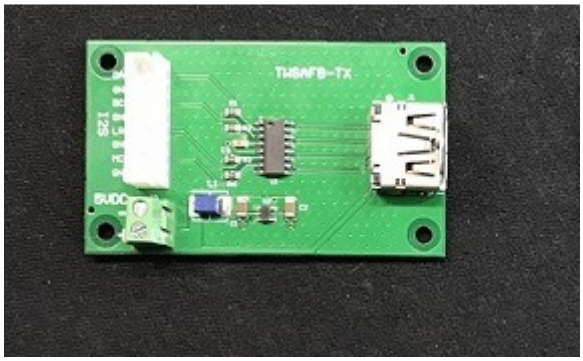
TWSAFB-TX LVDS transmitter I2S over HDMI



The board transmits I2S signals over HDMI cable. The purpose of this board is to keep the I2S source far from the DAC. The I2S input is single-ended CMOS, the I2S output is LVDS.

Features:

Input: I2S CMOS single-ended (MCLK, BCK, LRCK, DATA)

Output: I2S LVDS (MCLK, BCK, LRCK, DATA)

Power supply: 5 Vdc (3V3 low noise regulator on board)

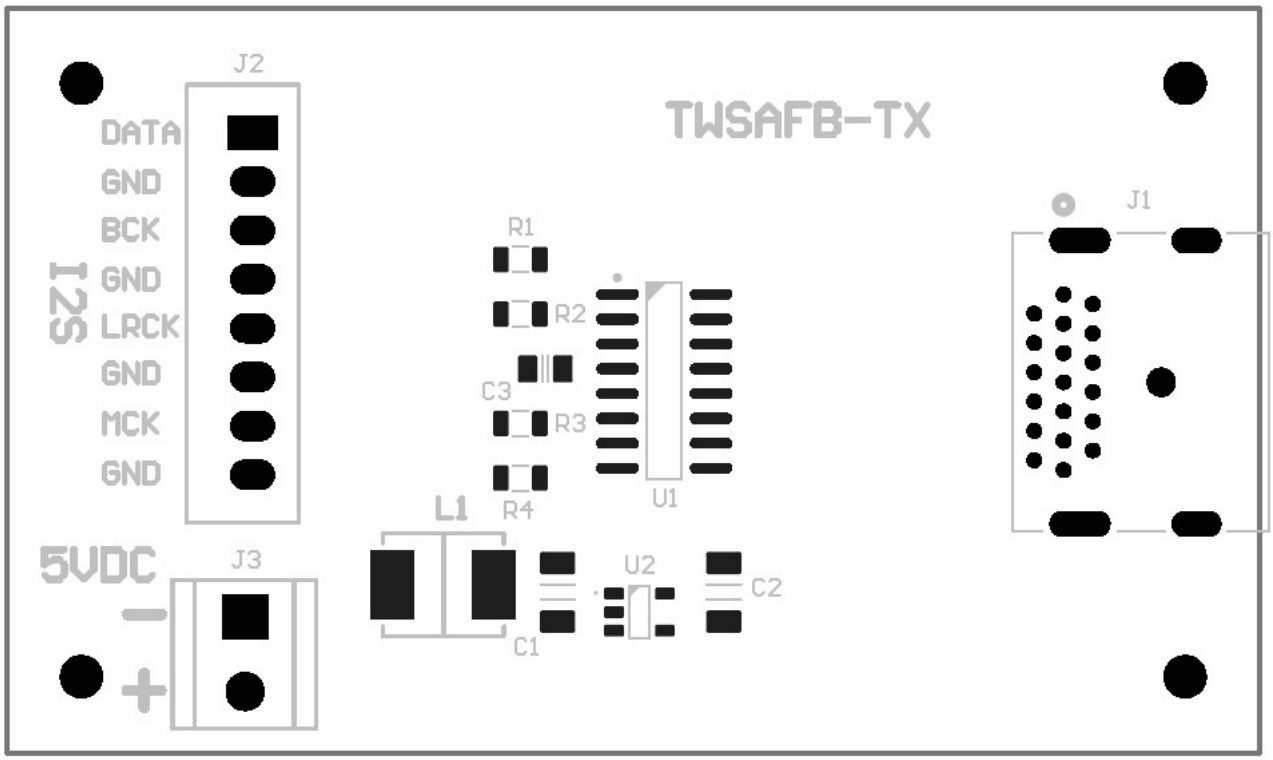
Add-on: 5V output to supply receiver board

Board size: 64mm x 38mm

Board options: finished and semi-finished

Note: TWSAFB-RPI provides 5V power supply to this board

PCB layout



Connectors

J3 : 5V DC power supply (the lower pin is +5V, the upper pin is ground). The TWSAFB-RPI provides 5V power supply for this board. The circuit is not protected against power supply polarity inversion.

J2: I2S input to connect a I2S source. The pins from top to bottom (pin 1 to pin 8) are as follows: DATA, GND, BCK, GND, LRCK, GND, MCK, GND. JST cable provided with finished board option.

J1: I2S LVDS output over HDMI connector (PS-Audio compliant). HDMI cable not provided.

There are 2 available options for this board:

- finished boards (fully assembled and tested)

- semi-finished boards (users have to solder a few SMD and TH parts)

The BOM for semi-finished board is available at post #126 on the diyaudio.com thread: The Well synchronized asynchronous FIFO buffer - Slaved I2S re-clocker.

Notes on semi-finished board

The semi-finished board option needs some parts to be soldered (most are through hole, only one SMD part).

There are two things to pay the maximum attention:

- be careful installing polarized components and connectors, the component orientation is clearly visible on the PCB overlay