

audiopraise

VANITY¹⁰³ HD

AES/EBU output modification

1. Document purpose

This document provides instructions how to modify output driver circuit of the Vanity 103HD module to increase the output level and match the output impedance to 110R in accordance with AES/EBU standard. This modification might be needed for interfacing the Vanity103HD board with AES/EBU inputs using long cables.

There are 16 resistors changed in the output driver and one wire fitted. The wire connects center pin of the upper unused row of RCA connectors to system ground allowing to output all three signals (hot, cold, GND) for balanced AES/EBU connection.

2. Used equipment

1. soldering iron
2. pincers
3. splitters
4. knife
5. PCB cleaner

3. Used material

- | | |
|---------------------------|-------|
| 1. resistor 110R (0603) | - 4x |
| 2. resistor 270R (0603) | - 4x |
| 3. resistor 330R (0603) | - 8x |
| 4. isolated wire 24÷28AVG | - 7cm |

4. Procedure

Step 1: Wire soldering

Solder the isolated wire to the pins as shown in Figure 1. This connects upper RCAs inner contacts to power GND.

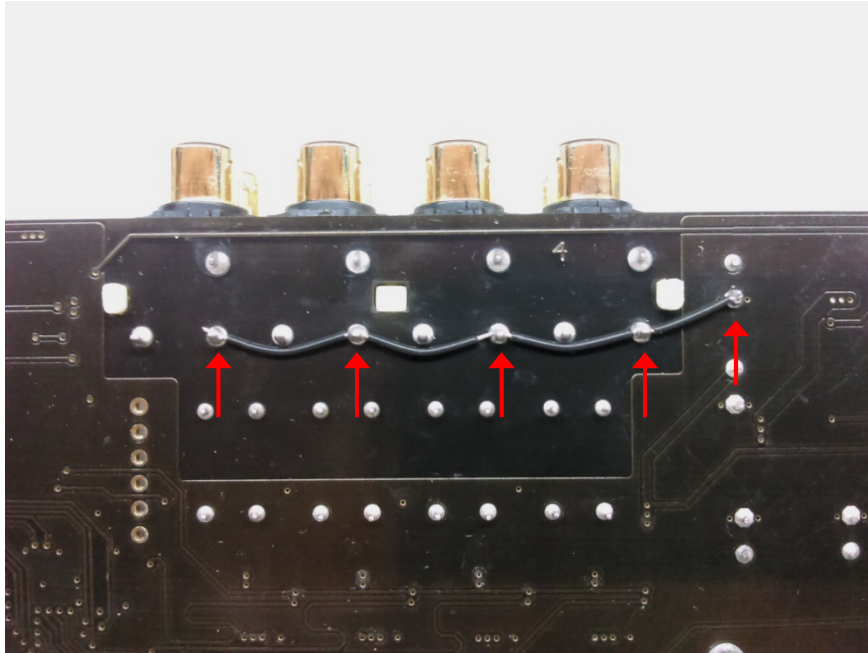


Figure 1: module bottom side

Step 2: Resistor replacement

Remove the resistors R1 ÷ R16 highlighted in Figure 2. Solder the new ones instead according to the description bellow. The resistors define the output drive and output impedance. The new output drive is 2Vpp unterminated and 1Vpp when terminated with 110R.

