Errata and Cautions

Injecting a system clock without a crystal

Although not officially recommended, the DRE is able to operate without a crystal by being fed a single ended external clock of the desired frequency. Due to the structure of the internal crystal oscillator circuit and inverter, it is best to feed the external clock into the Xtal2 pin (pin 4) rather than the Xtal1 pin (pin 3). The Xtal1 pin may be left floating, but is best tied to ground. The drive strength of the external signal should be strong enough to overcome the 0.2mA drive strength of the internal inverter.

If the external clock is fed into the Xtal1 pin, the product may become susceptible to temperature variations in the following manner: when a sufficiently high temperature is reached, the waveform at the Xtal2 pin will degrade, the three clock outputs (WordClk, BitClk, SysClk) will become sporadic or stop altogether, and the audio data at DigOut will slowly fade to noise or to silence. If this occurs in your product, switching the external clock feed to Xtal2 will solve the problem.

The Xtal1 and Xtal2 pins were previously named XtalIn and XtalOut respectively. They have been renamed to eliminate confusion.

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