

PerCom

TEARDROP MINIATURE INERTIAL TRANSDUCERS

The Miniature Inertial Transducer is a two way device having applications as both an inertial microphone and inertial receiver in communications equipment, speech enhancement equipment, and hearing aids.

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 to a headband (pictured) and can be supplied with an optional dome mounted on the front face to provide enhanced contact with the user's head.

Unlike many inertial microphones and receivers, which exhibit a frequency response with a single peak around 1200Hz, these devices' response is from 500Hz to 14000Hz, +/-4dB. Reproduced speech is therefore clear with good reproduction of harmonic frequencies.



Although it can be used as a microphone, the main application for the transducer is as a receiver in hearing assistance devices.

The transducer is worn on the head, most commonly on the mastoid bone behind the pinna of the ear. It transposes the 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.

Specifications

Impedance	68, 500, or 2000 ohms (nominal)
Sensitivity (receiver), free air	100mW for .2G at 500Hz
Perceived sensitivity* (receiver) free air	25mW for 110 dB SPL
Max input power (continuous)	250mW
Max input power (50% duty cycle)	500mW
Frequency response	400 - 14000Hz +/-4dB
Directivity pattern	Figure 8, front and back in phase
Weight	18 grams
Connector	IEC No. 5, polarised, non polarised, or centre tapped
Colour	Black or fleshtone

*When worn on mastoid bone with 170g pressure

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