

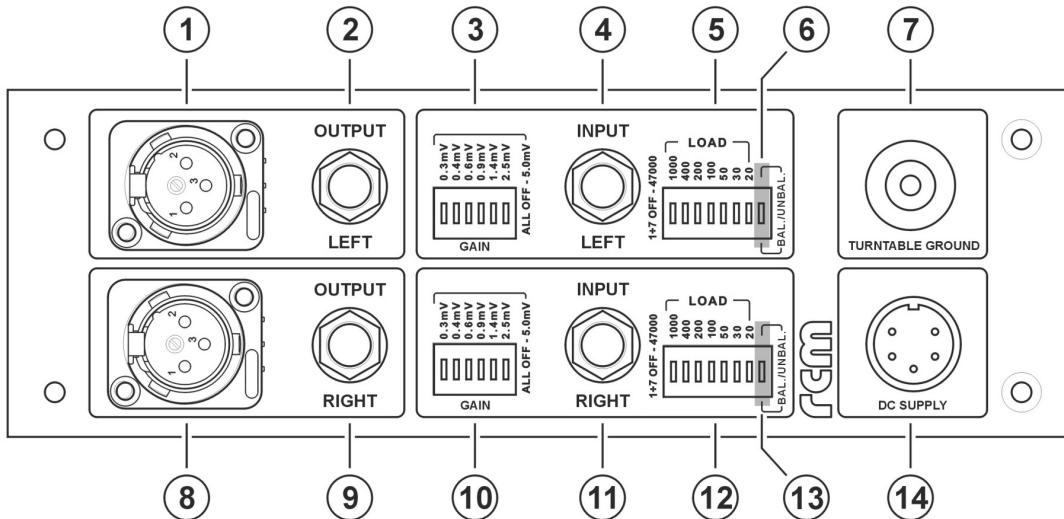
SENSOR 2

MC/MM PHONO PREAMPLIFIER

THE SENSOR 2

Thank you for purchasing the RCM Sensor 2 phono preamplifier. We are certain you will be delighted with the performance when partnered with your favorite turntable and cartridge.

Please read this manual carefully before connecting the Sensor 2 to your system.



SENSOR 2 - rear panel

- | | |
|--|--|
| 1 - XLR output, left channel | 8 - XLR output, right channel |
| 2 - RCA output, left channel | 9 - RCA output, right channel |
| 3 - gain selector, left channel | 10 - gain selector, right channel |
| 4 - input, left channel | 11 - output, right channel |
| 5 - input impedance selector, left channel | 12 - input impedance selector, right channel |
| 6 - input mode selector, left channel | 13 - input mode selector, right channel |
| 7 - turntable ground terminal | 14 - power supply socket |

Illustration 1

DESCRIPTION

Unlike the output from a CD player the raw signal from a phono cartridge suffers frequency distortion because the output at 20 Hz is 1000 times lower than that at 20 kHz. This is deliberately implemented during the recording process to enable the signal to be cut into the vinyl of the record. The phono preamplifier must restore the frequencies to their correct balance using an RIAA equalization curve. The Sensor 2 uses passive equalization in two stages to achieve this.

In addition the phono preamplifier must amplify the low level signal to line level to match other sources. CD players have an output of 2 volts whereas MM (moving magnet) cartridges typically output just 2 mV. Therefore, the MM signal needs to be amplified 1000 times. MC (moving coil) cartridges can have outputs as low as 0.1 mV and thus require amplification more than 6000 times. Doing this with low noise is a very difficult task and one which the Sensor 2 achieves with precision and excellence. Most commercial phono amplifiers struggle to do this and only provide 1 volt output. Our tests prove that 2 volts is optimum, the same as a CD player. Therefore, the Sensor 2 is capable of providing 76dB of gain and an output of 2 volts.

