
Application Note: AN00162

Using the I2S library

I²S interfaces are key to many audio systems. XMOS technology is perfectly suited to these applications - supporting a wide variety of standard interfaces and also a large range of DSP functions.

This application note demonstrates the use of the XMOS I²S library to create a digital audio loopback on an XMOS multicore microcontroller.

The code used in the application note configures the audio codecs to simultaneously send and receive audio samples. It then uses the I²S library to loopback all 8 channels.

Required tools and libraries

- xTIMEcomposer Tools - Version 14.0.0
- XMOS I²S/TDM library - Version 2.1.0
- XMOS GPIO library - Version 1.0.0
- XMOS I²C library - Version 3.1.0

Required hardware

The example code provided with the application has been implemented and tested on the xCORE-200 Multichannel Audio Platform.

Prerequisites

- This document assumes familiarity with I²S interfaces, the XMOS xCORE architecture, the XMOS tool chain and the xC language. Documentation related to these aspects which are not specific to this application note are linked to in the references appendix.
- For a description of XMOS related terms found in this document please see the XMOS Glossary¹.

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¹<http://www.xmos.com/published/glossary>