

HANDHELD ELECTRONIC DEVICE HAVING OFFSET SOUND OPENINGS

ABSTRACT

5 [0045] An improved handheld electronic device has a case with an elongated cavity formed therein. An audio transducer is in fluid communication with the cavity, and a number of sound openings are formed in the case and are in fluid communication with the cavity and with the atmosphere surrounding the handheld electronic device. The
10 sound openings are generally spaced from a central region of the audio transducer to space the sound openings generally farther from an edge of the case than the audio transducer. The cavity is configured to form a Helmholtz resonator that enables the communication of sound through the cavity between the audio transducer and the sound openings. The spacing of the sound openings from an edge of a case helps a
15 user to form a seal between the case and the user's ear to enable sound from the sound openings to enter the ear and to be perceived by the user.

Figure 3