

## 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's, 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 and enthusiasts, and provides the midbass and midrange foundation for our high-end two-way systems, as well as a dedicated midbass in our three-way systems.

The Legatia™ L6 has an outstanding extended frequency response; the usable frequency range of this driver once again exceeds six complete octaves of usable bandwidth (50 Hz - 5,000 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.



Photo 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 midbass/midrange 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 for door mounting, and other areas prone to occasional contact with water. 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. Due to the shape of a conventional loudspeaker cone, the higher frequency sound waves tend to collide at a focal point, causing phase distortion. 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; this is the reason why the L6 has an extremely wide bandwidth into the upper midrange frequencies.

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 all



Product Parameters and Specifications  
Model: Legatia L6 Midbass/Midrange

composite and most polypropylene 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 5-way binding posts which have been gold plated 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", 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 these speakers to perform as intended; a simple baffle 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:	181mm (7.1-inch)
Mounting depth:	77mm
Bolt Circle Diameter:	167.5mm
Mounting hole:	146mm
P <sub>nom</sub> (without crossover):	60W (AES Standard)
P <sub>max</sub> (without crossover):	120W
P <sub>max</sub> (with recommended crossover):	250W
Frequency range:	51.5 Hz - 5,000 Hz
Sensitivity:	91dB (2.83V/1m)
Mms:	16.843 g
Cms:	454 um/N
BL:	5.693 T*m
Voice coil diameter:	35.55mm (1.4-inch)
Impedance:	4 Ohm
DC Resistance:	3.62 Ohm
Fs:	51.5 Hz (free air)
Qms:	3.857
Qes:	0.609
Qts:	0.526
Xmax:	6mm (one way)
Vas:	14.185 L
Sd:	13273mm <sup>2</sup>



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### Legatia™ L6 Impedance and SPL Verses Frequency Plots

#### SPL vs Freq



#### Impedance vs Freq

