

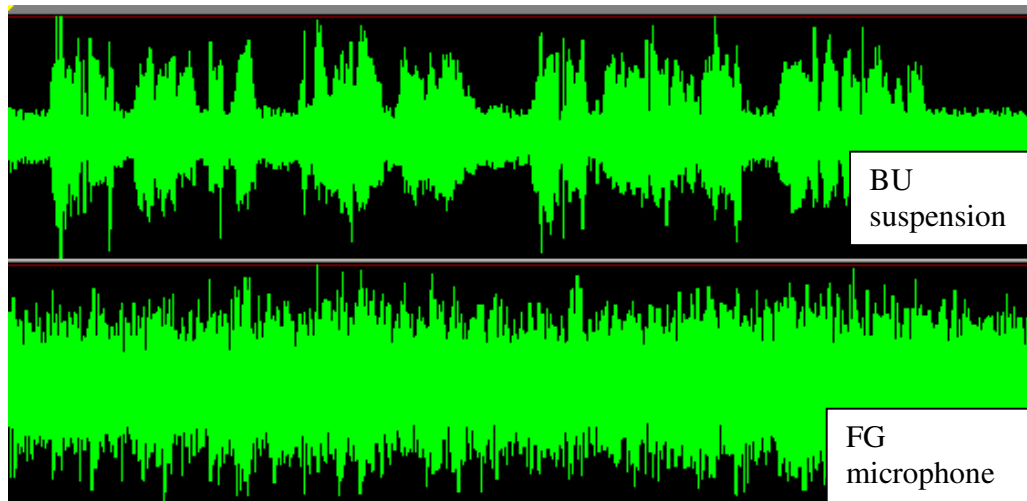
Application Note

BU for contact microphone

As a contact microphone, the BU may be worn on the throat, or touching a bony part of the head (top, temple, or mastoid bone). BU has been integrated into helmet designs for emergency services.

The benefits are:

- Voice intelligibility in a noisy environment
- Convenience of wearing (when integrated onto another worn article such as a helmet)
- Unobtrusive compared to a close talking boom microphone



Waveform illustration comparing BU to FG microphone

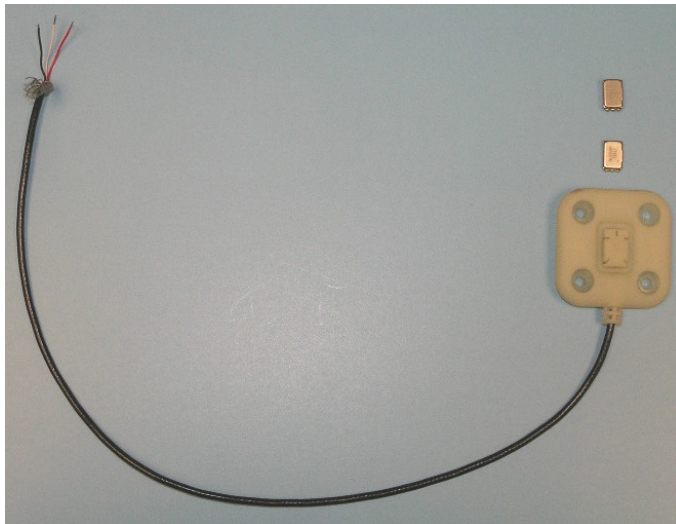
Suspension Mounting

The challenging aspect of using BU as a contact microphone is that performance depends on two conflicting design goals:

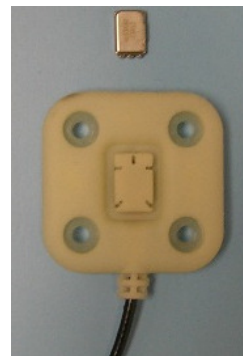
- Achieve adequate contact force to couple vibration
- Do not mass-load the element (this dampens high frequency vibrations)

Application Note

To simplify the mounting challenge and demonstrate the communication function of the BU, KA has designed a prototype suspension mounting. The package absorbs most of the contact force, and controls the contact pressure on the element. A flexible “trampoline” suspension allows the element to vibrate along with the contact point. The package includes holes for screw or rivet mounting to a helmet strap.



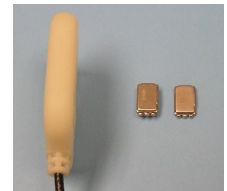
BU Suspension prototype package



**Contact side view
w/element**



Reverse view



**Side view
w/elements**