

You Can't Fight What You Can't Hear

Soldier Mod takes a look at cutting edge comms technology from INVISIO that is giving the warfighter more of a fighting chance

INVISIO develops technologies and products for advanced audio communication. INVISIO invented the patented Bone Conduction Technology for best possible speech communication between teams in all sound environments.

During field operations among regular ground units and special forces, extreme noise is a given. A cacophony of high-decibel sound from aircraft, heavy vehicles, explosions, and gunfire, are all part of the operational environment. And, yet critical communications must cut through all of that clutter to mean the difference not only between mission success and failure, but often between life and death.

Beyond the demands of hearing through the din, particularly in the Special Ops arena, warfighters need to communicate sometimes in whispers, so as not to reveal their positions to the enemy. Add to that the very real need to protect soldiers hearing and prevent hearing loss, deafness, and other hearing disorders due to explosions and gunfire, and the special acoustical needs of the military are a tall order. A tall order that INVISIO has been filling since 1999.

INVISIO is the developer of patented Bone Conduction Technology. As the name implies, rather than using traditional sound wave technology, a small and comfortable in-ear microphone picks up vibrations from the user's own jawbone. The vibrations are converted into sound, delivering crystal clear communication under extreme conditions, even when whispering. Utilising bone conduction, exterior sounds that normally can interfere with traditional comm sets, are eliminated. Since there is not a typical external microphone, the headset does not transmit any external sound, not even wind, only the sound of the operator's voice.

The core of the product line for the military market is the INVISIO M3 Tactical Headset. It features the Bone Conduction Technology, and is compatible with most helmets, gas masks and circumaural headsets. It can also be custom fit to any helmet or headgear.

The M3 can be configured for covert or semi-covert operations, high noise environments and even has a submersible version.

For personal hearing protection, INVISIO offers the advanced X50, the world's first digital in-ear Bone Conduction headset control system with built-in hearing protection. The INVISIO X50 offers hearing protection with natural hear-thru and the ability to control two communication devices simultaneously. One of the more unique features of the X50, is its automatic sensing of the communication device, which makes it possible to swap devices on the go without having to lose communication or situational awareness. Additionally, the INVISIO X50 operates in both half duplex radio mode and full duplex intercom mode. Where that is not required, the INVISIO S10 is an in-ear hearing protection and communication system designed for use on a single radio.

Do not confuse bone conduction with noise cancellation, they are two very different technologies. In fact, INVISIO's Bone Conduction Technology, when combined with its hearing protection, allows the warfighter to communicate, be protected from dangerously loud noise, and yet still hear critical sounds around them, providing the advantage of safety and situational awareness. It is for that reason that the X50 was chosen by the US Army to be incorporated into its Tactical Communication and Protective System (TCAPS). ■



INVISIO X50. Photo: © INVISIO