



Model Series, Innovation and Technology Communications

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PRESS INFORMATION

The new Audi A8

Eight highlights of the new A8

Everything there is to know about the fourth generation of the luxury sedan

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The equipment, data and prices specified in this document refer to the model range offered in Germany. Subject to change without notice; errors and omissions excepted.



[Eight highlights of the new A8](#)

The new Audi A8: the future of the luxury class

The fourth generation of the Audi A8 is again the reference for *Vorsprung durch Technik*. The luxury sedan demonstrates this with a strikingly stylish design, innovative chassis solutions, a new touch operating concept and systematic electrification of the drive system. The Audi A8 is the first series-production automobile in the world to have been developed for conditional automated driving at level 3. From 2018, the brand will gradually be taking piloted driving functions such as the parking pilot, garage pilot and traffic jam pilot into series production.

Drivetrain and chassis

The new Audi A8 will, for the first time, be equipped with an electrified drivetrain as standard. In line with this, all engines will be equipped with mild-hybrid technology which provides for superior, smooth running as well as improved performance, coupled with enhanced efficiency. The basis of this technology is the 48-volt electrical system which, for the first time ever, is being used in the new A8 as the primary on-board electrical system.

(1) Mild-hybrid technology: new level of efficiency and comfort

The mild-hybrid drive system is made up of two central components: the water-cooled 48-volt belt alternator starter (BAS) and the lithium-ion battery with the same voltage level and 10 Ah electrical capacity. The latter is located under the floor of the load compartment of the A8. The functions of the MHEV (mild-hybrid electric vehicle) are made possible by means of the 48-volt electrical system, as part of which a DC/DC voltage converter is responsible for creating the energy required by the 12-volt electrical system.

The new drive combines efficiency with comfort in a very special way: in its fourth generation, the A8 can switch off the engine and make use of the coasting function in the speed range between 55 and 160 km/h (*34.2 and 99.4 mph*). The vehicle can then travel with zero emissions for up to 40 seconds. As soon as the driver steps on the gas again, the BAS prompts a swift, very smooth restart. The new 48-volt system also allows for start/stop operation from a speed of 22 km/h (*13.7 mph*).

To achieve such a high standard of efficiency, the A8 comes equipped with an intelligent powertrain management system: it processes both route data and information from its comprehensive range of sensors, which also includes the front camera. Based on this, the powertrain management decides whether the A8 should use coasting mode or recover up to 12 kW of energy. It doesn't just recover energy during braking or coasting.



The A8 also recovers energy if the efficiency assistant detects a vehicle traveling in front; it does this by decelerating the car using the BAS. These measures reduce the mild-hybrid drive system's consumption in customer operation by as much as 0.7 liters per 100 km (*0.2 US gal per 62.1 mi*).

Extensively re-engineered: two six-cylinders at market launch

The new A8 will be launched on the German market with two extensively re-engineered V6 turbo engines. Further engines, including a plug-in hybrid variant will follow as of 2018. All engines work in harmony with a rapid and smooth-shifting eight-speed tiptronic transmission. A torsion damper which adapts to the engine speed is integrated in this and allows low engine speeds and thus efficient driving. On some engines and the plug-in hybrid model, active engine bearings connect the assemblies to the auxiliary frame. They create phase-shifted counter impulses which, to a great extent, eliminate the transfer of vibrations to the vehicle body. The plug-in hybrid also features active noise cancellation. As part of this, counter-noise is emitted by the speakers of the sound system in order to suppress undesirable noise in the vehicle interior.

The permanent quattro all-wheel drive system with self-locking central differential comes as standard in the new A8 and, in the case of all MHEV model variants, it can be supplemented by the optional sport differential. When cornering at high speeds, it actively distributes the drive torque between the rear wheels depending on where it is needed and thus makes for even sportier driving and more stable handling.

New model designations making their debut in the A8

Audi is standardizing the model designations for its worldwide vehicle range. In future, within the model families, globally applicable two-digit number combinations which designate the output spectrum of the powertrain will replace the previous range of market-specific model designations. As the first Audi model, the new Audi A8 will already bear the new output designations at market launch in a few weeks. The starting price for the A8 on the German market is **90,600 euros**, with the A8 L starting at **94,100 euros**.

