L.S. RESEARCH Inc.
HIGH TECHNOLOGY ELECTRONIC CONSULTANTS

March 9, 2001

Arial Base Station Theory of Operation

The Arial Earset is a direct sequence spread spectrum (DSSS) wireless audio device based on the Conexant Hummingbird chipset. A time division duplex (TDD) scheme is used to give full duplex audio operation while only occupying a single RF channel. It can operate on any one of 20 preassigned channels in the 902 to 928 MHz ISM band. The user has no control over channel assignment. When a link is established the chipset monitors signal quality and dynamically changes channels to avoid interference. Conducted output power is a maximum of +21dBm.
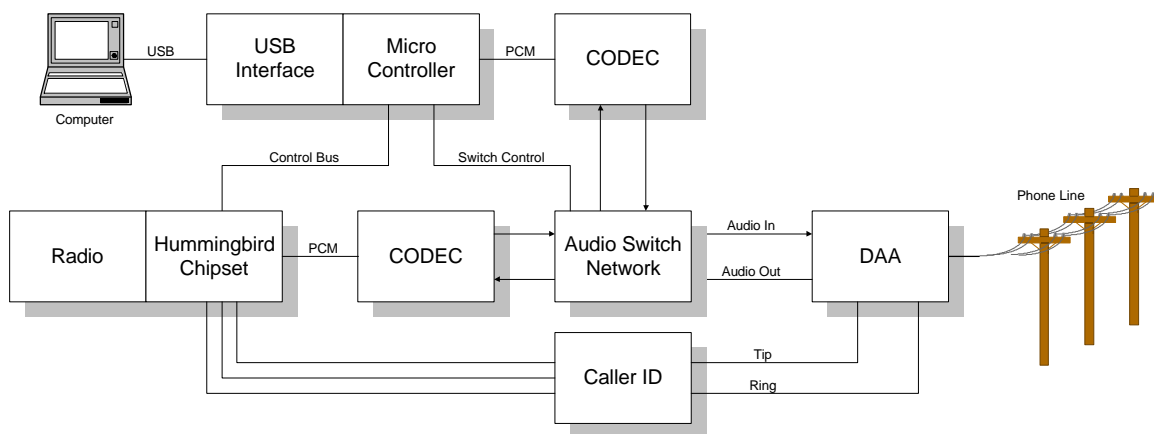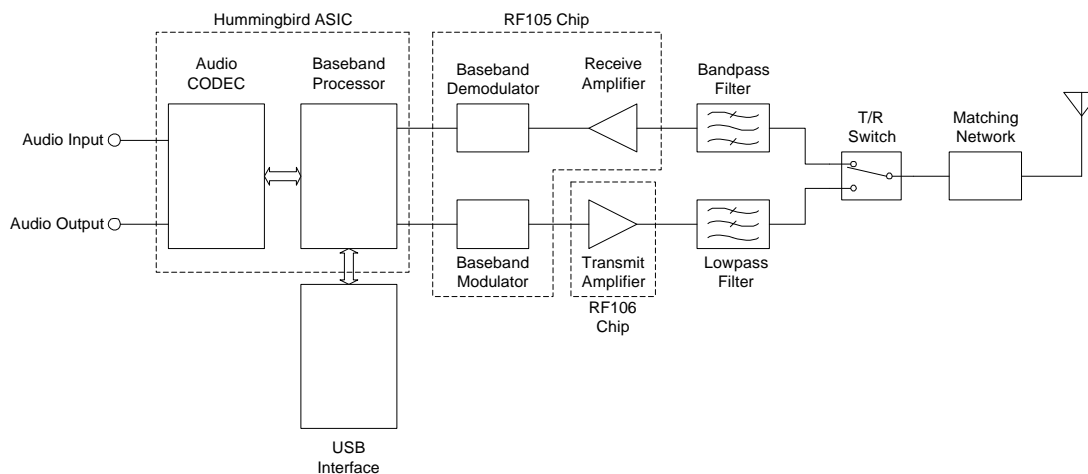

Figure 1. System block diagram

Figure 2. Radio block diagram