

BOSE® SURROUND SOUND SYSTEM FOR THE MAZDA CX-5



10 HIGH-PERFORMANCE SPEAKERS

- 1 One 8-cm Twiddler® (centrefill, neodymium mid-high-range speaker) in the instrument panel.
- 2 Two 2.5-cm tweeters in the A-pillars.
- 3 Two 16.5-cm wide-range speakers in the front doors.
- 4 Two 13-cm wide-range speakers in the rear doors.
- 5 Two 6-cm Twiddler® (neodymium mid-high-range speakers) in the D-pillars.
- 6 One 13-cm Richbass™ woofer in a 8-litre custom-engineered bass enclosure in the spare wheel well.

SYSTEM ELECTRONICS

- 7 Digital amplifier mounted under the right front seat with Bose Digital Signal Processing:
 - 7 channels of customised equalisation
 - Centerpoint® 2 signal processing circuitry
 - AudioPilot® 2 Noise Compensation Technology

Each part of the Bose sound system and the infotainment system has been carefully engineered to provide an ideal listening experience. Any technical intervention, such as the use of retrofitted components, can have a substantial negative impact on the sound quality.

BOSE
Better sound through research

TECHNOLOGY HIGHLIGHTS

BOSE SYSTEM DESIGN PHILOSOPHY – Every vehicle model is different, and each has its own unique acoustic signature. Whether it's a sedan, a convertible or an SUV, the shape, size and materials of the interior affect the sound quality differently. Just as every vehicle model is different, so too is each Bose sound system.

The Bose approach is based on the philosophy that superior sound quality should be designed in from the start. More than 50 years of Bose research and experience have produced a deep understanding of acoustics, and how they can enhance – or detract from – the music.

ADVANCED ANALYSIS – A variety of different factors are studied, from listener seating locations to the acoustic effect of interior materials. Nearly every decision, from speaker placement to equalisation, is based on this information. As a result, listeners hear music with more of the emotion of a live performance.

CENTERPOINT® 2 TECHNOLOGY – Centerpoint 2 technology enables listeners to enjoy a surround sound experience from nearly any stereo source, including stereo CDs, compressed audio as well as radio. Using a proprietary Bose algorithm, Centerpoint 2 technology analyses the stereo signal and converts it to multiple channels. As a result, Centerpoint 2 technology allows for greater precision when reproducing the sound while simultaneously creating a wider and more spacious sound field. Listeners can hear each instrument as if it were positioned on stage at a live performance. It has been specifically engineered to meet the unique demands of reproducing surround sound in a vehicle.

AUDIOPILOT® 2 NOISE COMPENSATION TECHNOLOGY – This proprietary Bose innovation helps preserve the high level of performance in a Bose premium sound system. AudioPilot 2 technology constantly monitors and adjusts the music to compensate for the effects of unwanted outside sound and vehicle speed. It reacts to sustained noise sources but not intermittent ones, such as speed bumps.

A microphone built into the cabin continuously monitors the overall sound level inside the vehicle. Plus, enhanced DSP algorithms allow faster and more effective compensation for unusual situations, such as driving on a very rough road or at high speeds. It all happens automatically, so there is much less need to adjust the controls to preserve the listening experience.

PROPRIETARY BOSE DIGITAL SIGNAL PROCESSING – To raise system performance to an even higher standard, Bose engineers use proprietary digital signal processing and multiple channels of custom equalization to help tune the sound specifically for this vehicle.

As a result, the system reproduces music with clear, lifelike sound and natural timbre. The sound at each listener's position is smooth and realistic. Music sounds full and detailed, speech sounds natural, and the system can approach live performance levels without sounding distorted.

RICHBASS™ WOOFER – Innovative design allows the Richbass woofer to be just 13-cm in diameter, while still delivering the performance of a larger speaker. In addition, the Richbass woofer is housed in an enclosure engineered to work acoustically with the Bose sound system in the vehicle. The enclosure can also be designed to fit in a specific part of the vehicle such as under seats, in spare wheel wells and inside center consoles, giving system and vehicle designers more placement options and giving vehicle owners the performance they want without sacrificing cabin.

NEODYMIUM SPEAKER TECHNOLOGY – Select speakers in this vehicle feature neodymium iron boron magnets. These compact yet powerful magnets significantly reduce the overall weight of the sound system without sacrificing acoustic performance.

A neodymium iron boron magnet has about 10 times the magnetic energy density of a conventional ferrite magnet. Speakers using neodymium magnets can be smaller and lighter than speakers with conventional magnets – yet they can deliver nearly the same acoustic output. Smaller speakers provide greater placement options. System designers can mount speakers where they deliver better sound, not simply where they fit best. Lighter speakers also help reduce overall vehicle weight, which may result in better handling and road performance.