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(57) Abstract :

The invention relates to a noise-cancelling input device (100) featuring a dual-microphone array (101, 102), digital signal processor (103), AI module (104), acoustic shell (105), adaptive gain controller (107), and real-time interface (106). It enables live voice isolation by canceling ambient sounds in real time using hybrid signal processing and machine learning. Designed for professional and consumer applications, the device offers low latency, high accuracy, and cross-platform compatibility in portable form.

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