

Mobile Speakers

Calibrated with "No Peak" Frequency response technology, providing minimal distorted tones at high volume

Mobile Speaker Design Capability

Mobile Speakers cutting edge voice-coil & diaphragm design result in:

- Minimal Total Harmonic Distortion (THD)
- Flat Frequency Response
- Perfect custom chamber and porting application
- Acoustic Amplification Capabilities

Round / Square Speakers

Generate an Even Audio Flex; a crisp, equalized audio signal as a result of symmetrical cone placement

Diligent Diaphragm Design

Our Round and Square Speakers are designed with a variety of custom-made and industry standard diaphragm materials, providing:

- Flat frequency responses
- Lush stereo-sounding output
- Energy efficient decibel-to-wattage ratio
- Easy mounting onto PCBA & pre-fabricated frames

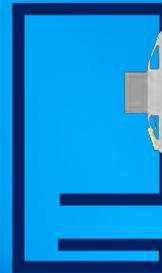
Chamber Assembly

Utilize innovative composite materials and innovative speaker layouts in all designs, providing:

- ✓ Unique Acoustic Propagation Methods
- ✓ Maximum Desired Audio Output
- ✓ Minimal Chamber & Speaker Footprint



Sealed Assembly
Flattest Response & Small Dimensional Footprint



Ported Assembly
Low-Frequency Boosting



Passive Radiator Assembly
Low-Frequency Boosting & Improved Dimensional Footprint



Aperiodic Assembly
Smallest Dimensional Footprint



Engineered for Everyone.

CUSTOM TO THE CORE

We incorporate industry leading materials and manufacturing techniques on all product lines, providing the perfect product to each customer. If a current product doesn't exactly fit your application, our engineering team will customize until it does.

Questions? Contact us!



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CHALLENGE ELECTRONICS
INDICATORS • SOUND TRANSDUCERS • MICROPHONES • SPEAKERS • ASSEMBLIES

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Indicators

Piezoelectric, Mechanical & Electromagnetic Easily Integrated, DC powered sounders with defined outputs and options for Multi-Alarm Interfaces (MAI)



Patented Product

Our Piezoelectric Indicators are optimized to use our patented PinPoint Technology, incorporating Sound Localization, the ability to locate a sound only through acoustic cues

(US Patent No. 10,522,008 B1)

Sound Localization "bends" audio signals in relation to:



Direction of Sound



Distance between Listener & Generated Sound



Human Aural and Acoustic Cues

Sound Transducers

Piezoelectric & Electromagnetic Low Cost and High Performance with no internal circuitry to play any AC-powered tone on the Frequency Response Curve



Power to the Product

Our Electromagnetic and Piezoelectric Transducers incorporate Surface Mount Technology (SMT), designed for automated assembly with high dB output

ECM & MEMS Microphones

Omnidirectional, Unidirectional & Noise Cancelling Precision-made components always innovated for new design applications



Saving Cents with Sensitivity

All ECM and MEMS Microphones are calibrated for optimal and efficient audio sensitivity using Open Circuit Output Voltage Testing

ABOUT US:

Challenge Electronics provides innovative audio components and assemblies. We offer design expertise to integrate high quality and cost competitive solutions with either an off the shelf or custom designed part. No two designs are the same so let Challenge Electronics help determine what sounds perfect to you.

Autonomous Assembly Advantage

Our enhanced automation within production and testing allows for minimal human interaction to provide:

- Cost Savings
- Reduced Lead Time
- Enhanced Reliability
- High Volume Output

BREAKTHROUGH BUSINESS

Our Sales Team is equipped with our interactive Demo Sample Kit, providing an immersive real-time audio experience of over 60 of our most popular products



Piezo-Element

Low Cost, Self-Integrated & Minimal Design-Space



Mounted Mylar Magic

Our Piezo Elements can be optimized with a Mounted Mylar Diaphragm, reaching over 110 dB in an IP Capable, small-footprint enclosure

Battery Assemblies

Custom assemblies with industry compliant layouts optimizing unique materials for long lasting operation



Custom Creation

We provide innovative manufacturing materials & custom designs resulting in a Rugged, Durable, and Lightweight solution for all battery configuration

BUILT TO OUTLAST

We strive to provide a rugged and long-lasting product. As a result, most of our audio component products are compliant with the International Standard EN 60529 Ingress Protection (IP), ensuring our products function in:



Severe Weather Conditions



Extreme Temperatures



Waterproof Applications

QUALITY IS KEY!

Our Quality Control and Product Assurance procedures ensure our components are designed in accordance with ISO 9001:2015/16001:2015 operational guidelines and all relevant environmental industry standards