



Product Parameters and Specifications

Model: Legatia L6 Midbass/Midrange

Legatia™ L6

We're notably one of the best midrange producers in the world, and while everyone was raving about our wide-bandwidth Legatia L3 and Legatia L4 midranges, we built what has quietly become one of the best wide-bandwidth car audio midbass/midrange units available today as well! The incredible L6 midbass/midrange is an exceptional solution for installers, enthusiasts, and car audio competitors, and provides the midbass and midrange foundation for many of our high-end two-way systems, as well as a dedicated midbass in several of our three-way systems.

The Legatia L6 has an outstanding extended frequency response; the usable frequency range of this driver exceeds six complete octaves of usable bandwidth (51 Hz - 5,100 Hz). The midbass and upper subbass extension of this driver is absolutely incredible. This means that the L6 is equally at home being a midrange driver as it is a midbass driver.



Figure 1: L6 midbass

Legatia L6 in more detail

The Legatia L6 is a 181mm (7.1-inch) “large format” wide-bandwidth midbass/midrange driver to compliment both two-way and three-way system designs, where a point-source midrange or dedicated midbass driver is required. Like the Legatia L3 and L4 midrange designs, the Legatia L6 is a cone-type driver consisting of a pressed paper diaphragm with extremely low moving mass. The cone has been treated with a water resistant element at the rear to accommodate door mounting, or other areas prone to occasional contact with liquid. The cone design offers a wide dispersion pattern to make for flexible installation and speaker location. Like its smaller sibling the L4, the L6 comes equipped with a phase plug pole piece extension at the center of the cone. The highest frequencies of audio emanate from the area around the center of the cone and the lower frequencies are produced by the area of the cone that is farther from the center. The phase plug pole piece extension improves the L6’s performance and clarity by deflecting delicate midrange tones forward of the driver, while minimizing distortion and improving the driver’s ability to reproduce a wider bandwidth. The motor also utilizes copper Faraday shorting rings for impedance equalization.



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Like other Legatia midrange designs, you will find no composite or metal cone materials used on the L6, as our approach to point-sourcing is to allow the midrange or midbass driver to effectively play into upper midrange and lower treble frequencies. The paper cone is critical to tame unwanted cone modes, resonances, and the classic "cone breakup" associated with composite and other "hard" cone material cones, but still be rigid enough for midbass and upper subbass attack. The "point source" design ensures stable stereo imaging across the fundamental frequencies which define image placement and definition.

Rounding out the face of the driver is an inverted high-loss rubber surround that, in concert with the spider, provides the compliance needed for the L6 midbass to adequately present a real sense of "bass up front" in two- and three-way front stage systems, or the front-stage midbass reinforcement to a dedicated subwoofer system.

The basket is a high-quality cast aluminum design, and contains a 181mm wide flange providing for the mounting of the driver via four screw holes (the use of 4mm cap head screws is ideal). The overall dimensions of the driver are very amenable for use in the car audio environment, boasting a depth of just 81.5mm for the ultimate in mounting flexibility. The terminations are spring-loaded binding posts to optimize contact, and give the end user flexibility in tinned wire or binding post terminations.

Mechanical and electrical parameters are amenable to a variety of different installations and speaker locations. The high Qts and low Mms of the driver will allow it to be used in a purely infinite baffle configuration. Hybrid Audio and select Team Hybrids competitors have also had great success using this driver in a dipole configuration, a.k.a. completely "free-air" as a dedicated midrange, in larger vented enclosures, arrays, and in folded horns and transmission lines. It is important to note that sealed enclosures are not required; in fact, the L6 works optimally in areas where a large volume of area is available, such as in kick panel, floor boards, or foot wells, underneath dashboards, etc. You do not have to build enclosures for the L6 to perform as intended; a simple baffle, solidly attached to the car's chassis with available airspace at the rear of the baffle is all that is required; this driver quickly solves the universal installation quandary of having to build enclosures for car stereo speakers. Finally, the size of the unit allows it to be mounted in typical locations within a vehicle, including kick panels, floor boards, door panels, and in some cases custom dashboard locations, as long as there is adequate airspace behind the driver to allow it to maintain proper damping and acoustic suspension.

The Legatia L6 is the ideal multi-purpose high-end speaker driver. At home in virtually any arrangement, the L6 is Hybrid Audio's flagship midbass driver, boasting exceptional performance and a design philosophy that goes hand in hand with true high-fidelity playback.



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Legatia L6 Thiele-Small Parameters

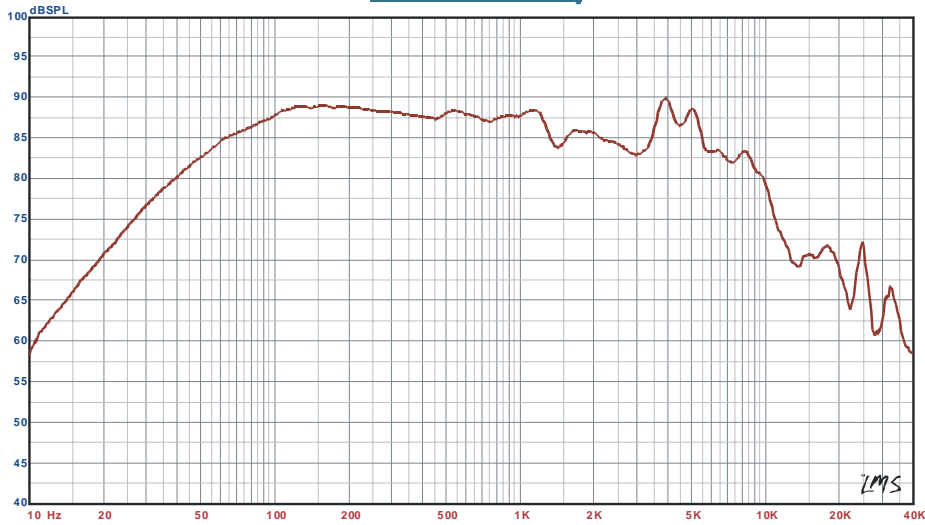
Overall Diameter	ϕ 181 mm (7.1-inch)
Mounting Depth	77 mm
Bolt Circle Diameter	ϕ 167.5 mm
Mounting Hole	ϕ 146 mm
Recommended Minimum Crossover Frequency	50 Hz at 24 dB/octave highpass
P_{nom} Rated Power Input (No Crossover)	60 watts (AES Standard)
P_{max} Rated Power Input (No Crossover)	120 watts (AES Standard)
P_{max} (With Recommended Minimum Crossover)	175 watts
Frequency Range	51 Hz - 5,100 Hz, +/- 3 dB
Sensitivity	89 dB at 1 watt/1meter
Mms	16.843 g
Cms	454 μ m/N
BL	5.693 T*m
Voice Coil Diameter	35.55 mm (1.4-inch)
Impedance	4 Ω
DC Resistance	3.62 Ω
Fs	51 Hz (free air)
Qms	3.857
Qes	0.609
Qts	0.526
Xmax	6 mm (one way)
Vas	14.185 L
Sd	13273 mm ²



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Legatia™ L6 Impedance and SPL Verses Frequency Plots

SPL vs Freq



Impedance vs Freq

