Press the LKC button again to switch
OFF.

LKC does not work when ACC has not been activated.





WARNING:

Do not excessively rely on LKC, as it is not a system that drives automatically. The system does not provide support when visibility is poor such as when driving in weather conditions like rain or fog.

OBSTACLE CONDITIONS

Please TURN OFF the Lane Keep Control feature when in the following situations, as usage may lead to unexpected accidents.



When driving on slippery roads.



When the road's white or yellow lines are not visible, and cannot be detected by the system.



When driving in areas with lane regulations.



When driving in construction zones.



When driving on general roads (other than highways).



When there is abnormal vibration from the steering wheel, or when steering feels heavy.



When the original steering wheel has been replaced with one that is not a genuine Perodua product.





The Blind Spot Monitor addresses this by detecting vehicles that are out of the viewing angle, using indicators on the side-view mirror.



Scenario example:

In busy traffic conditions or especially situations where motorcycles frequently weave through occupied road lanes, changing lanes can often be risky.

IN SUCH SITUATIONS

The Blind Spot Monitor addresses this with detection of nearby vehicles using indicators on the side-view mirror.

Vehicle detection distance is 60m



BSM function detects vehicles that are out of the viewing angle, using radar sensors.



When detected, indicators in side-view mirrors will flash.



BSM sensors can also pick up on fast incoming vehicles from behind which may be out of view of rear and side-view mirrors (blind spot)

Note:

If you switch the turn signal towards the side the vehicle is detected, the indicator will flash and the buzzer will sound.



WARNING:

Driver discretion is absolutely necessary. The system alone cannot determine whether it is safe to change lanes or not. Therefore, relying too much on this system may lead to unexpected accidents, which can result in serious injuries or even death.





How To Activate

The BSM function can be turned on/off in the settings menu on the TFT panel multi-info display. When activated, its radar sensors will detect incoming vehicles and alert you via side-mirror indicators.





OBSTACLE CONDITIONS

The Blind Spot Monitor function MAY NOT DETECT vehicles correctly in the following situations:



When the position or the orientation of the sensors is misaligned due to any strong impact.



When the sensors are covered or obstructed by mud, stickers, etc.



When several vehicles approach continuously at narrow intervals.



When driving in bad weather such as heavy rain, fog – or when driving on a wet road with water puddles.



When there is only a short distance between your vehicle and the vehicle behind you.



When carrying an extremely heavy load in the luggage compartment.



PARKING ASSIST*

Parking often involves much guesswork and careful manoeuvring. Parking Assist helps eliminate the fuss and uncertainty in this process, with a range of camera and sensor-based functions that are made to support you in safe navigation.

Parking Assist consists of the following functions:







*Availability may vary according to the vehicle grade and options.

7 Front & Rear Corner Sensors



Front and Rear Corner Sensors help inform the driver of the approximate distance between the car and any surrounding obstacles via the buzzer and indicator display.



Scenario example:

When parking in tight and narrow spaces (e.g along roads with double-parked cars), it may be difficult to manoeuvre out.

IN SUCH SITUATIONS

The Front and Rear Corner Sensors help you in navigating through tight spaces.

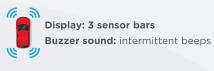


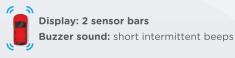
When activated, the sensors will detect obstacles when the driving speed is approximately 10km/h or less.

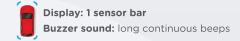


The display in your screen will automatically light up when obstacles are detected.

Distance between sensor and obstacles				
Front sensors: Approximately 60 - 45cm		Rear sensors: Approximately 130 - 100cm		
Close	to obstacle			
Front sensors: Approximately 45 - 30cm		Rear sensors: Approximately 100 - 50cm		
Very clos	se to obstacle			
Front sensors: Approximately within 30cm		Rear sensors: Approximately within 50cm		
Extremely close to obstacle				







Note:

This system may not work effectively in some situations, and will still require drivers to stay vigilant and observe their surroundings.