The chassis: sporty and superior

Highly precise control arms, powerful brakes, large wheels, progressive steering, adaptive air suspension – the standard chassis of the new A8 combines its sporty character with a supreme level of comfort. The large sedan glides calmly over any type of road surface. Extensive acoustic optimizations to the body are also partly responsible for the incredible peace and calm on-board. Developed in accordance with the ASF principle (Audi Space Frame), it is comprised of as much as 58 percent aluminum components. The passenger compartment is made of ultra-high-strength steel components and supplemented by a rear wall made of carbon-fiber reinforced polymers (CFRP). A magnesium strut-tower bar rounds out the lightweight construction concept and sees a combination of four different materials being used for the first time ever.



(2) Limits re-defined: dynamic all-wheel steering

The new A8 will see Audi introduce dynamic all-wheel steering for the first time. It combines a sporty, direct steering response with the greatest possible level of stability, and varies the steering assistance depending on the vehicle's speed. As part of this system, the rear wheels are also steered: at low speeds, they turn as many as five degrees in the opposite direction to the front wheels which not only facilitates maneuvering and driving around tight curves but also reduces the turning circle by around one meter (*3.3 ft*) to 11.4 meters (*37.4 ft*) on the A8 and 11.8 meters (*38.7 ft*) on the A8 L. At medium and high speeds, the wheels are turned by as many as two degrees in the same direction as the front wheels. Thus, the new A8 offers more stable road-holding and carries out rapid lane changes and evasive maneuvers both masterfully and serenely.

(3) Maximum levels of comfort and dynamism: the Audi AI active suspension

The second new item of technology – the Audi AI active suspension – is a fully active electro-mechanical suspension system which works in conjunction with the adaptive air suspension system. Depending on the driver's wishes and the driving situation, each wheel can be separately loaded or relieved by means of electric actuators and thus the vehicle body can be both actively and optimally controlled. The signals for this are delivered by the electronic chassis platform which is the central control unit for the chassis and which also manages the dynamic all-wheel steering, the sport differential and the air suspension system. Drive energy for the Audi AI active suspension is drawn from the new 48-volt main electrical system. The conventional 12-volt electrical system is connected to this via a DC/DC converter.

The Audi AI active suspension delivers a completely new type of driving experience. In the Audi drive select system, if the driver selects the dynamic setting, the new A8 turns into a sports car: it steers tightly into corners, the roll angles are roughly a mere half of what they are with the normal suspension system and during braking, the body exhibits hardly any forward pitching. By contrast, in comfort mode, the vehicle floats smoothly over rough bumps in the road surface. If driving physics attempt to push the body into the wheel, the active suspension counteracts this.

On A8 vehicles equipped with the pre sense 360° system with central sensor data fusion in the central driver assistance controller, the Audi AI active suspension also increases passive safety. In an impending side impact at more than 25 km/h (*15.5 mph*), the body is raised within half a second by up to 80 millimeters (*3.1 in*) on the side of the impact. As a result, the other party of the accident collides with a more resistant zone of the sedan. The side sills and floor structure accommodate a large portion of the impact forces. Deformation of the cabin and the loads acting on the occupants, above all in the chest and abdomen areas, can thus be reduced by up to 50 percent compared with a lateral collision in which the suspension is not raised.



Controls and infotainment

MMI touch becomes MMI touch response: this revolutionary operating concept in the new A8 brings Audi's quality standards and numerous innovations into the digital age. The system does away with the rotary push-button control and touchpad of the predecessor model. The instrument panel is kept largely free of buttons and switches.

(4) Precise: MMI touch response

The central element of the operating concept is the 10.1-inch touch display featuring black panel technology. When not in use, the screen blends almost invisibly into the high-gloss black faceplate of the instrument panel. When the system is started, the user interface appears, in new visually striking graphics. With a resolution of 1,540 x 720 pixels, the gently curved TFT screen – used here for the first time ever – provides very sharp images and high contrast, even when viewed from an angle. The menu structure is both intuitive and flat, as is familiar from modern smartphones. The user can individually arrange the icons according to their importance.

