

APPLICATIONS BRIEF #21A — SINGLE TRANSISTOR 3V SPEAKER DRIVER FOR ISD4000 SERIES DEVICES

Unlike other single chip devices from ISD, the ISD4000 series does not have a speaker driver on-chip. This application brief shows a circuit diagram that will be acceptable for applications that may not have a loud speaker driver. Applications such as memo recorders or toys are some examples.

The circuit in Fig 1 has a gain of almost 2:1. The single transistor 2N2222 along with some capacitors and resistors make a very cost effective 3-volt speaker driver.

The AUDOUT pin of the ISD4000 is designed to drive up to 5KW load. The AUDOUT pin is tri-state during Record and it goes to 1.2v during Playback. The R2 resistor turns off the Q1 transistor during Record or standby, thus there is no power dissipation during Record operation.

The R3 and R1 resistors can be varied to control the audio level for a specific speaker. The R1 resistor sets the biasing for the Q1 transistor. The speaker impedance and the R3 resistor set the gain. It is important that the R3 resistor not to go to zero ohms. That condition may damage the transistor.

Figure 23: .Circuit Example

