

AP PSIA Setup for optimal operation with the LnK SLIMbus Audio Bridge



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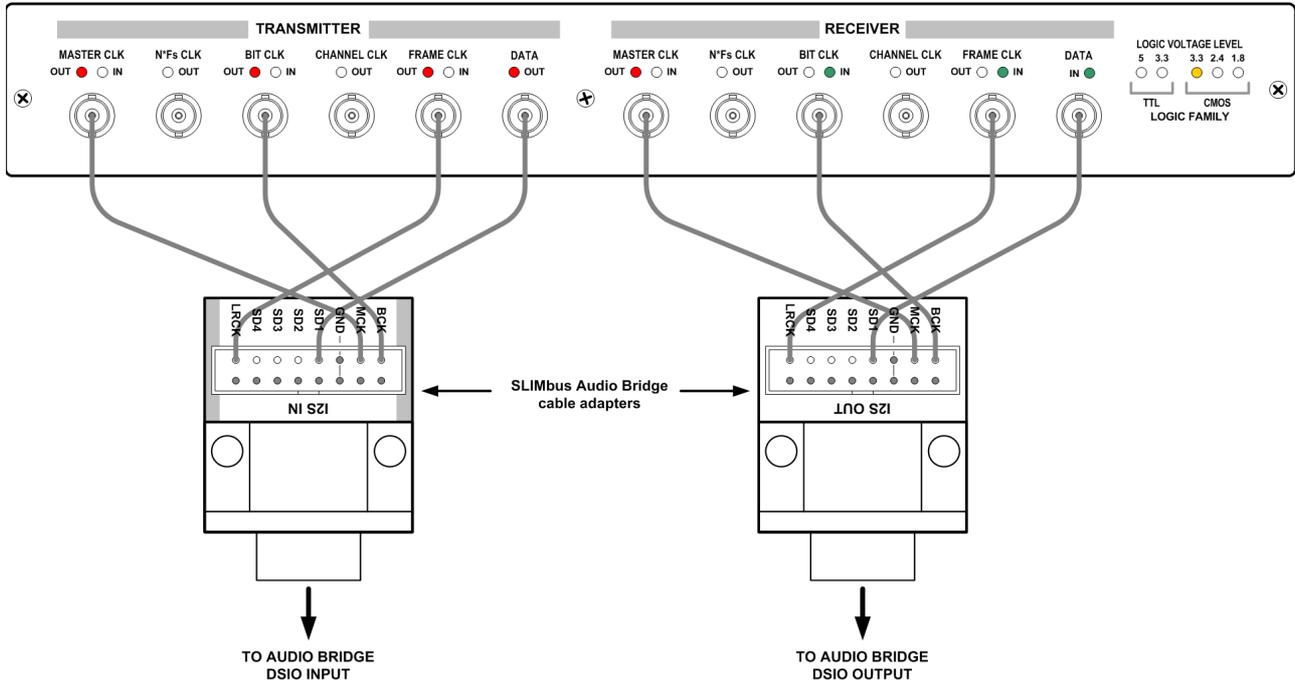
1. Purpose of the document

This document will guide the user through the setup of the Audio Precision PSIA transmitter and receiver.

A basic knowledge of the operation of the SLIMbus Audio Bridge and the PSIA is required to follow the various explanations given in this document. Refer to the SLIMbus Audio Bridge HW and SW user manuals, the APWIN (or AP2700) user manual and the PSIA datasheet for more information about these equipments.

2. Typical Setup

The LnK SLIMbus Bridge is used to inject or receive digital audio on SLIMbus. It allows the PSIA 2722 to directly feed a digital signal to a SLIMbus audio device and / or to receive and analyze a digital audio signal coming from a SLIMbus audio device.

