Human Factors

research and technology division

Spatial Auditory Displays for Speech Communications

Objective

To enhance the intelligibility of multiple communication channels normally heard with one-ear headsets and reduce operator fatigue.

Approach

Develop inexpensive audio technology using spatial auditory display techniques and two-channel headsets. Each communication channel is processed to sound at a different location, enabling our everyday binaural intelligibility advantage. The technology is designed to be easily retrofitted into existing systems and can be customized for individual listeners via EPROM cards.

Impact

Allows up to a 6 dB improvement in speech intelligibility compared to one-ear headsets. Listener fatigue is reduced, thereby enhancing safety. Operation of individual volume control is minimized for hands-free operation. U.S. patent has been granted, allowing for technology transfer.

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