

## Phased Arrays



At Blatek, we have developed a line of custom phased array transducers that are based on our piezo-composite and proprietary double matching layer design that produces 80% plus bandwidth and maximized sensitivities. We offer linear, curved linear, annular, 1.5D and 2D matrix array capabilities.

We pride ourselves in maximized sensitivity and broad bandwidth in an efficient acoustic package that is housed in a rugged stainless steel case that can be matched for immersion use or optimized to work in conjunction with various angle beam wedges.

Frequencies range from 1.00MHz up to and including 15.0MHz with element counts ranging from 16 to 192. Special frequencies, unique pitch and/or elevations, overall size restrictions or height limitations are quoted per request.

Contact Blatek today to discuss your phased array transducer needs directly with a member of our product development team.

Blatek, Inc. looks forward to serving you and your ultrasonic needs, whether it is medical or industrial, single or multi element, complete transducer assemblies or piezo-composite stacks that you, the customer, can place in your housings. As stated in our company mission statement:

“We work continuously to improve quality and productivity to reduce cost, increase efficiency, and provide better customer service.”

### NOTES

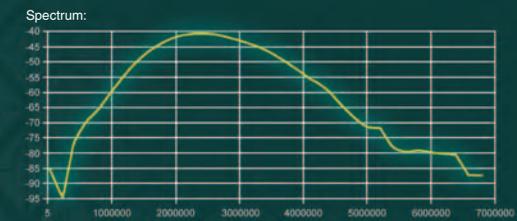
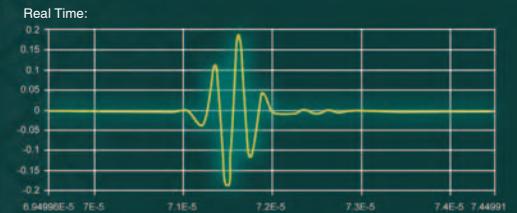


*High-performance. Start to Finish.*

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Phone: 814-231-2085 ■ Fax: 814-231-2087 ■ [www.blatek.com](http://www.blatek.com)

DEVELOPMENT ■ ENGINEERING ■ MANUFACTURING

*Superior performance.  
Maximum durability.*



O-Scope Model: LeCroy wS 452 | Pulser Model: 5052PR  
Pulser SN: 1287 | Test Target: 4" IIW Block



**Optimized. Always.**

DEVELOPMENT ■ ENGINEERING ■ MANUFACTURING

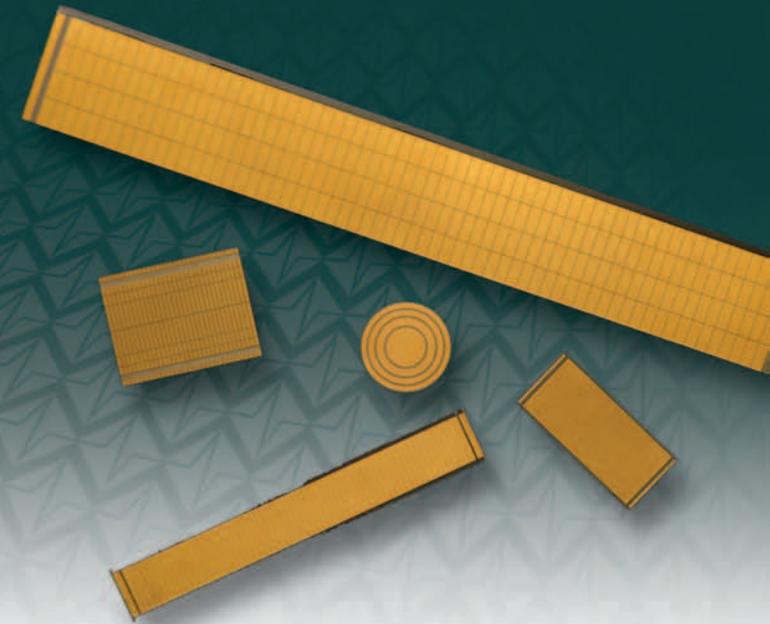
# The trusted independent ultrasonic developer and manufacturer of industrial transducers from 125KHz to 50MHz.

