



Part # 82141  
6.5" XBL<sup>2</sup> High Excursion, Low Distortion Woofer, 8 ohm



### Key Features

- XBL<sup>2</sup> motor design with 9.5 mm linear, Klippel verified, X-max
- Rigid, vented cast aluminum frame
- Abaca fiber cone body with damped rubber surround
- 1.5" voice coil with light weight copper clad aluminum wire
- Dual inside-outside copper shorting rings for ultra-low distortion.
- High energy neodymium ring magnet for lighter weight XBL<sup>2</sup> design
- Designed and Assembled in the USA

### Primary Specifications

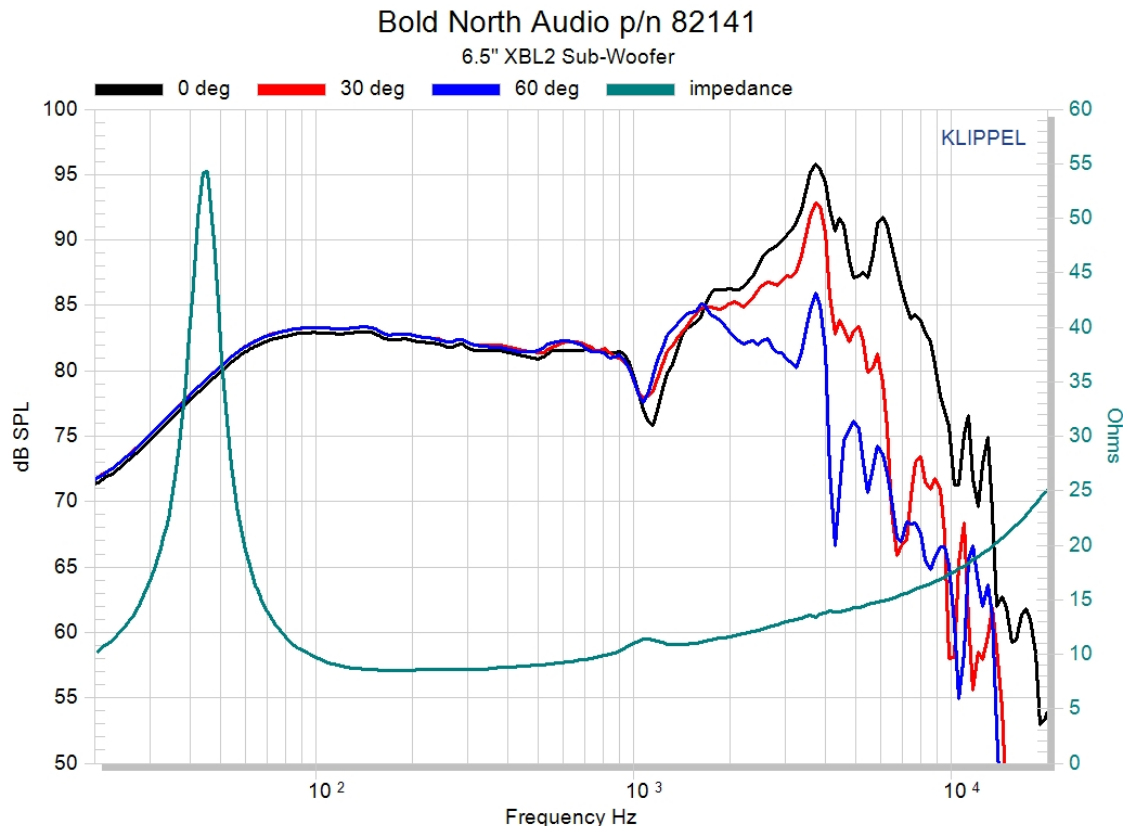
Size, Nominal (inch & mm)	6.5" (165 mm)
Nominal Impedance (Z) (Ω)	8
Rated Power IEC268-5 (W)	85 (170 watts Peak)
Sensitivity (dB SPL) <sup>1</sup> (@1W/1 m)	85
Frequency range (Hz)	45 – 1,000
Resonant Frequency (Fs) (Hz)	45

### Product Description

MISCO has taken the XBL<sup>2</sup> technology and executed with effectiveness and elegance in the 82141, 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 X max (measured inductance, suspension, and BL) is a minimum of 9.5 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.