Relying excessively on the system may lead to unexpected accidents, which can result in serious injuries or even death.

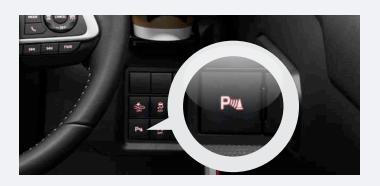
REMINDER:



How To Activate

The switch for the Front and Rear Corner Sensors can be found to the right of the steering wheel. Push it once to activate the sensors.

Once activated, the sonar-based sensors will detect obstacles while driving speed is maintained within 10km/h or less.



OBSTACLE CONDITIONS

Front and Rear Corner Sensors MAY NOT WORK PROPERLY in the following situations:



Uneven road conditions (e.g curves, bumps, etc).



Vehicle in need of maintenance (brake related, tyre wear etc).



Changes in vehicle height due to load or uneven surface.



Bad weather such as heavy rain or thick fog.



Presence of an obstacle near the vehicle.

2 Reverse Camera



The Reverse Camera assists the driver when reversing, by showing images from the rear of the vehicle on the display screen.



Scenario example:

When reversing out of your space in a crowded parking lot, it might be unclear whether there are any passersby.

IN SUCH SITUATIONS

The Reverse Camera provides added visibility.

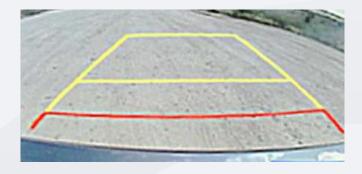


Shift the lever to 'R' while the engine is switched on.



The screen will display the view from the car's Reverse Camera.

The screen will return to its previous display as soon as the shift lever is no longer in 'R'.



The visual display will include a portion of the car's body.



Note:

Any object under the bumper or near both ends of the bumper are out of the Reverse Camera display range.

REMINDER:



OBSTACLE CONDITIONS

It may be difficult to discern images in the Reverse Camera when used in the following situations:



When there are water droplets or any moisture present on the Reverse Camera.



When driving in dark conditions (at night, or in tunnels, etc).



When the camera is exposed to extreme temperatures.



When strong light (such as sunlight or headlights) is directly shining into the Reverse Camera.



When there are foreign objects obstructing the camera's view (e.g mud, dirt, frost, etc).





Rear Cross Traffic Alert is a support system that detects incoming or approaching vehicles from behind.

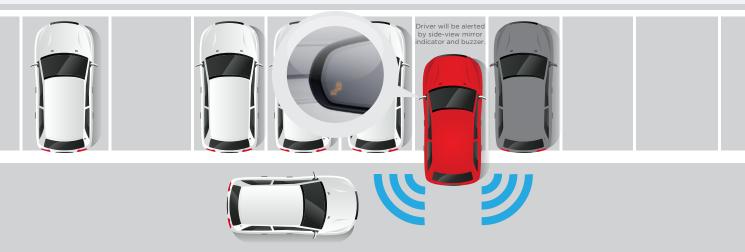


Scenario example:

Rear-view cameras provide limited angled views - which can make the experience of reversing in a tight parking spot, daunting.

IN SUCH SITUATIONS

RCTA can help to alert you, which then enables you to reverse safely from your parking.



RCTA sensors detect approaching vehicles from your left and right rear side.



WARNING:

This system may not work effectively in some situations, and will still require drivers to stay vigilant and observe their surroundings. Relying excessively on the system may lead to unexpected accidents, which can result in serious injuries or even death.

Detection range for incoming vehicles

Slow-moving vehicles

Fast-moving vehicles

(approximately 8km/h) - detects at 5.5m (approximately 28km/h) - detects at 20m

REMINDER:





How To Activate

The RCTA function can be turned on/off in the settings menu on the TFT panel multi-info display.





OBSTACLE CONDITIONS

The Rear Cross Traffic Alert MAY NOT FUNCTION PROPERLY in the following situations:



When approached by vehicles coming directly from behind.



When close to vehicles reversing into the parking space next to your car.



