

PerCom

TEARDROP MINIATURE INERTIAL TRANSDUCER

The Teardrop Miniature Inertial Transducer is a bone conduction device having applications as a receiver or vibrator in communications equipment, speech enhancement equipment, hearing aids, and headsets used in the treatment of auditory processing disorders.

Physically the device is teardrop shaped and made from high impact ABS plastic. It measures approximately 31mm x 24mm and is about 12mm thick. It has provision for fitting a headband (pictured) and can be supplied with or without a dome on the front face. The dome provides a single point of contact with the skull resulting in enhanced high frequency response.

Unlike many inertial receivers which exhibit a frequency response with a single peak around 1200Hz, the Miniature Inertial Transducer has a useful response from 400Hz to 14kHz. Reproduced sound is therefore clear with good reproduction of harmonic frequencies.

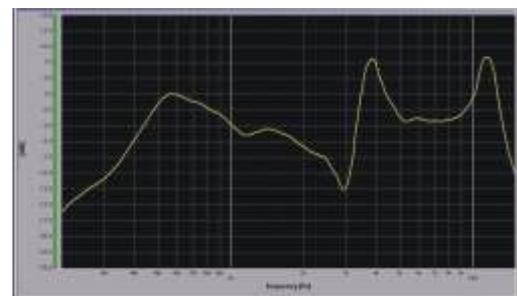
The transducer is worn on the head, most commonly on the mastoid bone behind the pinna of the ear. It transposes sound directly to the fluids in the cochlea, thus bypassing the eardrum and ossicular chain. It is therefore possible for a person with limited hearing due to punctured eardrum, frozen or broken malleus, incus, or stapes bones to hear using bone conduction.

In communications applications, use of the transducer allows a user to hear radio messages clearly without their ears being covered or blocked by earpieces or a headset.



Specifications

Impedance	68 or 500 ohms (nominal), other impedances to special order
Sensitivity, free air	100mW for 0.2G at 500 Hz
Perceived sensitivity*	25mW for 110dB SPL
Max input power (continuous)	250mW
Max input power (50% duty cycle)	500mW
Frequency response	400 - 14000 Hz, refer graph
Directivity pattern	Figure 8, front and back in phase
Weight	13 grams
Connector	IEC No. 5 polarised or non polarised
Colour	Black or fleshtone



Typical frequency response

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