

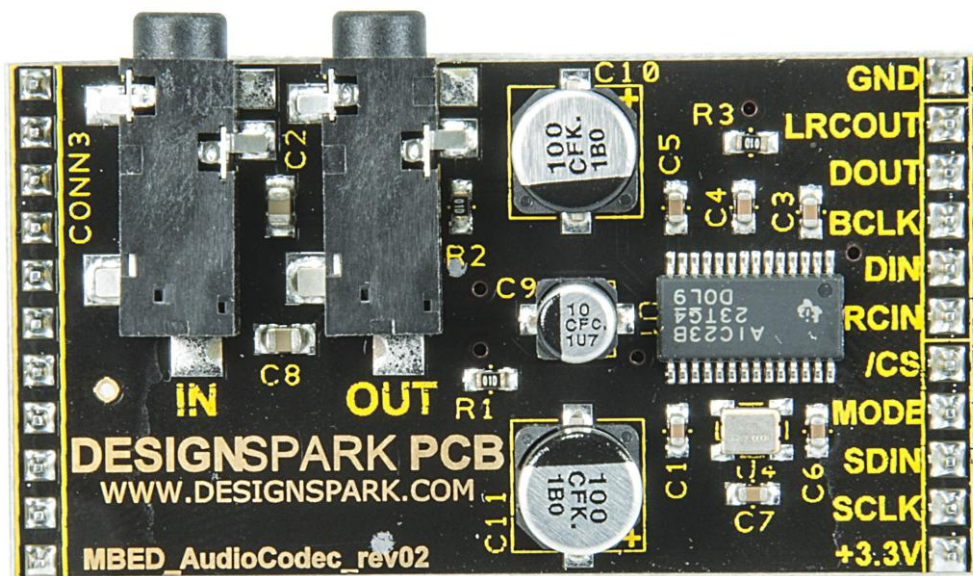
AudioCODEC Module

RS Product Code: 754-1974



Introduction

The Synergy AudioCODEC module converts stereo analogue audio signals to and from a single digital signal utilizing the I²S protocol. It is designed to work with an mbed LPC1768 microcontroller module (RS Product Code: 703-9238). The AudioCODEC module is packaged in a convenient form factor for rapid prototyping using the popular TLV320AIC23B audio CODEC chip from Texas Instruments. Using industry standard I²C/SPI for control and I²S for data transfer, the TLV320AIC23B is capable of both recording and playing back audio at a range of resolutions and sample rates. Although designed for use with the Synergy AnimatronicLab board (RS Product Code: 754-1965), it will also plug into a standard breadboard and work with any microcontroller supporting I²S audio and I²C or SPI serial communication.



Features

- 90dB SNR Multibit Sigma-Delta ADC
- 100dB SNR Multibit Sigma-Delta DAC
- 8kHz to 96kHz sampling frequency support
- I²C & SPI pin-selectable serial port for control: I²C used with AnimatronicLab board
- Standard I²S, MSB or LSB justified data transfers

- 16/20/24/32-bit word lengths
- 3.5mm stereo line input socket
- Integrated programmable gain amplifier
- 3.5mm stereo line output socket
- Analogue stereo mixer for DAC and analogue bypass
- Volume control with mute on input and output
- Power supply: +3.3Vdc
- Max current consumption: 26mA
- Dimensions: 43 x 28mm

Getting Started with the AudioCODEC module on mbed

<http://mbed.org/cookbook/RS-Audio-Codec>

I2S Slave library for mbed module

<http://mbed.org/cookbook/I2S-Slave-Library>

AudioCODEC Module & mbed Pin Assignments

AuC Pin	Function	mbed Pin
+3.3V	AuC power supply in	40
SCLK	I ² C serial clock	10
SDIN	I ² C serial data	9
MODE	I ² C/SPI select, I ² C = 0, SPI = 1	Gnd
/CS	8-bit I ² C address, 34h = 0, 36h = 1	Gnd
LRCIN	Playback L/R word select	6
DIN	Playback I ² S data in	5
BCLK	I ² S bit clock	7
DOUT	Record I ² S data out	8
LRCOUT	Record L/R word select	29
GND	Gnd	Gnd