

Legatia™ L1

The Legatia™ L1 is an incredibly small, compact, but robust and extremely natural sounding 20mm soft-dome tweeter. We are proud to be one of the very few speaker manufacturers that understand what it takes to build a car audio tweeter: we feel larger diaphragm tweeters sound heavy and unremarkable, lack detail in the upper treble frequencies, have undesirable polar response, and are extremely difficult to install. Additionally, we find metal dome tweeters to be harsh, brittle, and sound unrealistic. So we went the opposite direction with our Legatia™ L1 tweeter with a smaller package that is very easy to install, boasts a small diameter soft-dome diaphragm and a bit higher of resonant frequency for faithful reproduction of treble frequencies, can be listened to four hours without listener's fatigue, with incredibly good polar response. Tweeters were meant to play treble, and ours does it effortlessly, in a package that fits easily in the palm of your hand.



Photo 1: L1 tweeter pair, shown larger than actual size for detail.

Legatia™ L1 in more detail

The Legatia™ L1 is a 20mm (3/4-inch) dome-type tweeter which has a very good linear response and exceptional transient response. The design offers a wide dispersion pattern to make for flexible installation and speaker location, and the phase linearity of the design ensures phase coherent imaging and staging cues in the car audiophile system.

The L1 starts with an impregnated fine cloth silk dome diaphragm for a linear, smooth sound, with a treated silk surround to damp edge modes and resonances. The L1 is efficient, exhibits low distortion, and has a wide dispersion; the dome is of extremely low mass and has a relatively high power handling with proper filtering. The L1 dome design is much less susceptible to mechanical deformation than other designs, and yet yields a smooth response over the extent of its range.



Photo 2: L1 tweeter with mounting flange and grille removed showing detail of dome surface.

The motor assembly is conventional dynamic, with a very small neodymium magnet structure to ensure a small footprint size and shallow depth. A perforated grille protects the dome. A 52mm wide plastic flange around the grille provides a location for four 3mm screws to be used to secure the drivers to the mounting surface, without the necessity of mounting cups. Additionally, a 3mm screw hole is located at the rear of the magnet, and can also be used for mounting with a backstrap (although, Hybrid Audio recommends that this screw hole be left open, to help dissipate dome back pressure). The overall dimensions of the driver are very amenable for use in the car audio environment, boasting a best-in-class depth of just 11mm, for the ultimate in mounting flexibility. The terminations were left purposely small as well (-3mm), to give the end user flexibility in low-temperature soldered options and crimp terminations, without the additional depth concern of larger 6mm - 12mm spade terminals.

Legatia™ L1 Thiele-Small Parameters

Overall diameter:	52mm (2.1-inch)
Mounting depth:	11mm
Bolt Circle Diameter:	43mm
Mounting hole:	35mm
P _{nom} (without crossover)	7W (AES Standard)
P _{max} (without crossover):	15W
P _{max} (with recommended crossover):	100W
Frequency range:	3,000 - 20,000 Hz
Sensitivity:	89dB (2.83V/1m)
Voice coil diameter:	20mm (3/4-inch)
Impedance:	8 Ohm
DC Resistance:	6.8 Ohm
Fs:	2,500 Hz (free air)

Legatia™ L1 Impedance and SPL Verses Frequency Plots