The decisive strength of the MMI touch response technology is its haptic feedback. When a finger touches the display glass, it does not immediately activate a function – to do this, the user must press gently with a defined pressure. The driver feels a mechanical pulsation which serves to confirm that the function has been successfully selected. This is created by means of an electromagnet moving the spring-mounted display minimally to the side by roughly the width of a human hair. At the same time a small loudspeaker emits a click sound. Here, Audi is opening a new chapter in terms of the user experience.

A second 8.6-inch display on the console of the center tunnel serves the operation of the air-conditioning system and comfort functions, as well as text entry. The latter occurs optionally either via an overlay keyboard – possible when the vehicle is stationary – or by means of innovative handwriting recognition which can also recognize entire words in cursive handwriting or overlapping letters. To this end, the driver can comfortably place his or her wrist on the broad selector lever of the tiptronic transmission. Each letter recognized causes the emission of an acoustic feedback, whereby the driver can always keep his or her eyes firmly on the road. As with the two displays, the row of switches on the center tunnel and the light switch module have a continuous, seamless glass-look surface. They provide haptic and audible feedback when pressing a function. Even the air vents can be controlled by means of touch.



Intelligent: the natural-language voice control system

The new, natural-language voice control system makes the A8 an intelligent conversation partner. It understands many expressions from everyday language use and can react to commands and questions. To do this, on the one hand, the system uses data on the user's preferences, including for example navigation destinations saved in the vehicle. Meanwhile, on the other hand, a new hybrid technology is used which, in conjunction with Audi connect and the cloud, recognizes the commands spoken in the vehicle interior.

The driver can freely formulate spoken commands – the voice recognition system understands such sentences as “Please take me to the Adlon Hotel in Berlin”. If necessary, the clever dialog manager asks questions, allows for corrections, offers suitable suggestions and even accepts when the user interrupts the system. In dialog with the voice control system, the driver can switch between different menu areas. For example, he or she can call a contact from the phone book and then use the associated address as a navigation destination without having to call it up again separately. The new hybrid voice control system is also connected with media sources, the air-conditioning system, the telephone functions and selected Audi connect services. A multifunction steering wheel and an optional head-up display round out the operating concept in the new A8.

Fascinating scope: Audi connect and infotainment

The service offering from Audi connect is particularly diverse. It ranges from the new hybrid radio functionality which, depending on the reception quality, can switch seamlessly between FM, DAB and online radio stations, and extends right up as far as emergency and breakdown calls. Data on traffic signs and information on dangers are two innovative Car-to-X services which make use of swarm intelligence as part of the Audi fleet. Next year, the On-Street Parking service will be added. Data obtained through the vehicle swarm facilitates the search for a parking space. The driver is shown information on the possibility of finding a parking space in a particular street.

The new myAudi app connects the car with smartphones. And thus directly provides the customer with a number of connect services. Accordingly, the driver is able to keep a close eye on the current fuel level of his/her A8 and can also lock and unlock the vehicle remotely using the app. What's more, the new myAudi navigation feature enables the driver to seamlessly plan a route across multiple devices; something which is especially helpful in unfamiliar cities. To give an example: the app guides the customer from a restaurant to their car, which is parked a few streets away, then switches from the smartphone to the on-board monitor. When the customer gets out of their A8 at the end of their journey, it accompanies them again on their smartphone to their next destination, be it on foot or using public transport.



The greatly optimized navigation system of the new A8 is able to learn on the basis of routes which have already been driven, as a result of which the system can thus make intelligent suggestions to the driver. The calculation is performed online on the servers of the map and navigation provider HERE, whereby real-time data concerning the overall traffic situation is also taken into account. Also included in the map view are detailed 3D models of many major cities in Europe. A8 owners benefit from four map updates annually which can be obtained from Audi connect using the LTE Internet connection.

The latest version of the modular infotainment platform, the MIB 2+, serves as the control hub for all these functions. It integrates a cutting-edge K1 processor from the Audi venture partner NVIDIA. A second K1 chip generates the graphics on the standard-installed Audi virtual cockpit, which serves as the digital instrument cluster and which offers a full HD resolution of 1,920 x 720 pixels. The MIB 2+ system can be expanded by the addition of the connect data transmission module including Wi-Fi hotspot. This introduces the LTE Advanced standard into the automotive sphere – another world first from Audi. It enables transmission rates of up to 300 MBit/s for downloads and up to 50 MBit/s for uploads, about three times that which is currently possible.

