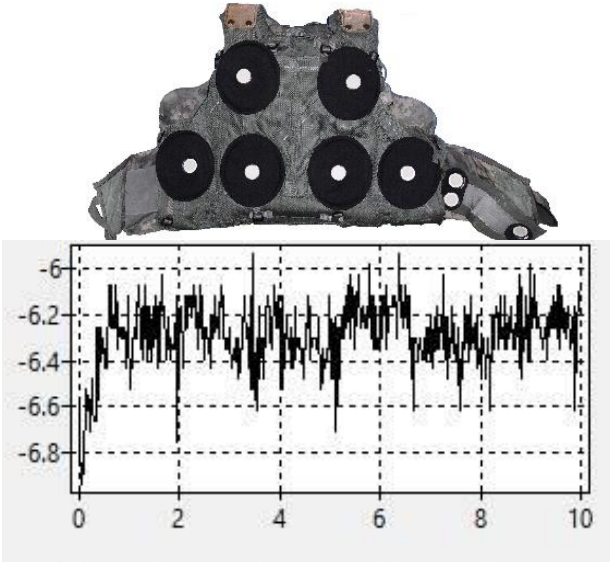
Q-Armor - Ballistic Impact Detection (BID) sensors

Blast and Concussive Force Detection with BID

QUASAR's Q-Armor are Ballistic Impact Detection (BID) sensors. Q-Armor is a low-power, piezoelectric-based sensor module designed to detect, localize, and characterize ballistic or blast impacts. Q-Armor can be integrated into helmets, body armor vests, or other form factors without adding operational burden. The system remains in an ultra-low-power state until an impact is detected, at which point it instantly wakes, records high-fidelity impact signatures, and transmits data for rapid assessment. This architecture supports both standalone use and seamless integration with QUASAR's physiological monitoring platforms.

Q-Armor in Use



Q-Armor Benefits

- **Ultra-low power** – Stays dormant until triggered by an impact, preserving energy for extended field use.
- **Flexible form factor** – Easily embeds into helmets, body armor vests, or other protective gear.
- **High-fidelity signatures** – Captures ballistic vs. blast impact waveforms with proven accuracy.
- **Operational awareness** – Provides actionable data for triage, post-incident analysis, and research on hydrostatic shock effects.

Your Applications

The Q-Armor has been developed and validated under DoD research funding and is ready for integration into multiple military platforms. Applications include:

- Body armor integration for dismounted soldiers
- Helmet-embedded impact detection for aviators or ground operators
- Blast and ballistic exposure research
- Automated alerting for combat casualty care and operator monitoring systems

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