

Bang & Olufsen Advanced Sound System

A8



The perfect car.
The perfect sound system.
The perfect match.

Think about it and you will find it quite evident that bringing together two iconic companies like Audi and Bang & Olufsen would lead to more than merely interesting collaboration. It was destined to create an unrivalled synthesis of supreme driving and listening experience. And so it has.

Just like Audi, Bang & Olufsen has a long and interesting history. Ever since we started in 1925, our goal has been innovative thinking and unbeatable quality. So whichever Bang & Olufsen product you purchase, for your home, your office or for the Audi A8, it has been conceived with our four core values in mind: performance, design, humanisation and craftsmanship.

Enjoy your journey.



Partner
in technology

Further information is available at www.bang-olufsen.com/audi



Why should you choose the Bang & Olufsen Advanced Sound System for the Audi A8?

- The Bang & Olufsen Advanced Sound System offers the best sound performance ever developed for a car.
- Fully active system with a dedicated amplifier for each of the 14 loudspeakers. Total amplifier power of more than 1000 watts.
- Design features like moving front lenses built into the dashboard and loudspeaker grilles crafted from anodised aluminium ensure a total experience.
- The Acoustic Lens Technology and DSP (Digital Signal Processor) ensure excellent staging and imaging for any seat in the car.
- ICEpower amplifiers ensure ample power and a wide dynamic range.
- Four different settings enable you to optimise the sound according to where the passengers are sitting.
- The system automatically adjusts according to car speed and background noise.
- Sealed loudspeaker cabinets ensure superior sound performance inside the car with no unwanted resonance and reduced sound leakage to the outside.
- Complete integration with the Audi MMI (Multi Media Interface) ensures maximum ease of use.

The Bang & Olufsen Advanced Sound System is factory fitted.



Utilising Acoustic Lens Technology and ICEpower digital amplification technology, our acoustic engineers have spent hundreds of hours in the Audi A8, listening and fine-tuning the sound of the 14 loudspeakers in the system to perfection. The result is a clear and authentic listening experience – anywhere in the car.

So small and yet so powerful

The listening experience provided by the Bang & Olufsen Advanced Sound System is due in no small measure to a combination of two separate epoch-making technological innovations: Acoustic Lens Technology and ICEpower digital amplification technology.

The innovative Acoustic Lens Technology provides optimum sound staging and perspective. The acoustic lenses contain specially developed 19 mm tweeters with a dedicated amplifier connected to each one.

ICEpower was invented by Bang & Olufsen, to enable us to bring bigger sound into smaller loudspeakers, thereby challenging the perception that magnificent sound reproduction needs voluminous cabinets.



The sound of perfection

Though the Bang & Olufsen Advanced Sound System is the latest milestone in Bang & Olufsen's quest for acoustic perfection, many of the ideas and technologies contained in this inimitable automotive system come from our work with BeoLab 5. A loudspeaker created for domestic use that adds new dimensions to the concept of listening, and which has been described by many reviewers as nothing less than "revolutionary". For the first time, this level of acoustic performance is now available in the Audi A8.



Bang & Olufsen has many years' expertise in treating aluminium. This ensures maximum consistency and gives the aluminum parts of the system an impressive appearance.

Seamless integration with the Audi A8

Every detail of the Bang & Olufsen Advanced Sound System is developed, designed and crafted especially for the Audi A8. And that goes for both the visual experience and the sound performance. As well as designing the acoustic lenses and aluminium loudspeaker grilles to specifically match the interior of the Audi A8, our engineers also carefully adapted the sound which is produced to the exact acoustic characteristics of the car, taking into consideration its size, shape and the materials used.

The aluminium loudspeaker grilles themselves are designed to signal an aesthetic synthesis of two strong design companies – Bang & Olufsen and Audi. The challenge lay in calculating the unique structure and achieving the perfect pattern. It was only by utilising all our unique anodising expertise that we were able to create the smooth metal surface with black holes on the inside.

All in all, the level of craftsmanship embodied in these surfaces matches what you will find in the highest quality jewellery.



The two acoustic lenses smoothly emerge from the dashboard to provide you with superior acoustic staging and perspective. Turn off the system and the lenses retract into the dashboard.

Custom-made performance

The Bang & Olufsen Advanced Sound System is tailor-made for the Audi A8 in every sense. And absolutely nothing has been left to chance.

