

MISCO has taken the XBL² technology and executed with effectiveness and elegance in the BWX-6501 (82109), 6.5" woofer. By using a high energy neodymium ring magnet, a high BL is maintained while the magnet structure size and weight is minimized. Yet the Klippel verified, linear XBL (BL force displacement) is over 10 mm. The light weight, copper-clad aluminum voice coil travels in a double magnetic gap. It is centered within inner and outer inductance modulating elements to reduce inductance. This is an ultra-low distortion woofer and allows for a wide range of cross-over points.

- XBL² motor design with 10 mm linear displacement, XBL
- Abaca fiber cone body with damped rubber surround
- Dual inside-outside copper shorting rings for ultra-low distortion
- Aluminum phase plug for reduction of acoustic-wave energy interference
- High energy neodymium ring magnet for lighter weight XBL² design
- Designed and assembled in the USA

Bold North Audio products are the most accurate, engineered audio transducers available. Each design requires Klippel vibrational test analyses to verify the key parts of optimal audio performance. While we rely heavily on objective science to lead us, we understand that most of all speakers need to tell the musical truth. Our engineers, musicians, and recording studio veterans are the final judges of when a design is worthy of the Bold North Audio brand.

All Bold North Audio products are assembled in Minnesota, with parts sourced from around the world to produce the highest combination of performance, consistency, and customer value.



Primary Specifications

Size, Nominal (inch & mm)	6" (152 mm)
Rated Impedance (Ω)	8
Sensitivity (dB SPL) ¹	85
Frequency Range (Hz)	40 - 4,000
Resonant Frequency (Fs) (Hz) +/- 15%	47

More Specifications

Application	High-End Audio and Home Theater, Home Audio, Indoor
RoHS Compliant	Yes
DC Resistance (Re) (Ω)	6.4
Program Power (W)	170

Small Signal Parameters

Nominal Impedance (Z) (Ω)	8
DC Resistance (Re) (Ω)	6.4
Voice Coil Inductance (Le) (mH)	0.2
Resonant Frequency (Fs) (Hz) +/- 15%	47
Mechanical Q Factor (Qms)	8.5
Electrical Q Factor (Qes)	0.48
Total Q Factor (Qts)	0.46
Moving Mass (Mms) (gm)	18.0
Suspension Compliance (Cms) (mm/N)	0.62
Mechanical Resistance (Rms) (kg/s)	0.62
Surface Area of Diaphragm (Sd) (cm²)	125
Compliance Equivalent Volume (Vas) (L)	13.3
Motor Force Factor (BL) (T•M)	8.4
Efficiency (η_0) (%)	0.3
Efficiency Bandwidth Product (EBP) (Fs/Qes)	97.92

Material Descriptions

Basket Type	Cast aluminum
Terminal Size (mm)	6.4 x 0.8 / 4.7 x 0.5
Voice Coil Diameter (mm)	38.1
Voice Coil Wire Material	Copper clad aluminum
Voice Coil Former Material	Kapton
Magnet Material	Neodymium
Magnet Weight (g)	145
Cone Body Material	Abaca fiber
Cone Surround Material	Rubber
Spider Material	Cotton
Dust Cap Material	Aluminum phase plug
Net Weight (kg)	1.0

