

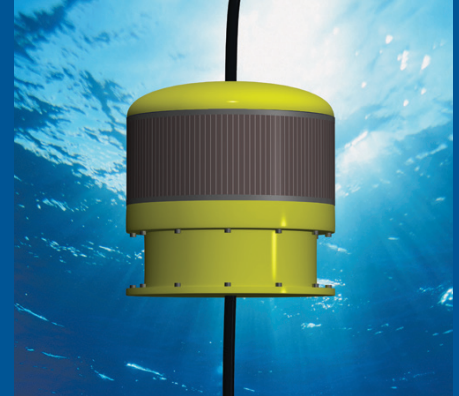
# Harbor Security/ Diver Detection Arrays



MSI provides sonar arrays for Harbor Surveillance Systems

MSI's piezocomposite material provides higher bandwidth which allows sonar systems to obtain higher resolution than systems made with traditional materials. The manufacturing process allows MSI to create large sheets of piezocomposite having multiple elements and complex shading.

These benefits coupled with low weight and a low manufacturing cost provides high performance sonar arrays at an exceptional value.



## Application — Object Detection

100 kHz Cylindrical Array	
Center Frequency	90 kHz
Array Beam Width (Horizontal)	360°
Array Beam Width (Vertical)	30°
TVR ( $\mu\text{Pa}/\text{V}@1\text{ m}$ )	148 dB
RVS ( $\text{V}/\mu\text{PA}$ )	176 dB
Source Level ( $\mu\text{PA}@1\text{ m}$ )	207 dB
Configuration	128 Tx/Rx Channels
Diameter	6.0" (152.4 mm)
Electronics Housing	Integrated Enclosure can be provided

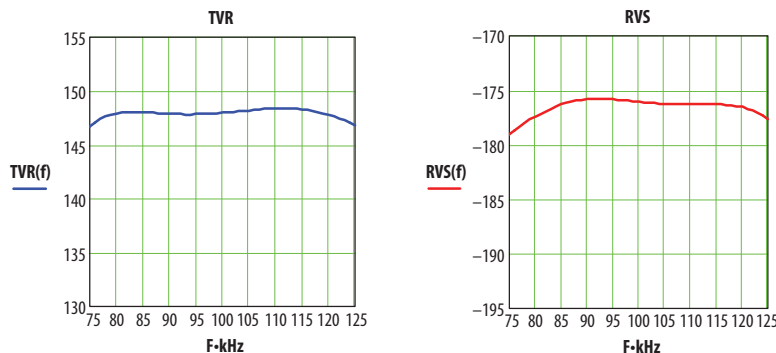
**Customized to Meet Your Needs**

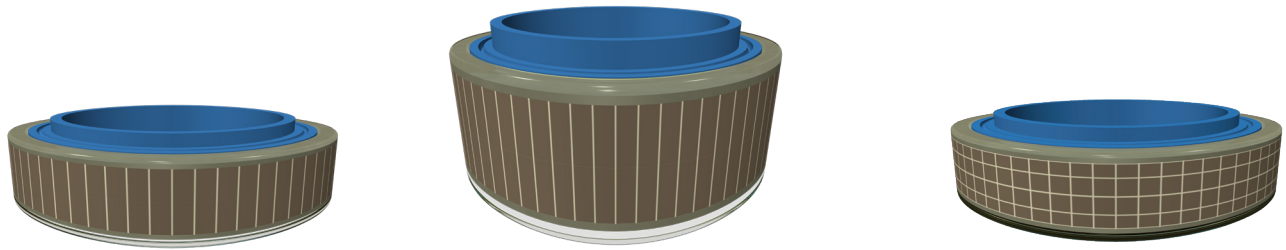
MSI specializes in custom designed transducers. MSI can design a transducer to fit your specific application requirements.

**Call us today at 978.486.0404**

Email: [info@msitransducers.com](mailto:info@msitransducers.com)

## Technical Data





Custom Sonar Array Options	
Center Frequency Range	50 kHz – 200 kHz
Beam Width (Horizontal)	90° – 360°
Beam Width (Vertical)	5° – 60°
Number of Channels	Up to 256
Configuration	Combined or Separate Tx/Rx Single or Multiple Vertical Channels
Mechanical	Compact Designs Lightweight
Electronics Housing	Provided and Designed as Required

**MSI Piezocomposite Capabilities**

- Broad Bandwidth
- High Source Level
- High Receive Sensitivity
- Great Element to Element Uniformity
- Conformability for Curved Arrays
- Complex Shading Patterns
- Multibeam Arrays

**MSI Design Capabilities**

- 2D and 3D Acoustic modeling tools
- Wide Breadth of Technical Expertise
- Product Definition and Development
- Rapid Prototyping Capabilities
- Ongoing R&D

**MSI Manufacturing Capabilities**

- 20,000 Sq Ft. (2000 Sq M) Facility
- Ceramic Powder to in-water testing
- Maximum Quality Control
- Reduced lead-times
- Internal Testing Capabilities

**DESIGN • PROTOTYPES • LOW VOLUME PRODUCTION • HIGH VOLUME PRODUCTION • ACOUSTIC IN-WATER TESTING**

**About MSI**

MSI of Littleton, MA, designs and manufactures custom sonar transducers and arrays. MSI’s piezocomposite technology offers extremely broad bandwidth, high receive sensitivity, high source levels, conformability for curved arrays, and reduced side lobes. The technology has enabled several of the most advanced sonar systems available today.

MSI has a staff of experienced design engineers ready to help you with your transducer design. Our process of engaging our team early on in the design process allows customers to maximize the capabilities while also minimizing the total cost.

MSI’s manufacturing capabilities are designed to assure you receive a high quality product. Our fully integrated manufacturing and testing capabilities allows us to turn raw product into finished assemblies.

*Whether you need a custom designed product or just looking for a source to build your existing design, MSI is the right choice.*

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