# Pmodl$^2$s Reference Manual

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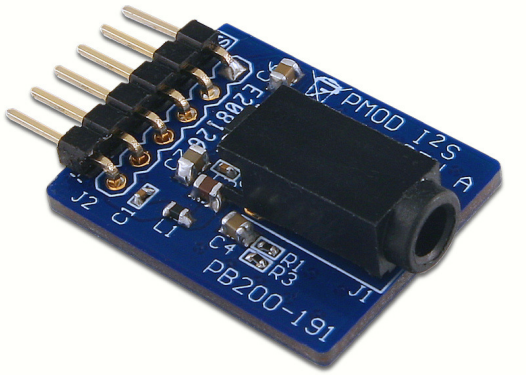
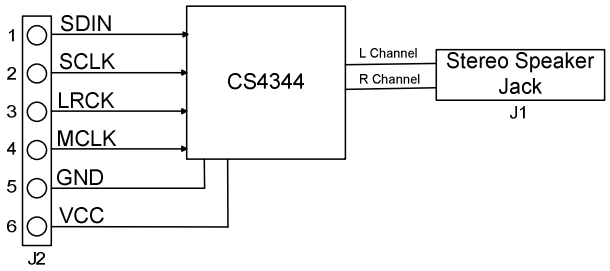
## Overview

The Digilent Pmodl$^2$S is a peripheral module that provides a D/A converter allowing for high quality stereo sound from a digital source. This module provides an easy interface for converting digital samples into an analog signal with a wide arrange of sample rates and a large dynamic range.

Features include:

- Cirrus Logic CS4344 Stereo D/A converter
- 1/8-inch stereo headphone jack
- 6-pin header Pmod$^{TM}$ interface connector
- 3V-5V operating voltage
- Small form factor (.8" x 1.15")




***Block Diagram***

## Functional Description

The Digilent Pmodl$^2$S contains a Cirrus Logic CS4344 stereo D/A converter that supports all major audio data interface formats and allows 16 to 24 bits of audio data at standard audio sample rates, including 48, 96 and 192 Khz.

### Interface

The Pmodl$^2$S runs off a master clock (MCLK) input that can be set from 500khz to 50Mhz. Audio data is supplied to the serial data input (SDIN) where it is clocked in by an optional serial clock (SCLK). If the SCLK is left de-asserted, the CS4344 will automatically set the sample rate based on the MCLK and LRCK. Either way the LRCK will control which channel is currently being read by the CS4344.

### Power Supply

The Pmodl$^2$S is designed to work with either Digilent programmable logic or Digilent embedded control system boards that have 6 or 12-pin header connectors into which the Pmodl$^2$S will connect directly.

The Pmodl$^2$S requires a 3V-5V supply voltage. This power supply voltage (3.3V) is available on all Digilent system boards and is provided as part of the Pmod interface. Digilent system boards that provide Pmod interface connectors allow jumper selection of the power supply voltage being provided to the Pmod. Ensure that the system board is jumpered to provide 3.3V to the module before applying power to the board.

For more information about the operational features and timing diagrams of the Cirrus CS4344 please refer to the CS4344 Data Sheet