This is more than just a sound system built into a car. It is the ultimate driving and listening experience, and without any doubt the best you have ever seen – or heard.

For your ears only

By mounting each loudspeaker in its own sealed cabinet, we have ensured that almost all the sound produced is directed to the listening experience inside the car. Outside the Audi A8 you will hear practically nothing. Your choice of music, the voice of your navigation system and your phone conversations remain private.

To ensure perfect sound quality equalling that of our domestic loudspeaker systems, only loudspeakers specially designed for the Audi A8 are used. In addition, the tailor-made technology platform created for the system will ensure miles and miles of listening pleasure.



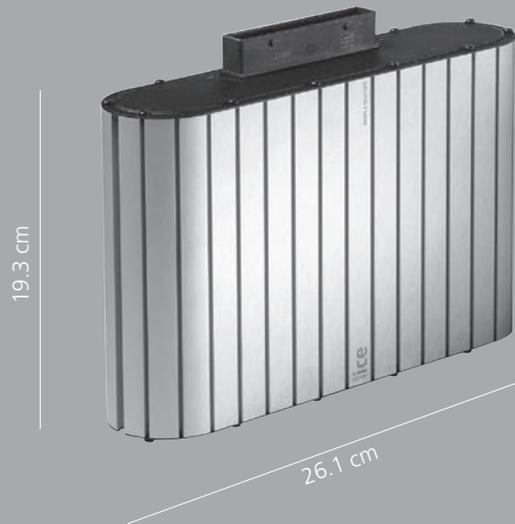
As people spend more time in their cars, it is natural that this has also become a perfect venue for listening to music. The Bang & Olufsen Advanced Sound System provides the ultimate in in-car sound quality, which gives you the opportunity to create and enjoy your own private concert hall when you are on the move.



- 1 Front:**
Acoustic Lens Technology.
With two 19 mm tweeters.
Automatic motorised positioning.
Centre speaker (not visible).
One 70 mm full-range driver.
- 2 Rear doors:**
25 mm tweeters.
133 mm mid-bass drivers.
- 3 Front doors:**
90 mm mid-range drivers.
140 mm bass drivers.
- 4 Rear, parcel shelf:**
One 200 mm subwoofer.
Two 90 mm full-range drivers.



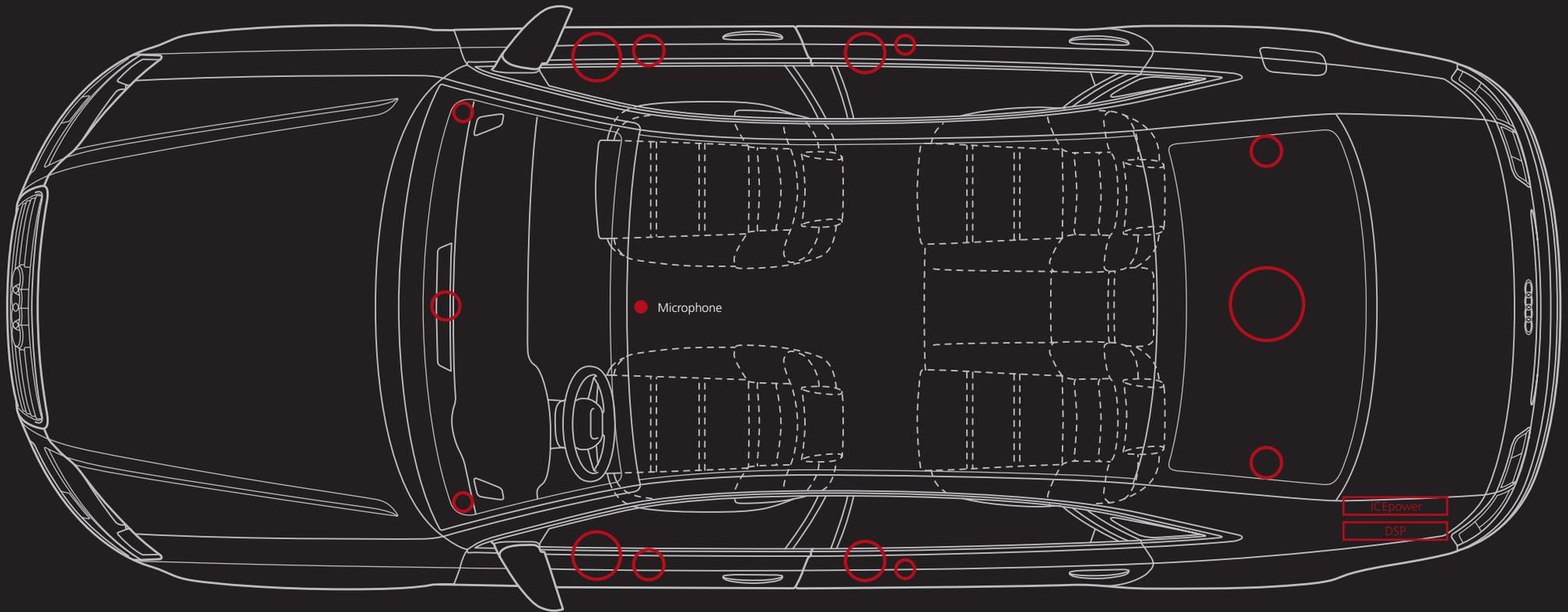
The 14-channel Digital Signal Processing (DSP) amplifiers combined with the patented ICEpower amplifier have been developed especially for this system. These two technologies ensure that you will experience clear, authentic sound at any volume and at any speed. In addition, the system is completely integrated with the Audi MMI (Multi Media Interface), providing you with maximum ease of use.



