APPLICATION BRIEF 7 — AUTOMATIC POWER-UP LOOPING

There is one circuit function the ISD1000A can do that the ISD1100, ISD1200, and the ISD1400 devices cannot, which is power-up in looping playback. The ISD1100, ISD1200, and the ISD1400 series all power-up with the input pins "locked out" and remain in that state until an internal power up delay time is satisfied. These new products include a playback looping Operational Mode. Unfortunately, the on-chip built-in power up delay ends the ability to automatically power up with the looping function enabled.

The circuit in Figure 10 shows an alternative way to accomplish this function. C1 rapidly pulls the $\overline{\text{PLAYE}}$ pin to V_{CC} when voltage is applied to the circuit. After the power up delay time is satisfied, the voltage decay caused by R1 allows the $\overline{\text{PLAYE}}$ to drop below its "ON" threshold and the device begins playback. Since the device is in Operational Mode (A6 and A7 are HIGH), and A3 is HIGH, playback loops on the first message contained in its memory. Playback looping will continue until power is removed from the device.

The designer should assume power up delay time of at least 25 ms before the $\overline{\text{PLAYE}}$ pin voltage level falls below minimum V_{IH} to ensure the circuit will correctly be put into looping mode.
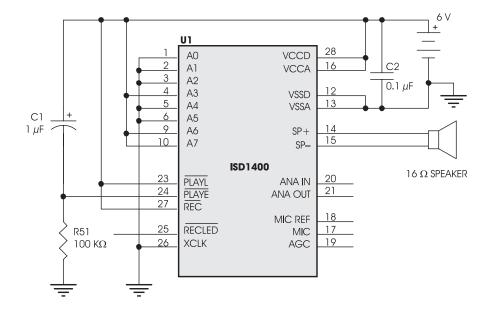
Figure 10: Automatic Power-up Looping