



Product Parameters and Specifications  
Model: Legatia L31-2 Two-Way Component Set

## Legatia™ L31-2

The Legatia™ L31-2 is a pairing of the best small-format transducers Hybrid Audio manufactures, for the ultimate petite two-way component system for incorporation in three- and four-way front stage systems, with and without a dedicated subwoofer system (supplied separately). The set begins with a pair of Legatia™ L1V2 tweeters, which accurately reproduce treble tones in the critical bandwidth of the set, in a 20mm soft-dome package. The L1V2 tweeter's small diameter provides detail in the upper treble frequencies, and ensures easy installation with its nearly negligible mounting depth. The set is rounded out with the best 3-inch cone midrange on the planet, the Legatia™ L3. The L3 is the point-source driver in this pairing; the L3's frequency range covers six full octaves for precise imaging and staging detail and placement, and vocal tonality unsurpassed with designs that filter the tweeter into the vocal bandwidth. All that is needed to compliment the L31-2 set is a low moving mass, fast, and detailed midbass/subwoofer driver, such as the Legatia™ L6 or L8 designs, respectively, for the ultimate dedicated three-way front stage system, or paired with a dedicated subwoofer for an incredible four-way front stage system.



Photo 1: L31-2 two-way component set. Tweeter is also available in brushed aluminum.

## Legatia™ L31-2 in more detail

The Legatia™ L31-2 is the ultimate small format two-way component system to cover the broad spectrum above 140 Hz, if installed, set-up, and tuned properly. This system uses a combination of the Legatia™ L1V2 20mm soft dome tweeter and the Legatia™ L3 three-inch midrange. This is the perfect system to add to an existing system - even a factory/OEM system, to improve power handling, dynamics, and critical response above 200 Hz, especially in the vocal spectrum, or to supplement a larger dedicated midbass driver.



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### *Tweeter*

The Legatia™ L1V2 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 L1V2 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 L1V2 is efficient, exhibits low distortion, and has a wide dispersion; the dome is of exceptionally low mass and has an extremely high power handling with the recommended filtering, or using the available two-way passive crossover system for the L31-2x component system. The L1V2 dome design is much less susceptible to mechanical deformation than other designs, and yet yields a smooth response over the extent of its range.

For more information about the L1V2 tweeter, please visit here: <http://hybrid-audio.com/Legatia%20L1V2.pdf>.

### *Midrange/Midbass*

The Legatia™ L3 has an outstanding extended frequency response; the usable frequency range of this driver exceeds six octaves. It is the ultimate small-diameter point-source midrange driver and reproduces the majority of the audible spectrum in this system.

The Legatia™ L3 is a 74mm (2.9-inch) cone-type wide-bandwidth midrange; the cone is an untreated pressed paper with extremely low moving mass. The cone design offers a wide dispersion pattern to make for flexible installation and speaker location, and the design ensures phase coherent imaging and staging cues in the car audiophile system. You will find no composite or metal cone materials used in our upper-end designs, as our approach to point-sourcing is to allow the midrange or midbass driver to effectively play into treble frequencies. The paper cone is critical to tame unwanted cone modes, resonances, and the classic "cone breakup" associated with all composite and most polypropylene cones, but still be rigid enough for upper midbass attack. The "point source" design ensures stable stereo imaging across the fundamental frequencies which define image placement and definition. The paper cone is mated with a dust cap to ensure desired operation into the upper midrange and lower/mid treble frequencies; the dust cap is also an untreated black pressed paper. 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 this 2.9-inch midrange to play upper midbass frequencies. You'll also know a higher-end Hybrid Audio midrange and midbass design by its inverted surround; this design feature allows for the use of a smaller height grille, and more flexibility in mounting options.

The motor of the design is conventional dynamic and very complimentary, utilizing a 1-inch voice coil, ferrite magnet, and a unique T-yoke to improve the speaker's power handling. The basket is a high-quality cast aluminum design, and contains a 93mm wide flange providing for the mounting of the driver via four screw holes (the use of 3mm 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 46mm, for the ultimate in mounting flexibility. The terminations are standard spade terminals which have been gold plated to optimize contact, and give the end user flexibility in low-temperature soldered options and crimp 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



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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 L3 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 locations previously unheard of with other speakers. This driver can be mounted on a-pillars, in dashboards or kick panels, or anywhere your imagination takes you, as long as there is adequate airspace behind the driver to allow it to maintain proper damping and acoustic suspension.

*Summary*

The Legatia™ 31-2 is going to be by far the best sounding compact two-way front stage system available today. Even the casual listener will immediately hear an improvement in most systems, including OEM sound systems, with the addition of this component system. The small midrange allows it to be mounted infinite baffle virtually anywhere in a car environment, and the treble is smooth and warm. Add a snappy midbass, or an up-front subwoofer for the ultimate three-way front stage.