

Burmester

PRODUCT INFORMATION

B100 LOUDSPEAKER



LOUDSPEAKER

B100 Loudspeaker



Externally, the form of our reference B100 Loudspeaker was inspired by the aerodynamic design similar to the riveted wings found on large classic airplanes of the past. Internally, we developed the B100 using the latest technological advances and measuring techniques of the highest calibre which can detect and remove even the slightest error.

To be able to reproduce the time-honoured high dynamics that result in life-like quality sound was of paramount importance during the development process of the B100. The result speaks for itself, the B100 is a gracefully designed loudspeaker despite its size that can easily be integrated into any living room surroundings while at the same time divulge great music that can satisfy even the most critical of listeners.

The B100 Loudspeakers are three-way full-range loudspeakers with built-in phase ridge passive crossovers using filters of the highest degree. The mid-range and high frequency drivers are arranged in a d'Appolito configuration. The cabinet of the B100 is double walled to add solidness and strength.

The construction of the B100 Loudspeaker is designed to capture the true essence of music as nature has intended. Even at high volume and a gale like force of over 115dB the ca. 128kg structure of the B100 is not even fazed. This can be made possible thanks to its highly sophisticated double-walled structure using the latest technology and highest quality materials possible in the construction of high end loudspeaker.

The internal chamber is composed of strong MDF plates in combination with complex interior reinforcements of 25 mm. The centre section of the loudspeakers is specially structured to house the high/mid tone chambers and is further reinforced by 6 mm aluminium plates. The outside housing is fully isolated by an insulation layer so that all emitted frequencies are absorbed from the inside.

Felt-like mats are used for damping on the inside of the speaker wall. These mats are applied in various thickness that are accurately computed and strategically placed throughout the inner housing of the speaker as to insure the best resonance. This unique technique characterised by Burmester Audiosysteme makes their speakers outrageously fast and precise. Limiting the amount of the absorption in the base chassis allows the base frequencies to realise their fullness even at lower volume levels.

The crossover of the B100 is arranged with extremely low-loss construction units and works exclusively with phaseridge filters of the highest quality. We are able to create long term stability by using high quality foil condensers and tin condensers rather than using low grade ELKOs.

The loudspeaker clamps are invisibly attached at the bottom of the loudspeaker. The frequency switch is set in a way that permits bi-amping and bi-wiring. One of our greatest achievements in creating the B100 was devising an as low as possible impedance switch so that that excess power generated from the amplifiers can be channelled and utilized throughout all the individual speaker compartments. Thus resulting in optimal control throughout the individual loudspeaker chassis. As such, the base coil was developed to have only 0.02 ohms.

The frequency switch plates was coated with 150um copper and connected to the bass chassis with a 10 mm² cable made from purest copper. The midrange and tweeters are connected to their respective frequency switch using the new Burmester pure silver loudspeaker cable.

The B100 comes in three standard finishes: elsberry/aluminum laminate, makassar/aluminum laminate and silver/aluminum laminate (other finishes are available as an option). Despite their size the B100 can be easily integrated into a living environment without being overly sensitive to placement.

CROSSOVER CIRCUIT ARRANGEMENT

The woofer has a low pass at 6dB/oct. with impedance correction of the upper bass reflex maximums so that the crossover works without interacting with the impedance of the woofer. The mid-range driver has a highpass at 6dB/oct. and a low pass at 6db/oct. . There is an impedance correction of the resonance frequency and the magnetic coil inductance so the crossover works without interacting with the impedance of the mid-range driver. The tweeter comes with a high pass 6dB/oct. . A galvanic separation of the woofer and mid-range section enables bi-wiring or bi-amping.

DRIVERS AND WOOFERS

The woofers are custom designed with a die-cast light alloy enclosure, which is very rigid, magnetically non-conductive and therefore prevent magnetical loss. The large vent hole in the pole core allows to air the area behind the dustcap. The vented dustcap behind the centring bell avoids compression effects.

For the woofers we used extremely rigid air-dried glass fiber cone with resonance-damping coating, which is extremely stable, distortion-resistant and has a completely resonance-free response characteristic exceeding 2000 Hz.

The drivers 50 mm Kapton coil frame, extremely heat-resistant und completely free of eddy-current loss. 25 mm high-wound magnetic coil responsible for very long linear cone throw, exceeds the travel of most woofer cones of this size by a factor of two, resulting in a dyna-mic gain of 6dB.

The woofers of the B100 radiate from the side of the speaker cabinet towards each other. This configuration has the advantage that undesirable high frequencies emanating from the woofers (partial harmonics) do not reach the listener directly.

Furthermore, facing the woofer cones towards each other produces an additional compression in the bass region without cancellation effect. Ideally, the distance between the speakers should be at least 2.5 m.

CABINET CONSTRUCTION

Double-walled enclosure with extremely rigid inner housing and soft dampened outer enclosure to avoid undesirable resonances at the surface of the speaker cabinet.

Bass-reflex woofer enclosure (2 x 60 l volume) with a lower critical frequency of below 30Hz.

Sealed mid-range enclosure with volume of 2 x 4 l
Symmetrical array of the two mid-range drivers above and below the tweeter (d'Appolito). Compared with an asymmetrical driver arrangement this configuration delivers a much more stable and precise sonic image. The two woofers are also arranged symmetrically in line with the tweeter to extend the d'Appolito concept into the bass region.

Cabinet finishes and prices: see price list

DAMPING

Bass dampening system at the inside of cabinet walls, no sound deadening wool in the bass enclosure to absorb as little as possible of the back-radiating woofer energy.

The dampening material consists of special felt.
Dampening of the mid-range enclosure with a bit of cotton insulation to absorb the sound radiating from the back of the mid-range driver.

CONNECTIONS

Bi-wiring/bi-amping.

Massive binding posts under the speaker cabinet ensure shortest possible distance to the crossover.

Interior wiring of the woofers with 10mm² highest-purity copper litz, wiring of mid-range drivers and tweeters with pure 4mm² silver cable.

Front panel made of solid 20mm thick aluminum plate, milled and enameled. It holds the tweeter and acts as a cabinet stiffener in the area of the tweeter and mid-range drivers.

Bell-shaped bass reflex opening to avoid air motion turbulences.

● TECHNICAL SPECIFICATIONS

Design	3-way bass reflex
Weight (per speaker)	128 kg (282.2 lbs)
Width	307 mm (12.1 ")
Height	1,495 mm (58.9")
Depth	622 mm (24.5")
Power rating	400 W
Sensitivity at 2.83V/1m	93 dB
Impedance	3 Ω
Frequency response +/-3dB	30-45,000 Hz
Tweeter	2 x Air Motion Transformer
Midvrage driver	2 x 130 mm (2 x 5.1") Kevlar® cone, double ventilated coil
Woofers	2 x 275 mm (2 x 10.8") glass fibre cone, double ventilated coil
Crossover frequencies	160 / 2,400 Hz

