

The MISCO LS-450/B loudspeaker is a permanent magnet dynamic audio transducer designed for clear speech communication between a submarine's interior and the bridge or escape hatch. This versatile device can also serve as a microphone in two-way conversations. Its robust construction allows it to operate seamlessly in various pressure conditions, from atmospheric to high pressure, at submarine operating depths. Furthermore, the unit features a resilient silicone rubber encapsulation for the moving voice coil assembly, providing comprehensive protection against normal sea exposure and freezing spray conditions.

- 10 Watts, program power with 96 SPL
- Over two pounds of High Energy Plus (HE+) Alnico Magnets
- Built per MIL-L-24296A
- Highly corrosion-resistant brass & Monel steel body
- Phenolic-impregnated cloth cone, surround, & cap
- Copper-wound Lamitex voice coil
- Robust #8 screw terminals
- Output as a microphone - 0.1 volts with 16 ohms load and 100 dB sound pressure level 775-125 cps
- Pressure-proof, freeze-proof, and submersible

The LS-450/B pressure-proof submarine speaker, specifically designed for the U.S. Navy, is engineered to meet or surpass the Military Specifications standard: MIL-L-24296A. This robust device offers an audio output signal with an even response between 800 Hz - 2000 Hz (+/- 3 dB). Its exceptional environmental tolerance allows it to perform seamlessly in a broad range of climates, from tropical to frozen, and in both freshwater and saltwater environments. Its construction comprises of brass and highly corrosion-resistant Monel\* plated steel, which ensures an extended lifespan and reliable performance even in the harshest marine conditions.

*\*To deliver long-term, reliable performance, the steel body structure of the product is coated with a Monel plating and paint finish, providing excellent resistance to corrosion. Monel, renowned for its superior strength and exceptional corrosion resistance in both acidic and alkaline environments, is particularly well-suited for deployment in marine environments. With a wide range of applications in marine engineering, chemical and hydrocarbon processing, heat exchangers, valves and pumps, and even musical instruments, Monel has proven to be a durable and versatile material. In fact, some of the highest quality musical instruments, including trumpets, tubas, and French horns, incorporate Monel as the material for valve pistons or rotors, exemplifying its superior quality and performance.*



## Primary Specifications

<b>Size, Nominal (inch &amp; mm)</b>	6" (152 mm)
<b>Rated Impedance (<math>\Omega</math>)</b>	16
<b>Sensitivity (dB SPL) <sup>1</sup></b>	96
<b>Frequency Range (Hz)</b>	600 - 2, 800
<b>Resonant Frequency (Fs) (Hz) +/- 15%</b>	800

ID Desc. Measurements Tolerance			
OD	Outside Diam.	6.125	+/-0.20
CD	Cutout Diam.		+/-0.20
MG	Magnet Diam.		+/-0.20
HD	Hole Diam.	0.56	+/-0.20
MD	Mounting Diam.	2.37	+/-0.20
ID	Internal Depth		+/-0.20
FT	Flange Thickness	0.5	+/-0.20
NW	Net Weight	5910.0	+/-0.50

### More Specifications

<b>Application</b>	Military, Outdoor , Voice Communications
<b>RoHS Compliant</b>	No
<b>DC Resistance (Re) (<math>\Omega</math>)</b>	7.2
<b>Program Power (W)</b>	10

### Small Signal Parameters

<b>Nominal Impedance (Z) (<math>\Omega</math>)</b>	16
<b>DC Resistance (Re) (<math>\Omega</math>)</b>	7.2
<b>Voice Coil Inductance (Le) (mH)</b>	0
<b>Resonant Frequency (Fs) (Hz) +/- 15%</b>	800
<b>Total Q Factor (Qts)</b>	0.83

### Material Descriptions

<b>Basket Type</b>	Corrosion Resistant, Brass & Monel Plated & Painted Steel
<b>Terminal Size (mm)</b>	#8 Screw terminals
<b>Voice Coil Diameter (mm)</b>	1.25" (32mm)
<b>Voice Coil Wire Material</b>	Copper
<b>Voice Coil Former Material</b>	Lamitex
<b>Magnet Material</b>	Ferrite
<b>Magnet Weight (g)</b>	35 ounces (992.2) grams
<b>Cone Body Material</b>	Phenolic Impregnated Cloth
<b>Cone Surround Material</b>	Phenolic Impregnated Cloth
<b>Dust Cap Material</b>	Phenolic Impregnated Cloth
<b>Net Weight (kg)</b>	5.9



