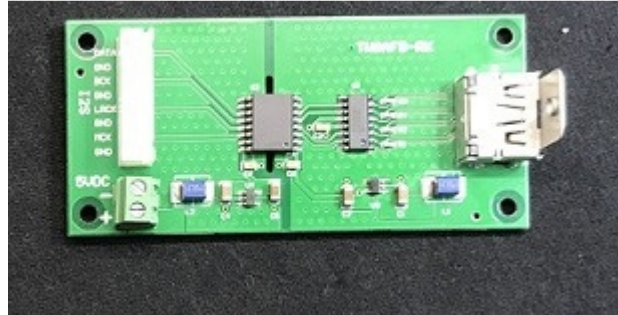


# TWSAFB-TX LVDS receiver I2S over HDMI



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

Features:

**Input:** I2S LVDS (MCLK, BCK, LRCK, DATA)

**Output:** Galvanic isolated I2S CMOS single-ended (MCLK, BCK, LRCK, DATA)

**Power supply (non isolated section):** 5V DC (3V3 low noise regulator on board). The transmitter board TWSAFB-TX provides the power supply to this board (non isolated section).

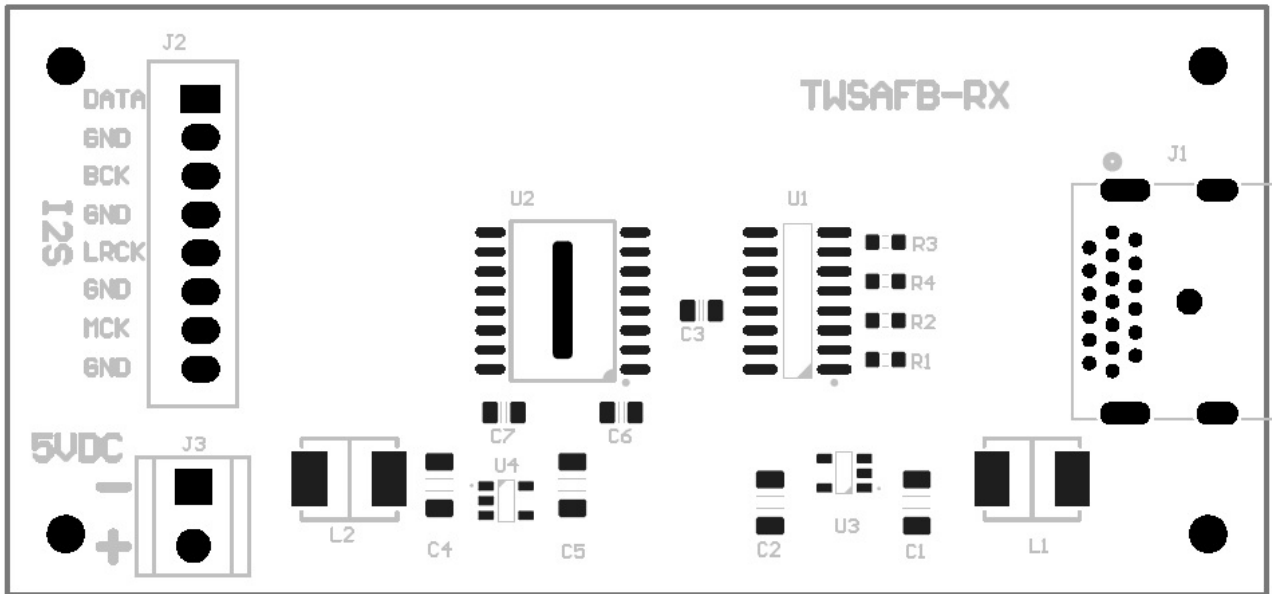
**Power supply (isolated section):** 5V DC (3V3 low noise regulator on board). The FIFO Lite board TWSAFB-LT provides the power supply to this board (isolated section).

**Board size:** 82mm x 38mm

**Board options:** finished and semi-finished

**Note:** TWSAFB-LT FIFO buffer 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-LT provides 5V power supply for this board. The circuit is not protected against power supply polarity inversion.

**J2**: I2S output to connect a DAC or FIFO buffer. 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 input over HDMI connector (PS-Audio compliant). HDMI cable not provided. The transmitter TWSAFB-RX provides 5V DC power supply for the non isolated section of this board by the HDMI cable.

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 #127 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