Don't let the size fool you

Thanks to our digital technology (ICEpower) it has been possible to install a surround sound system in the Audi A8 that delivers more than 1000 watts – without taking up unnecessary space and without adding any significant weight to the car. And because each of the 14 loudspeaker units is powered by its own dedicated amplifier, the tonal characteristics of each loudspeaker can be accurately tuned for ultimate acoustic performance.

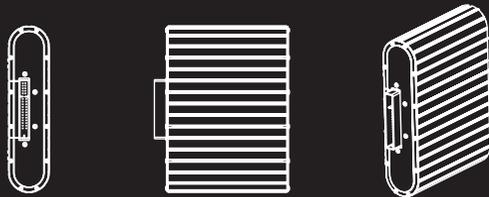
Surround yourself with the ultimate sound experience



The Bang & Olufsen Advanced Sound System ensures the best possible listening experience under all conditions. For example, the system recognises the difference between music and speech, and automatically optimises the performance for each of them. At the same time, an integrated microphone continuously measures changing noise conditions (type of tyres fitted, road surface, rain on the windscreen, etc.) and adjusts the sound to ensure a uniform acoustic experience.

Beneath the surface

The Bang & Olufsen Advanced Sound System is in all respects a technological masterpiece, utilising the latest and most advanced innovations and technologies from Bang & Olufsen.



ICEpower amplifier

ICEpower is a proprietary technology of Bang & Olufsen ICEpower a/s, delivering high power and superior sound quality.

While conventional analogue (class AB) amplifiers convert an average of only 35% of the input power to actual output power to the speaker units (the remaining 65% is wasted as heat), ICEpower's efficiency is above 90%, thus making it possible to build compact amplifiers with significantly higher output power and cool operation. The need for a heat sink is thereby dramatically reduced, and the associated ability to control the thermal environment supports the stability and long-term reliability of the electronic circuitry.

Bang & Olufsen has tailor-made the ICEpower amplifier with a stunningly unique combination of hi-fi sound quality, high power and ultra-compactness that breaks previous performance barriers in car audio quality and power density.

To further contribute to a truly unique automotive sound system for the Audi A8, a daunting list of requirements for an amplification solution for the subwoofer and woofer audio channels has been met. First of all, it delivers the highest audio quality with a wide dynamic range and ultra-low distortion. Secondly, it amplifies 5 channels of high audio power into a total of 750W. Thirdly, it is extremely compact, with a footprint smaller than a sheet of A4 paper and a height of only 6.3 cm including amplifiers, power supplies, diagnostic capabilities and microprocessor control.

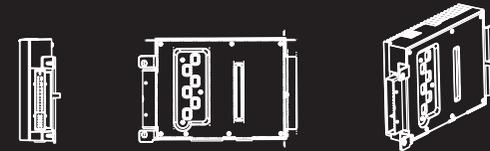
The amplifier platform also features two ICEpower DC/DC converters, a main converter for the 5 power amplifiers and one powering the low level amplification stages, both specifically engineered for high audio quality.

