

Intelligent LED headlights for better visibility

Porsche has developed a whole host of new safety and assistance systems for the new 911. The new optional LED matrix headlights with PDLs Plus catch the eye in particular. These represent the apex of Porsche lighting technology. The energy centre of the matrix headlights is made up of 84 individual LEDs which work together, with lenses positioned in front of them, and the high-power LED of the auxiliary high beam. The generated light beam corresponds in range and intensity to laser light. The light is distributed so that the driver always benefits from maximum illumination of the roadway without dazzling or disturbing other road users. The complex headlight module consists of several components that can be controlled very flexibly, and independently of each other, on the basis of camera data, navigation data and vehicle conditions.

Intelligent control of light distribution means that it has also been possible to integrate additional functions that significantly increase driving comfort and safety. The system is therefore able to detect and selectively dim highly reflective traffic signs. In addition to masking oncoming traffic on a segment-by-segment basis, the Boost function also increases illumination of the vehicle's own driving lane at the same time. This directs the driver's view in a targeted way, thereby increasing comfort and safety. The cornering light is switched on and off with smooth transitions and therefore reduces strain on the eyes.

The 911 is equipped with LED headlights from the factory as standard. These already include auxiliary high beam and dynamic range control. They form the basis for the optional headlights with PDLs Plus. The latter additionally include dynamic cornering light, high beam assist as well as motorway and fog light functions. The LED matrix headlights are a completely new development.

Assistance systems with additional options

The new 911 offers a combination of assistance systems as standard. These make driving in everyday traffic safer and more comfortable. The camera-assisted warning and brake assist system considerably reduces the risk of collision with vehicles, pedestrians and cyclists. As the first stage, the system warns the driver visually and acoustically. There is then a braking jolt in the second stage if there is a higher level of danger. A braking operation initiated by the driver is reinforced up to full braking if necessary. If the driver does not react, automatic emergency braking activates to mitigate the consequences of a collision.

The optionally available adaptive cruise control system considerably extends the functional range. The package comprises automatic distance control with a stop-and-go function and reversible occupant protection. Using the radar sensor located in the middle of the central air intake and the camera, the system monitors the distance from vehicles driving in front and automatically adapts. Vehicles that cut in from adjacent lanes are also detected. If necessary, the system will brake to a standstill when following a vehicle in front. It will also use the coasting function when possible to reduce fuel consumption. In slow-moving traffic in particular, the system therefore offers increased driving comfort and safety.

Thanks to the stop-and-go function, the 911 is able to independently move off again after braking to a standstill. If the vehicle is stopped for longer than 15 seconds, it is sufficient to briefly press the accelerator or resume the function with the control stalk to let the vehicle

move off again. The side windows and slide/tilt sunroof are automatically closed if an emergency braking situation occurs. The reversible belt tensioners for driver and front passenger are also activated.

Lane Keeping Assist with traffic sign recognition

Lane changes on roads with multiple lanes are among the most common risk situations. The optional Lane Keeping Assist is camera-based and reacts with steering assistance if the driver changes lane without indicating. The system ensures greater comfort and considerably improves safety on long-distance journeys in particular. In addition to steering assistance, an additional acoustic warning can be activated in the PCM. The system is active in the speed range between 65 and 250 km/h.

Lane Keeping Assist is combined with a traffic sign recognition function. This makes use of the same camera and detects permanent and temporary speed displays as well as “no overtaking” signs and indirect restrictions related to place name signs, for example. Operation of the traffic sign recognition function is situation-dependent and makes use of other vehicle systems. For example, it takes into account wet conditions based on information from the rain sensor and displays weather-dependent speed limits. In order to offer greater safety when driving on unknown and twisting country roads, the system displays direction information on the instrument cluster display before sharp bends.

Lane Change Assist with visual warning

The further-developed Lane Change Assist function can be used in addition to Lane Keeping Assist. This system uses a radar sensor to detect the distance and speed of the following traffic in the adjacent lanes. If the system determines that the speed and distance of following vehicles are too critical for a lane change, a visual warning is displayed in the left or right exterior mirror. The system can detect vehicles in a distance range up to 70 metres and is active in a speed range between around 15 and 250 km/h.

New: Night Vision Assist with thermal imaging camera

Using an intelligent thermal imaging camera, Night Vision Assist detects persons and animals in darkness and shows them to the driver. The system has a range of up to 300 metres. The electronic system is able to classify the respective heat source and to distinguish between an animal and parked motorcycle with a warm engine, for example. Night Vision Assist is deactivated in built-up areas in order to prevent false warnings such as may be caused by dogs on a lead on the pavement, for instance. In combination with the optional LED matrix headlights, the detected persons or animals are also marked by brief flashing.

From ParkAssist to Surround View

Assistance systems make manoeuvring and parking with the new 911 much easier. The front and rear ParkAssist – now fitted as standard – supports the driver with visual and acoustic warnings. This function uses ultrasonic sensors located at the front and rear of the vehicle. ParkAssist can also be optionally supplemented with a reversing camera. This guides the driver by displaying a colour camera image on the PCM with dynamic guide lines and distances from potential obstacles. ParkAssist with optional Surround View additionally calculates a 360° top view from four individual cameras. The PCM display now includes significantly sharper resolution, almost twice as high as it has been in previous models.

