

# Why True Balanced Connection for Phono?

**Pro-Ject**  
AUDIO SYSTEMS



## Present day problems

Nowadays, many electromagnetic fields interfere with turntables. The causes are wireless networks and numerous electronic devices in the modern home. The RCA cable between your turntable and your amplifier is prone to picking up noise on the way. This so-called "electrosmog" can interfere with the tiny phono signal and add noise to your music.



**Phono Signal**  
~ 1 mV



1000x smaller voltage

**CD/Line Signal**  
~ 1000 mV



## The Solution

Balanced audio connections are standard among professional musicians, recording studios, and live concerts. It is essential to have a stable & interference-free connection as these signals, especially microphone signals, will be highly amplified.

The same applies to the connection from your turntable to the phono preamplifier. The significant advantage of a balanced connection is its ability to remove picked up noise and interferences.



- Interference-free signal
- Increased dynamics
- Lower noise level



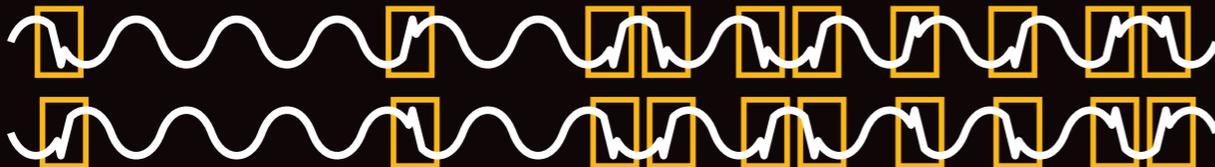
## The works:

### The problem of an unbalanced RCA connection:

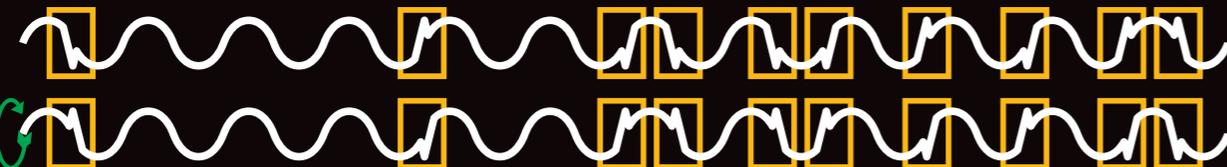


Unshielded interconnects can pick up noise and interferences. (yellow boxes)

### How the balanced connection works:



Balanced connections double the wires carrying the musical signal – with one side inverted. Noise gets picked up by both wires.



When the source signal reaches the receiver, one of the signals is inverted so both signals are now identical, but the noise spikes look now in the opposite direction.

### The result



When both waves are combined in the phono stage, the final musical signal has now doubled its level and the noise has been cancelled out.



## What do I need for a balanced connection?



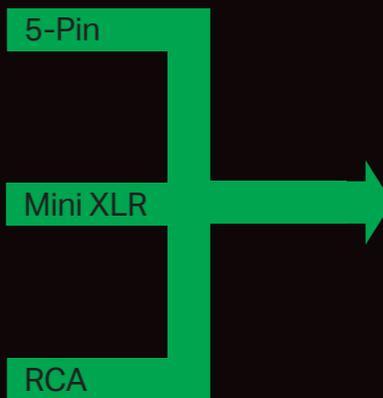
5-Pin



Mini XLR



RCA



To XLR or Mini XLR  
**Balanced input**

## True Balanced Ready

To use the **True Balanced Connection**, your turntable needs to be equipped with a Moving Coil (MC) cartridge.

**True Balanced Ready** turntables are capable of being wired for balanced signals, but are supplied as standard with a Moving Magnet (MM) cartridge.

To find out if your Pro-Ject turntable is capable of being wired for True Balanced Connection please ask your Pro-Ject dealer or checkout our website. We have a variety of cables available to suit your system.

## True Balanced Connection Examples:



Turntable	Phono Preamp	Turntable connector	Phono Preamp connector
X8	Phono Box RS2	5 Pin 	XLR 
X2 B	Phono Box DS3 B	Mini XLR 	XLR 
Debut PRO*	Phono Box S3 B	RCA 	Mini XLR 

\* needs to be equipped with a MC cartridge beforehand

These are only examples – contact your dealer for more options.

## Unleash the full potential of your vinyl collection!



All Pro-Ject turntables with outlets are balanced by nature. The industry standard is usually an unbalanced RCA connection as this connection type is cheaper and already widely adopted compared to a really balanced one.

True Balanced Connections can access details embedded in the valuable grooves of your records that you've never heard before.

Liberate your Hi-Fi stereo system from unwanted noise and interference. Get closer to the music you love and take your musical experience to the next level.

**More Music – Less Noise.**

The background is a dark blue, textured surface with a complex, organic pattern of ridges and valleys, resembling a close-up of a rock face or a piece of weathered metal. The lighting is dramatic, highlighting the textures and creating a sense of depth. The text is centered in the middle of the image.

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