Optionally available for the first time, the Bang & Olufsen Advanced Sound System brings fascinating 3D sound with its treble information directly to the rear seats. Using its 23 speakers, four of which are installed in the ceiling area, the music unfolds exactly as it was recorded in the concert hall. To do this, the system draws on an algorithm that Audi developed jointly with the Fraunhofer Institute. Thanks to the Audi phone box and voice-over-LTE function, even telephony in the A8 reaches a new level both in terms of operation and the quality of the sound and connection.

Design and interior

Inside and outside, the new A8 is a pioneer. Its launch sees the start of a new era for the entire brand. Audi stands for sportiness, lightweight construction and quattro permanent all-wheel drive – values which the flagship expresses at first sight. In the interior, technology and aesthetics have a new feel to them. The architecture blends seamlessly with the innovative touch operating concept, which almost entirely dispenses with buttons and controls. The clear, expansive surfaces convey the relaxed atmosphere of a luxury lounge. Tranquility and reduction are fundamental aesthetic values in the fourth-generation A8.



(5) An expression of status and prestige: the exterior design

The new A8 has a confident appearance. The front end with its wide, upright Singleframe grille and the fluid, muscular body symbolize sporty elegance, sophistication and progressive status. The luxury sedan fulfills the promise which the Audi prologue design study made almost three years ago. The balanced proportions emphasize all four wheels of the A8 in equal measure. Muscles which span the wheel housings allude to the quattro drive. The upright front stands in exciting contrast to the gently angled rear.

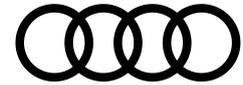
The flat roof line lends the sedan a sporty touch, while stretched lines underscore its length. In the regular version, it measures 5.17 meters (*17.0 ft*), making it four centimeters (*1.6 in*) longer than the predecessor model. Meanwhile, the A8 L with its 13-centimeter (*5.1 in*) longer wheelbase measures in at 5.30 meters (*17.4 ft*). The new A8 is 1.95 meters (*6.4 ft*) wide and 1.47 meters (*4.8 ft*) tall (1.49 meters (*4.9 ft*) in the case of the A8 L). Both body lengths are manufactured at the Neckarsulm plant.

The new Audi flagship demonstrates its identity by day and night. The optional HD Matrix LED headlamps with Audi laser light offer excellent illumination of the road. At the rear, the continuous LED light strip and the wafer-thin OLED lights set new benchmarks in precision and homogeneity. The dynamic light functions present the luxury sedan in a unique manner when it is unlocked using the remote control key. When the ignition is switched on, the new A8 welcomes its driver with an exclusive welcome sound and a coordinated light animation. When the driver leaves the sedan, the light presentation continues in reverse order by means of the headlights and rear lights.

Luxury lounge: the interior

Modern luxury is all about free space – the interior of the sedan feels as spacious as a well-dimensioned lounge. In length, both body variants have gained an extra 32 millimeters (*1.3 in*) compared with the predecessor model. Even the headroom, leg room and entry dimensions are greater on the new model. The doors unlock electrically and the handle needs only be pulled very slightly.

Already from the point of entry, the driver experiences the intelligence of the new A8. The driver can open the sedan by means of near-field communication (NFC) using a suitable Android smartphone, provided that the digital Audi connect key has been stored in it. Using this, the owner can provide access to the vehicle for a further four persons. The new A8 recognizes them upon opening and adjusts all of the settings to the respective person's profile – from the seat position to climate control settings and even the navigation system, a total of around 400 parameters can be personalized in the vehicle's seven profiles.



Besides access to the vehicle, the Audi connect key also allows the engine to be started. It is saved in a protected storage element within the smartphone which is secured against manipulation and unauthorized access. For situations in which the driver has to temporarily hand over the vehicle key to someone else, the Audi connect key card in credit card format is located in the vehicle. It can be activated by the driver and, for example, handed over for the purpose of valet parking.

In terms of design, Audi is following a central design principle of reduction. The new touch operating concept, as part of which buttons and controllers play only a minimal role, is harmoniously integrated in the clearly laid-out and broad instrument panel. Form and function become one entity. Highlighting the horizontal lines makes the interior appear extremely wide and spacious. In darkness, contour and ambient lighting elegantly outlines the striking design lines. New for the rear compartment are precisely controllable Matrix LED reading lights. Besides the brightness, passengers can also adjust the size and focus of the cone of light. Optionally available, a two-piece panorama glass roof brings more light into the interior of the A8 L.