New PCM with simplified operation

The new Porsche Communication Management (PCM) with online navigation makes it much easier to control the extended Infotainment functions. Numerous vehicle functions that were previously operated via the instrument cluster or centre console can now be configured in a graphically attractive way via the 10.9-inch touchscreen display of the PCM in the new 911. Map data for most European countries is pre-installed. Perspective map views and 3D navigation maps are available in many cases.

The system is intuitive to use and can be adapted to suit personal tastes. Using predefined tiles, drivers have a quick and easy way to create their own home screen including their preferred functions, such as favourite radio stations, sat nav destinations, telephone numbers, or the sports exhaust activation function. An information widget can be added to the right-hand side of the screen, enabling users to access other functions in the PCM. For instance, the interactive area in the middle of the screen can be used to display the sat-nav, while the right-hand side is used for the phone function.

It is possible to navigate through the menus with just a few finger taps and swipe movements. Just as on a smartphone or tablet, scrolling is performed by simple swiping with a finger tip. The new PCM is also capable of pinch-in and pinch-out operations or display rotation with two fingers. As an additional feature, the display can recognise handwriting: navigation destinations can simply be written on the screen. Many of the PCM functions can be conveniently used by means of the online-supported voice control function, fitted as standard.

Choice of three sound systems

In addition to the standard Sound Package Plus, sound systems from BOSE® and Burmester® are still offered for the new 911. With twelve speakers and a total output of 570 watts, the optional BOSE® Surround Sound-System offers an extremely balanced and true sound experience. The top system remains the Burmester® High-End Surround Sound System, also with twelve speakers and a total output of 855 watts.

Apps and services from Connect Plus

The new 911 features 100% connectivity. The many different options are part of Porsche Connect Plus, which comes as standard. Using the Porsche Communication Management (PCM) system, the driver can now access Amazon Music, Smart Home functions from the service provider Nest and Radio Plus, an intelligent combination of conventional reception and web radio. Thanks to the integrated LTE-capable SIM card, the new 911 is permanently online. This function is also included in the standard equipment. Also fitted as standard: the Porsche Connect app with simplified operator guidance for the central Connect functions.

Radio Plus is a further new feature. This service with integrated web radio function means that a favourite radio station has practically an unlimited range if the chosen station offers an online radio channel. If the sports car leaves the range for terrestrial reception via FM or digital radio, the system automatically switches to online streaming. The 911 features the improved “seamless” changeover function for the first time, so that it is practically impossible to hear the change in broadcasting source.

Online-navigation using swarm-based data

The online navigation function with real-time traffic information is now even simpler, faster and more comprehensive. The basis for the simple search for navigation destinations is the central “finder” – represented by a magnifying glass in the header bar of the PCM. This allows the user to search for destinations with simple terms. The finder also offers a host of additional information such as fuel prices, car parks with free spaces including prices and opening hours, or also user ratings for hotels and restaurants.

Voice input of navigation destinations is also just as simple thanks to the new Voice Pilot. The Porsche voice control function has been further developed once more. Thanks to online voice recognition, voice inputs are now much more intuitive than before. For example, it is possible to simply enter a navigation destination without address details.

Navigation calculation has also been optimised. This was made possible by simultaneous processing of on-board and online inputs. Route calculation for navigation therefore takes place at the same time both online and internally in the PCM. The PCM decides independently which navigation function has calculated the best route, but always starts with the result that has been calculated first.

The navigation system also processes so-called swarm data with the new Risk Radar service. This is anonymously recorded and transmitted data from correspondingly equipped vehicles on the traffic and road situation. On the basis of information from the vehicle sensors, this data provides warnings about fog, slippery roads and accidents, for example. In this way, the new 911 can help to minimise dangers and prevent accidents.

Navigation destinations can also be conveniently created not just in the PCM but also in advance of a journey, using the Porsche Connect app on a smartphone, or outside the vehicle on the “My Porsche” online platform.

One for all: Porsche Connect app for Apple and Android smartphones

The Porsche Connect app now provides the driver with even simpler and more comprehensive access to different vehicle and Connect functions by smartphone. The app is divided into three main areas: “Navigation”; “My Vehicle” for vehicle-specific functions; and “Me” for user-specific services and settings.

Porsche Track Precision app for sporty drivers

The Porsche Track Precision app allows 911 drivers to virtually save their experiences of driving enjoyment: The app permits detailed recording, display and analysis of driving data on a smartphone. Lap times can be automatically recorded via the PCM precise GPS signal, or manually by way of the steering wheel button in the optional Sport Chrono Package. Time measurement is even more precise with the lap trigger optionally available through Porsche Tequipment.

The user interface of the Porsche Track Precision app has been completely modernised for the new 911. Use of the app on a smartphone is now even more intuitive and user-friendly.