When sensors are obstructed by any obstacles.



When approached by compact two-wheeled vehicles, bicycles, or pedestrians.



When there is an approaching vehicle from the parking space beside your car.



HEADLAMP ASSIST*

Safe driving practices require visibility at all times, and adequate illumination when the situation calls for it.

Headlamp Assist serves to help you in this regard, with responsive headlamp features that take the surroundings and other road users into account.

Headlamp Assist consists of the following functions:



2 Adaptive Driving Beam (ADB)

*Availability may vary according to the vehicle grade and options.

Auto High Beam (AHB)



Auto High Beam is a function that automatically switches your headlights between high and low beams, based on the brightness of your surroundings.

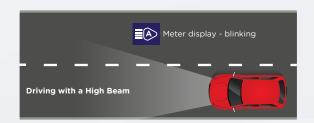


Scenario example:

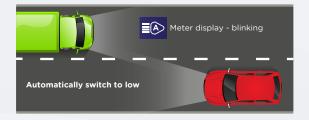
While driving at night with poor visibility, the driver switches on the high beam. Whenever there are oncoming vehicles, the driver hurries to switch back to the low beam.

IN SUCH SITUATIONS

Auto High Beam automatically switches the high beam and low beam of the headlamps, avoiding any inconvenience.



While driving with speeds of 30km/h and above, the sensor detects an oncoming vehicle with headlights turned on.

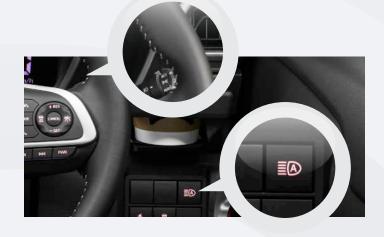


The Auto High Beam function then switches your car's high beam to the low beam setting.

How To Activate

The Auto High Beam function can be switched on and off through the light switch controls, located to the right of the steering wheel.

(Please note that front wipers must not be set to high-speed while AHB is in use.)



Note:

Do not overly rely on the Auto High Beam system. Drivers are still ultimately responsible for keeping track of their surroundings at all times and to practice safe driving.

REMINDER:

2 Adaptive Driving Beam (ADB)



Adaptive Driving Beam (ADB) contributes to safety of night driving by assisting in forward visibility while diffusing the glare to oncoming vehicles.



Scenario example:

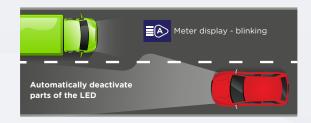
During night drives, sometimes it is difficult to see as light from headlamps are not evenly distributed to surrounding areas.

IN SUCH SITUATIONS

Adaptive Driving Beam automatically adjusts distribution of light and also prevents light beams from being directed towards oncoming vehicles.



Upon activation of the ADB feature, the Stereo Camera will detect any vehicles ahead of you or from the opposite lane.



The headlamp will automatically deactivate parts of the LED.

Note:

Do not overly rely on the Adaptive Driving Beam system. Drivers are still ultimately responsible for keeping track of their surroundings at all times and to practice safe driving.

REMINDER:



How To Activate

The Adaptive Driving Beam function can be switched on and off through the light switch controls located to the right of the steering wheel.

(Please note that front wipers must not be set to high-speed while ADB is in use.)



OBSTACLE CONDITIONS

AHB and ADB MAY NOT WORK PROPERLY in the following situations:



When you and the oncoming vehicle pass each other suddenly, on a curve with poor visibility.



When another vehicle crosses in front.



When oncoming vehicles weave in and out of view, such as when driving through curves or along a median strip.



When visibility ahead is poor (due to heavy rain, fog, etc).



When the windshield is fogged or dirty, hence obstructing the Stereo Camera.



When the headlamps of the oncoming vehicle is unlit, dirty - or the optical axis is misaligned.



Full Owner's Manual can be downloaded from Perodua Official Website (www.perodua.com.my) or Perodua e-Owner's Manual page (https://eownersmanual.perodua.com.my)