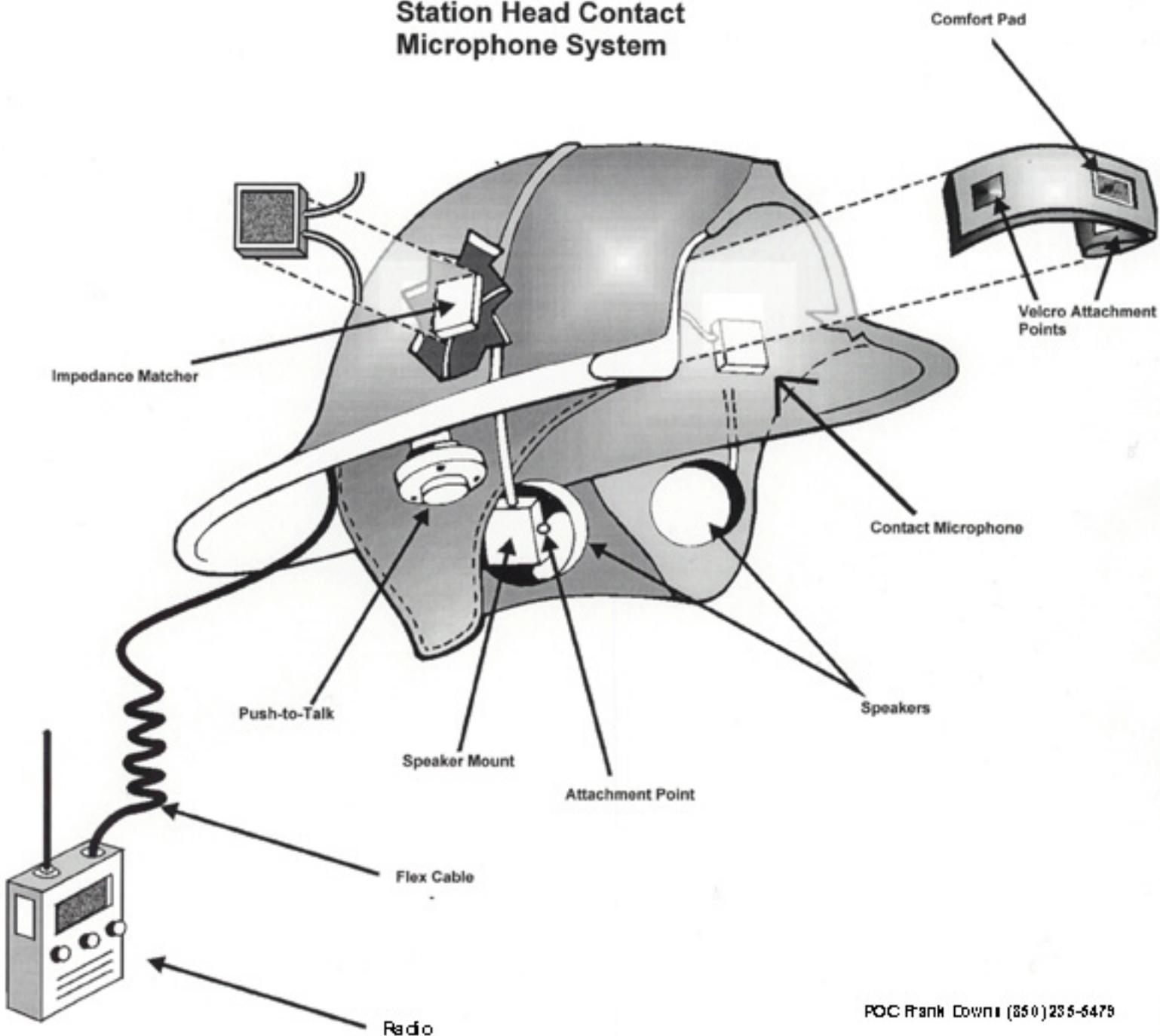


Station Head Contact Microphone System



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A forehead mounted microphone, originally developed for underwater use by the Navy SEALs, is being adapted for hands-free communication for firefighters. Another technology, designed to move NASA mirror mounts in space, will significantly reduce the cost of the system.

The new communications device contains two thin, polymer films that are sandwiched to a firm, flat, non-vibrating substrate. When this is pressed to the forehead in the brim of a helmet or hat, skull vibrations caused by speaking move the active element of the "sandwich," generating an electric current. This current is transmitted to speakers which convert it into sound.

The switch necessary to activate the microphone can be integrated into a firefighter's turn-out gear, along with the power source for the speaker. Because skull vibrations create the sound, background noise is greatly minimized allowing for clearer communications.