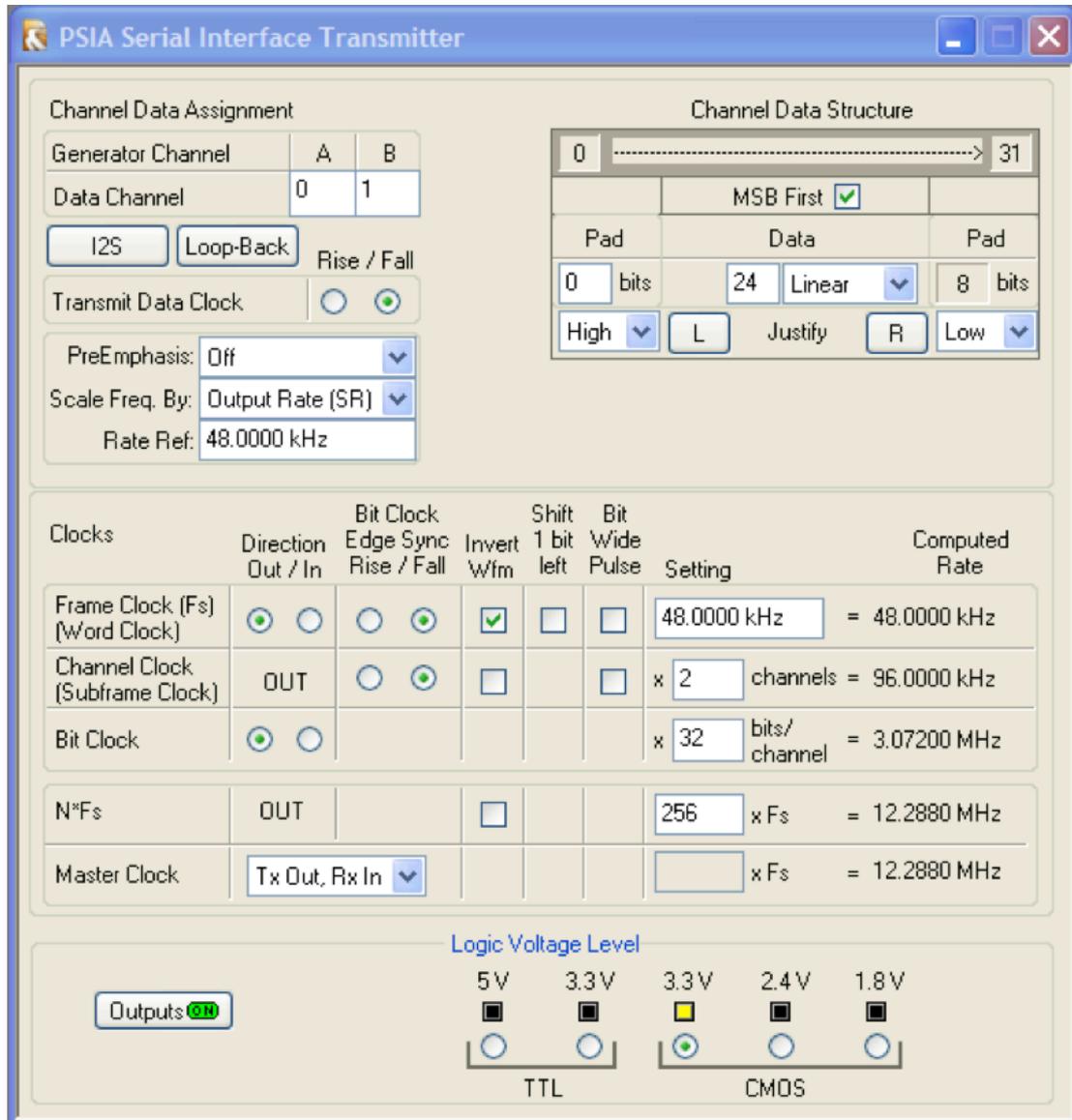


The PSIA Transmitter is connected to the bridge DSIO (I2S) input. The PSIA Receiver is connected to the bridge DSIO (I2S) output.

PSIA Signal	Audio Bridge DSIO signal
MASTER CLK (optional)	MCK
BIT CLK	BCK
FRAME CLK	LRCK
DATA	SD1 (SD2 to SD4 also usable)

3. PSIA Transmitter Setup

The DSIO (I2S) input of the LnK SLIMbus Audio Bridge is **slave**. This means that it must receive the bit clock and the word clock from the PSIA. Therefore, the Frame and Bit clock direction shall be set to “**Out**”.



The serial data format of the bridge is Left Justified. Therefore, there is no bit shift like in the PHILIPS I2S format. The channel data structure shall be set to “**MSB first**”. The sample length can take any value till 24 bits. The bridge inputs or outputs frames of 64 bits (32 bits per channel).

The Bit Clock Edge Sync shall be set to “**Fall**”.
The Word Frame (Wfm) shall be **inverted**.

The “**Logic Voltage Level**” (signaling voltage) must be set to “**CMOS 3.3V**”.

Make sure that the PSIA transmitter outputs are “**ON**”.

5. Bridge Clock Input Selection

The SLIMbus Audio Bridge clock source selector can be set by using the bridge configuration menu itself or via the PC control software.

Bridge configuration menu:

- Press the rotary knob.
- Rotate the knob to reach “**Select MCLKI src**” or “**Select MCLKO src**”.

```

Exit
>Select MCLKI src <
  Select MCLKO src
  Set DSI IN ASRC
  Set S/PDIF IN ASRC
  Select DAC stream
  Select Framer Clk
  Set Framer BootRF
  Set Framer BootMod
  Set Comp. Address
  Set SLIMbus Level
  Set Bus Hold
Exit

```

- Press the knob to access the possible values for the parameter and select “**DSI IN Master Clk**” by rotating the knob.

```

MCLKI Clock Source
  PLL (SLIMbus ref)
>DSI IN Master Clk <
  External Clk (SMA)

```

- Press the knob to validate the new setting.

The bridge will now take its input (output) audio master clock from the DSIO interface.

Bridge Control Panel:

In the software, got to the menu “**Tools**” and select the submenu “**Bridge Control Panel**”. Select the “**I2S IN Master clock**” (or “**I2S OUT Master Clock**”) in the “MCLKx Input Configuration box”.