### Sensitivity & Impedance Curves

Input: 2.83 volts measured at 1 Meter



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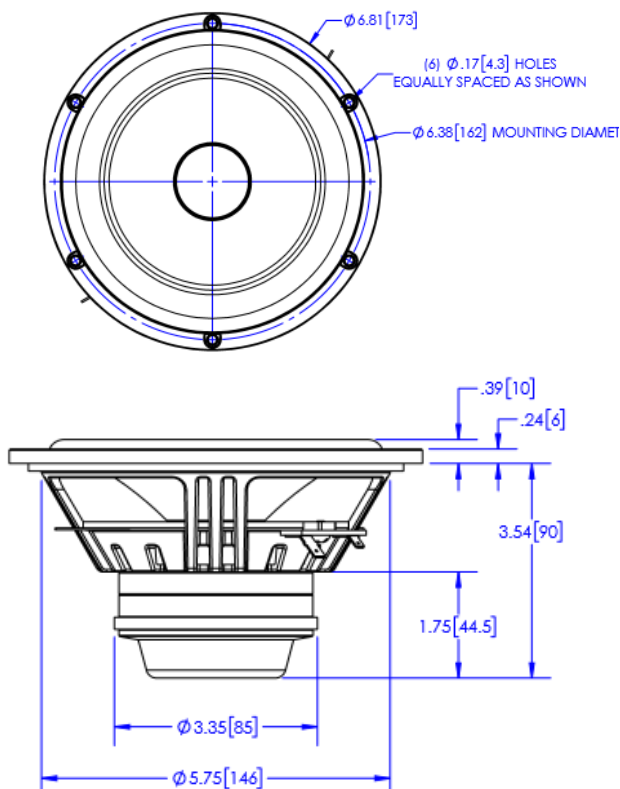
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## Transducer Drawings\*



\*CAD file available upon request

\*\* XBL<sup>2</sup> design licensed under "US Patent 7,039,213"

## Transducer Specifications (Klippel LPM)

Nominal Impedance (ohms)	8
DC Resistance (Re) (ohms)	6.4
Resonant Frequency (Fs) (Hz)	45
Voice Coil Inductance (Le) (mH)	0.2
Mechanical Q factor (Qms)	10.3
Electrical Q factor (Qes)	0.61
Total Q factor (Qts)	0.57
Moving Mass (Mms) (g)	22.0
Mass without air load (Mmd) (g)	20.5
Compliance (Cms) (mm/N)	0.53
Mechanical Resistance (Rms) (kg/s)	0.58
Effective Piston Area (Sd) (cm <sup>2</sup> )	109
Suspension Equivalent Volume (Vas) (liters)	7.5
Force Factor (Bl) (T*m)	8.2
Efficiency (No) (%)	0.15
SPL (dB 1W/Z)	85
SPL (dB 1W/Re)	84

## Transducer Specifications (Klippel LSI)

X <sub>Bl</sub> @ Bl <sub>min</sub> =82%	10	mm	Displacement limit due to force factor variation
X <sub>C, rel</sub> @ C <sub>min</sub> =75%	9.5	mm	Displacement limit due to compliance variation (relative to peak displacement)
X <sub>L</sub> @ Z <sub>max</sub> =10%	13.5	mm	Displacement limit due to inductance variation
X <sub>d</sub> @ d <sub>2</sub> =10%	28	mm	Displacement limit due Doppler IM distortion

## About Bold North Audio

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.**





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CAD Model Cut-Away