The materials used in the A8 reflect the authenticity, sustainability and craftsmanship of top-level manufacturing. This is true of every detail – from the velvet-smooth leather of the comfort head restraints right up to the electrically opening and closing covers of the air vents. The majority of the fine-wood inlays are in open-pore wood and thus have a natural feel to them. For its leathers, Audi fundamentally steers clear of chrome tanning – its top-quality unique pieces are natural materials tanned with plant-based products, can breathe actively and are hand-crafted. Numerous material and color worlds are available for the luxury sedan, among which is the top variant, Audi design selection. Customers who wish to make their A8 even more individual will find a vast selection of inlays, colors and leather appointments in the Audi exclusive range.

A major aspect in the lounge character of the interior comes in the form of the new seats. They are optionally available with pneumatic seat cushion and backrest bolster adjustment, as well as seat heating and ventilation. On long journeys, the massage function and especially the soft comfort head restraints ensure relaxed travels. In each seat backrest, 16 massage bubbles, arranged in groups of three one above the other, can be actuated. The driver can choose from seven programs and three intensities. In addition, there are heated armrests in the doors and heated center armrests in the front and rear.

To ensure the best possible feeling of well-being on-board the vehicle, the optionally available air quality package with ionizer and fragrancing can also be ordered. The latter sends a discreet fragrance – available are sea breeze or mountain air – via the outlets of the air-conditioning system into the interior, whereby the customer can set the intensity in four stages.



(6) Foot massage on-demand: the rear compartment

The most noble place in the new Audi flagship is the rear right-hand seat – it is optionally available as a relaxation seat in the A8 L and features many options for adjustment as well as a footrest on the backrest of the front-passenger seat. Here, passengers can massage and warm the soles of their feet in several levels. Included in the relaxation seat package are: a back massage feature with 18 triple inflatable air bubbles per seat, electrically height-adjustable comfort head restraints, footrests, a long center console – optionally available with two tilt-adjustable folding tables, four-zone deluxe automatic air conditioning, the Rear Seat Entertainment system comprising two Audi tablets, and the rear seat remote. With this new operating unit, rear-seat passengers can use the touch control to operate numerous climate control, seating and lighting functions, as well as to make settings and use media functions. It can also be used to make discreet phone calls. The rear seat remote, with its OLED display is approximately as big as a smartphone and can be removed from where it is stored in the center armrest.

Automated driving

With more than 40 driver assistance systems, the fourth generation of the A8 becomes the new gold standard among the competition. The systems support the driver as desired, whether on the freeway or in the parking lot. Among the highlights are the Audi AI traffic jam pilot, the Audi AI (remote) parking pilot and the Audi AI remote garage pilot.

(7) World premiere: the Audi AI traffic jam pilot

With the Audi AI traffic jam pilot, the brand with the four rings presents the world's first system that enables conditional automated driving at level 3. In certain situations, the car can take over the task of driving and, unlike at level 2, the driver no longer needs to permanently monitor it. They must merely be capable of taking back over control of the vehicle whenever the system prompts them to.

The driver activates the traffic jam pilot with the AI button on the center console. On highways and multi-lane roads with a physical barrier separating the two directions of traffic, the system takes over the driving task if the car is traveling at no more than 60 km/h (*37.3 mph*) in nose-to-tail traffic. The traffic jam pilot handles starting from a stop, accelerating, steering and braking in its lane. It can also handle demanding situations such as vehicles cutting in closely in front.



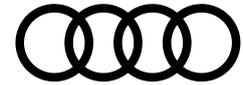
If the traffic jam pilot is activated, drivers can take their foot off the accelerator and their hands off the steering wheel. They no longer have to continuously monitor the car and can focus on another activity supported by the on-board infotainment system, depending on the legal situation in the respective country. The Audi virtual cockpit shows a stylized view of the car from the rear and blurred markings on the road that symbolize the motion and surroundings of the new A8.

