SONOSAX
Audio equipment manufacturer

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OPTIMIZATION OF WIRING AND CONNECTIONS AROUND THE SONOSAX SX-R4+

The SONOSAX SX-R4 + features a very wide audio bandwidth and an extremely low noise floor; therefore it does not hide or "mask" any parasitic noise that may possibly be induced when connecting peripheral equipments, even if these parasitic noises are below the noise floor of the SX-R4 +.

If these noises occur, they can be heard on the headphone output of the SX-R4 + but by no means they are recorded in the audio files of the recorder.

This document explains how to optimize your wirings and connections to avoid these noises.

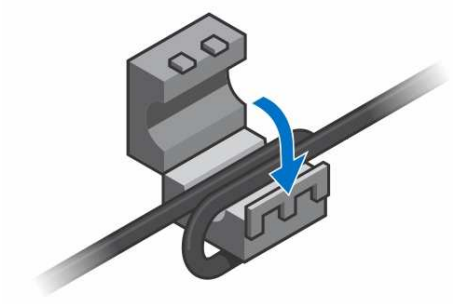
1. **Mini XLR connection** *(Input 5 & 6 and Line Out)*
   Never bridge the cable shielding (pin 1 = Gnd) with the housing of the TA3 connector.

2. **AES I/O**
   If an analogue connection already exists between the SX-R4 + and a peripheral equipment and a digital connection must also be established between these two devices, then the shielding of the AES cable must not be connected to pin 1 of the TA3 connector "AES I/O" on the SX-R4 + side. *(Balanced & Floating)*

3. **Power cable DC IN SX-R4+**
   Add a ferrite 320 Ω at 100 MHz (SX811327) to the power cable, as close as possible to the SX-R4+.
   In case this ferrite does not cancel all the parasitic noises, make a loop with the cable around the ferrite as illustrated in the figure below.
   For larger cable diameter use a 220 Ω at 100 MHz (SX811229)

4. **Headphone cable**
   If parasitic noises still persist, add a 240 Ω* or 320 Ω** @ 100MHz ferrite to the Phone cable as close as possible to the SX-R4+. If this ferrite does not cancel all the parasitic noises, make a loop with the cable around the ferrite as illustrated in the figure below.

5. **Power cable DC OUT SX-R4+ to DC IN SX-AD8+**
   Always add a ferrite 320 Ω at 100 MHz, SX811327 (DIGIKEY 240-2075) to the power cable



NOTE: As a general rule, the ferrites should be placed as close as possible to the disturbing element.

SX811229 (DIGIKEY 240-2124)
220 @ 100MHz
Cable Ø 9mm max

* SX811244 (DIGIKEY 240-2233)
240 @ 100MHz
Cable Ø 3.5mm max

**SX811327 (DIGIKEY240-2075)
320 @ 100MHz
Cable Ø 6.5mm max