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*Located in the heart of Pennsylvania, Blatek, Inc. was founded in 1979 by Stuart Blacker and prides itself as one of the largest independent ultrasonic designers and manufacturers of industrial and NDT transducers from 125KHz up to and including 50MHz. Blatek's close proximity to Penn State's University Park and the Penn State Materials Research Institute keeps us in touch with the largest concentration of advanced material scientists in the world.*

*Our engineering expertise is wide ranging and includes electrical engineering, material science, mechanical engineering and physics. With this expertise, we have gained extensive experience in the design and fabrication of ultrasonic transducers for both industrial and medical applications.*

*Blatek has earned worldwide respect for the research, development and fabrication of piezo-composites for array and single element transducers. We strive for the highest optimized composite designs in all of our standard products and custom-engineered transducers. We have worked with customers to solve their most troublesome problems and maximize the performance of new and/or improved piezo-composite elements for a variety of applications. Our current products are 90% piezo-composite designs, with on-going efforts in the experimentation of piezo-composites to further maximize the performance of both existing and new designs.*



## Contacts

These rugged stainless steel cased longitudinal wave transducers range in standard size from .250" active element diameter up to 1.00" and. All sizes incorporate an optimized piezo-composite that provides maximum sensitivity and exceptional bandwidth through an alumina oxide wearplate. This highly engineered composite element also provides the best signal-to-noise ratio in the business. Our standard frequency ranges are 1.00MHz, 2.25MHz, 3.50MHz, 5.00MHz, and 10.0MHz, available with right angle BNC or right angle UHF standard connectors. Other connectors are available and top mount connections are possible. All Blatek transducers come with free certification sheets.

## Integral Angle Beam

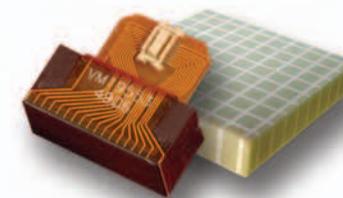
Blatek offers angle beam transducers that have shown superior performance in the industrial market. Our "barrel-style" shearwave, a stainless steel can with a top mount connector, has greater sensitivity and a high signal-to-noise ratio that better the competition by as much as 10dB. This superior optimization is accomplished by using Blatek's proprietary single or double matching layer-to-wedge combination. The standard frequency range of our fixed angle transducers is 2.25MHz to 10.0MHz. The angles, which can be shear or longitudinal, may be engineered for a precise BIP-to-nose length to meet your inspection criteria. BNC, UHF, or LEMO style connectors are available and come in a top mount location or right angle position.

## Acoustic Stacks

Blatek provides custom-designed acoustic stacks to place in your own housings. Whether it be a single, dual, or multi-element array, our engineers provide an acoustic "sandwich" comprised of piezo-composite and backing with face layers that match your requirements. Multi-element assemblies can include flex circuitry terminated to a connector of your choice.

## 1-3 Piezo-Composite

The heartbeat of any transducer comes from the piezo-electric crystal, this is what makes one transducer superior to another. At Blatek, we state that our products are, "Optimized. Always.", and pride ourselves on following this motto. We offer optimized piezo-composite that is engineered, developed, and manufactured in our facility by our Head of Engineering, Dr. Xuecang Geng. The 1-3 piezo-composite that we develop and use in Blatek products is also available for you to purchase and place in your own transducer case or fixture. Frequencies that we currently work with start at a low of 125KHz and climb to a high of 20MHz.



**Call us to discuss your needs at 814-231-2085 or visit us on the web at [www.Blatek.com](http://www.Blatek.com) for more information.**

  
**Blatek**  
ULTRASONIC TRANSDUCERS  
*High-performance. Start to Finish.*

**Our custom design services cover a wide variety of applications in the industrial environment. We work with you to achieve your unique product specifications and goals.**