While traffic jam pilot is activated, a camera checks whether the driver is prepared to resume the task of steering if needed. It analyzes the position and movement of the head and eyes in order to generate anonymized data. If a driver's eyes remain closed for an extended period, for example, the system prompts the driver to resume the driving task. The prompt to take over is given in three phases – ranging from visual and acoustic warnings all the way to an emergency brake application. If the speed exceeds 60 km/h (*37.3 mph*) or the traffic begins to clear, the traffic jam pilot informs drivers they need resume driving themselves. If the driver ignores this prompt and the subsequent warnings, the A8 is braked until it stops completely in its lane.

Introduction of the Audi AI traffic jam pilot requires both clarity regarding the legal parameters for each country and specific adaptation and testing of the system. Moreover, varying worldwide homologation procedures and their deadlines must be observed. For these reasons, Audi will initiate series production of the traffic jam pilot in the new A8 incrementally, depending on the legal situation in the respective country.

(8) Automatic parking: Audi AI (remote) parking pilot and Audi AI remote garage pilot

The Audi AI (remote) parking pilot and the Audi AI remote garage pilot turn parking into a truly comfortable experience: they drive the A8 autonomously into parallel and perpendicular parking spaces as well as garages, and can also drive it back out. The driver monitors their activity but does not need to be sitting in the vehicle – both systems can be started using a smartphone featuring the new myAudi app. To do this, the driver simply presses the Audi AI button in the app and keeps the button pressed during the entire parking process. In the display, the driver sees live images from the vehicle's surrounding cameras. The A8 then drives into the parking space at a speed of up to 6 km/h (*3.7 mph*), if necessary in several maneuvers. It is only possible to park forwards in a garage. Once the maneuver is complete and the A8 has reached its end position, the system selects position P in the tiptronic transmission and deactivates the engine and the ignition. If the driver wishes to drive off again, the car can be started using the smartphone before autonomously driving out of the parking space or garage. Alternatively, the Audi AI parking pilot can also be activated using the AI button in the center console if the driver is still sitting behind the wheel. This, too, must remain pressed for the duration of the parking procedure.



The Audi AI (remote) parking pilot and the Audi AI remote garage pilot work both intelligently and conveniently. The sedan can even correctly park in a garage in which the vehicle must drive in an arc. Inside the garage, the A8 can approach very close to the walls and obstructions such as bikes – or it will interrupt entering if there is not enough space for the car. This special function benefits especially from the innovative laser scanner and is not available in any other competitor model.

Two innovations: laser scanner and central driver assistance controller

As the first series-production car in the world to offer conditional automated driving at level 3, the traffic jam pilot of the A8 is based on two innovations: the sensor set with new laser scanner and the central driver assistance controller, or zFAS for short. Together with the long-range radar and the front camera, the laser scanner forms a trio of sensors, the various strengths of which complement each other. In the fully-equipped variant, there are a further 21 sensors: four mid-range radars at the corners of the new A8, four surrounding cameras, twelve ultrasound sensors and an infra-red camera. Using the light pulses emitted by the laser scanner, it recognizes and precisely measures any type of object, even in darkness. It covers an area of around 80 meters in length (*262.5 ft*) and an aperture angle of 145 degrees, thus also allowing it to very rapidly detect vehicles cutting in. Detailed information about the edges of the road – for example, the presence of barriers – round out the scope of the system.

Data from the sensors is read by the central driver assistance controller in the so-called fusion layer. This is prepared continuously by a computer which is roughly the size of a tablet; this data is then used to create an image of the car's surroundings. To this end, it uses processors from international leading suppliers and this system alone has more computing power than the previous A8 model with all of its systems together. Part of the differentiated environment model includes moving objects, static obstacles and a road model. The latter is generated using both the conventional navigation map and data on road markings and boundaries, as detected by the sensors.

The zFAS serves as the central interface for the piloted driving functions, as well as for almost all other assistance systems. Be it the new crossing assist which recognizes vehicles crossing in front of the driver's vehicle, the emergency braking function, adaptive driving assistant or the traffic jam pilot – none of these functions is more connected to a specific sensor. Each system makes use of the vehicle surroundings model and can operate more effectively as a result of this model's high precision. This makes it possible for the A8, for example, to recognize the tail end of a traffic jam and brake the vehicle appropriately.