Technical details:

5-channel ICEpower amplifier

- 1 x 250 W @ 8 Ohm (0.1% THD) amplifier for subwoofer
- 4 x 125 W @ 4 Ohm (0.1% THD) amplifier for door woofers
- 115 dB dynamic range

- 5 analogue line inputs
- Specially designed DC/DC converter optimised for audio fidelity
- Advanced signal control, diagnostics and protection scheme
- On/off control of DC/DC converter
- Intelligent motor driver for external acoustic lenses



MOST DSP amplifier

The 14-channel Digital Signal Processing (DSP) amplifier combined with the ICEpower amplifier was developed specially for the Bang & Olufsen Advanced Sound System.

This amplifier has processing power of 3.2 gigaflops – which makes the comprehensive array of sound processing features possible. The amplifiers communicate through a serial line interface and support all diagnostic features present in the car.

Technical details:

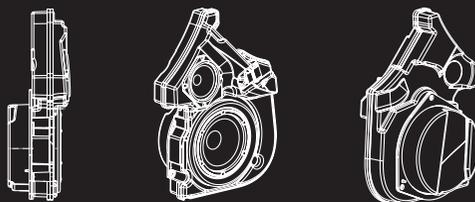
The following DSP features are included in the Bang & Olufsen Advanced Sound System:

- Occupancy modes: driving seat optimised, front seat optimised, rear seat optimised and all occupancy optimised
- The sound is automatically adjusted according to car speed and noise conditions
- Active digital crossover:
 - all channels have their own active crossovers
- All channels are equalised independently
- All channels are delayed independently
- Bass, treble, fader, balance: all standard sound features are realised using DSP
- Each system has a proprietary Bang & Olufsen 2 to 7.1 up-mix algorithm
- The system supports multi-channel playback when media drives are available
- Automatic level compensation for programme material levels (i.e. CD-CD/CD-Radio, etc.)

DSP amplifier platform

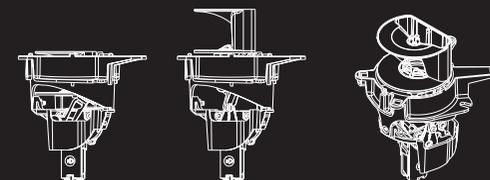
- MOST-bus interface
- 2 microphone inputs
- DSP with 14 available outputs
- 9 x 28 watt amplifiers for midrange, lenses and surround
- 5 analogue line outputs + serial interface for 5-channel ICEpower amplifier

- 2 high-performance 32-bit floating point DSPs
- 8 Mbit high speed SRAM
- 32-bit microcontroller with 512 kByte integrated flash memory
- 24-bit digital to analogue converters
- Hardware watchdog and voltage supervisor
- Error memory
- Diagnostic features
- Theft protection (the unit will only work in a specific Audi A8 with the correct serial number)



Loudspeaker boxes

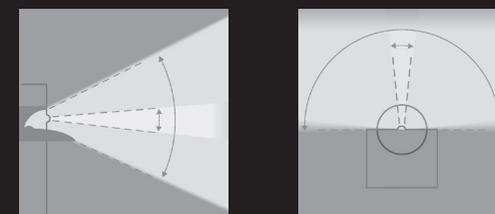
All loudspeaker drivers are custom-built for this car and mounted in moulded plastic cabinets utilising sealed enclosure technology. This way, the same conditions are maintained for all the individual loudspeaker drivers under all circumstances. A further benefit of using sealed enclosure technology is that the sound emitted to the exterior of the car is minimal, thus allowing for maximum privacy within the car.



Acoustic Lens Technology

Audio quality should not depend on the listener being in a fixed position in front of a loudspeaker, and the tonal balance should be the same, regardless of whether the listening position is static or dynamic. These fundamental issues are resolved by Acoustic Lens Technology.

The Bang & Olufsen Advanced Sound System consists of two moving acoustic lenses mounted at each side of the dashboard. When the sound system is activated, the acoustic lenses elevate silently and elegantly from their position inside the dashboard and are deployed on top of the dashboard, ensuring an even 180° horizontal dispersion and optimising sound staging and perspective.



Acoustic Lens Technology is licensed from Sausalito Audio Works LLC

Further information is available at www.bang-olufsen.com/audi

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