R1 ÷ R4 – 270R

R5 ÷ R8 – 110R

R9 ÷ R16 – 330R

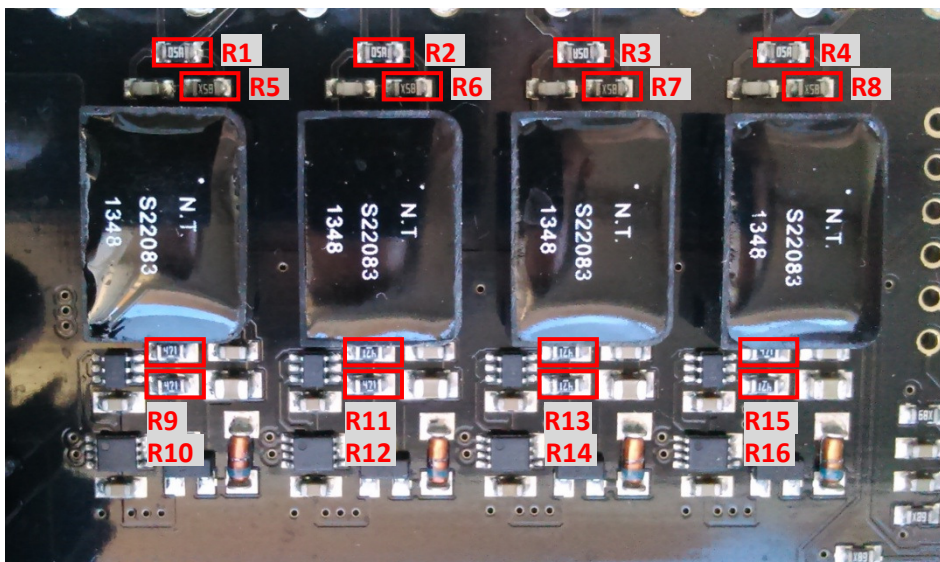


Figure 2: module top side

Check visually the quality of soldering and that there are no shorts. Clean all flux residues from the PCB surface.

Step 3: Testing

Install modified Vanity 103HD module into Oppo BDP-103 player and test the functionality of all bottom RCA outputs. With scope check the signal waveforms at each output when terminated with 110R. The signal voltage amplitude should be about 1V as shown in Figure 3.

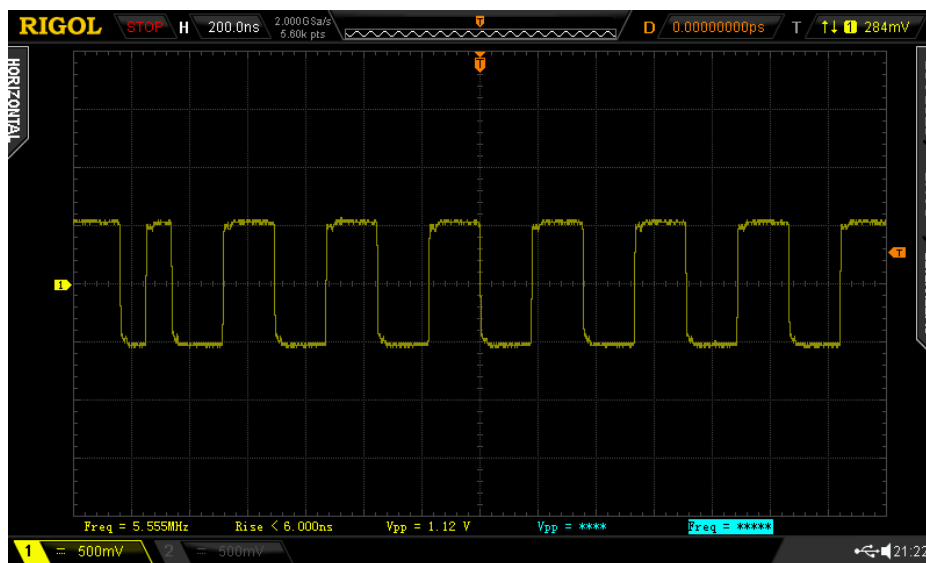


Figure 3: Output signal waveform

5. External connection

For basic output connection please follow the schematic diagram shown in Figure 4. Sleeve of upper RCA (white) connectors must be left unconnected.

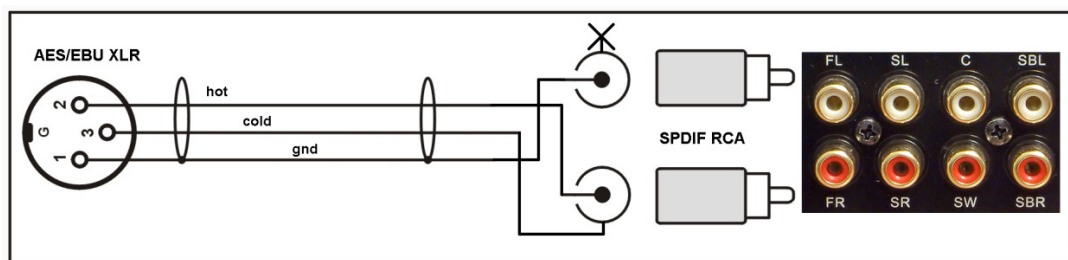


Figure 4: External connection