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(54) **Title:** SYSTEM FOR AUDIO ANALYSIS AND PERCEPTION ENHANCEMENT

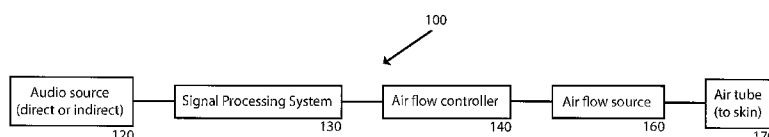


Figure 1

(57) **Abstract:** An audio perception system is described, comprising a capture module configured to capture acoustic speech signal information; a feature extraction module configured to extract features that identify a candidate unvoiced portion in an acoustic signal; a classification module configured to identify if the acoustic signal is or contains an unvoiced portion based on the extracted features; and a control module configured to generate a control signal to a sensory stimulation actuator for generating an aero- tactile stimulation to be delivered to a listener, the control signal based at least in part on a signal representing the identified unvoiced portion. Related methods are also described.