CONNECTION

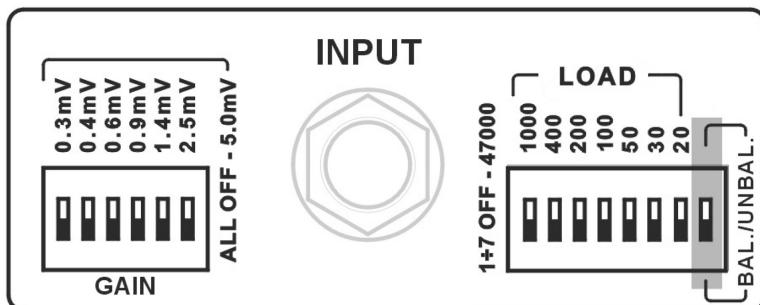
We recommend placing your Sensor 2 on a clean, dry, stable, vibration free surface, as close as possible to your turntable. The power supply can be located some distance away for convenience and to minimize noise. If you hear any hum or noise please move the preamplifier around until the noise goes away. Because of the very high amplification factor it can pick up stray hum fields from other pieces of equipment.

Connect the power supply chassis to the Sensor 2 amplifier chassis with the umbilical cable provided (*i.1 pos.14*).

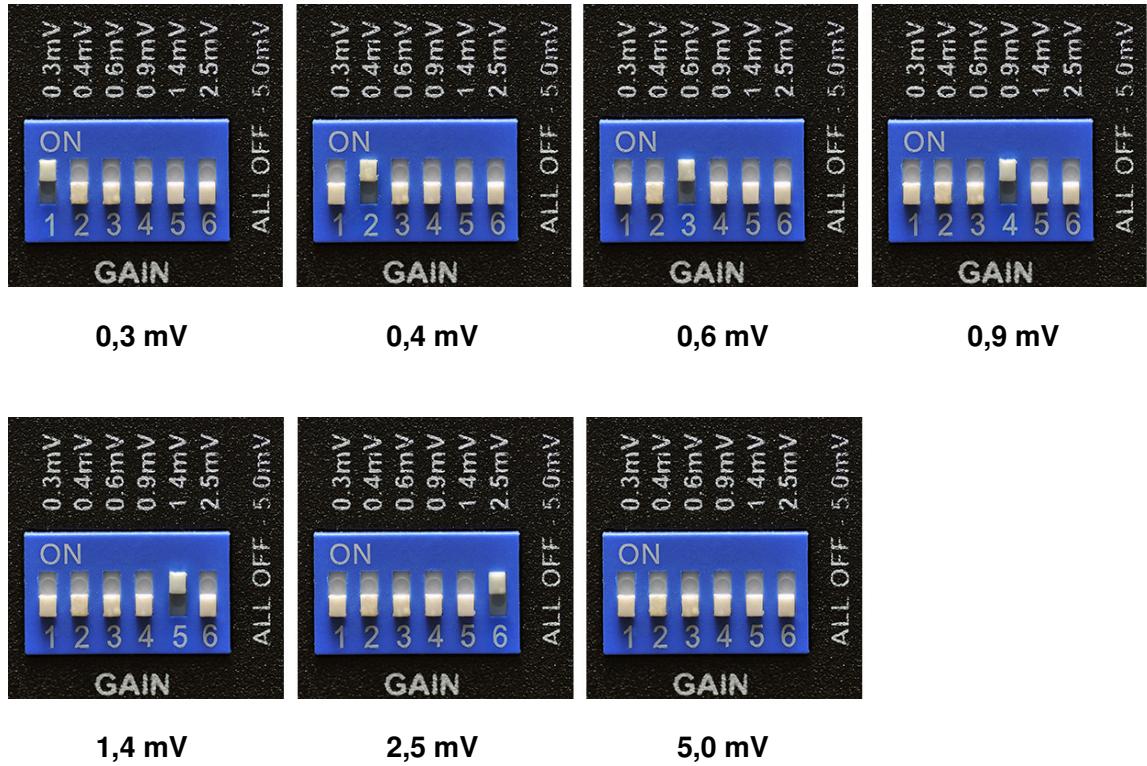
Connect your turntable to the **RCA** input sockets (*i.1 pos.4 and 11*). The inputs are RCA only but the output from a phono cartridge is inherently balanced. The Sensor 2 takes full advantage of this by virtue of the fact that it is a balanced circuit inside. Both Balanced **XLR** (*i.1 pos.1 and 8*) and Unbalanced **RCA** (*i.1 pos.2 and 9*) outputs are provided so if your integrated amplifier or preamplifier is XLR equipped you can you can take full advantage of this feature. No switching is necessary to use this feature.

ADJUSTMENTS

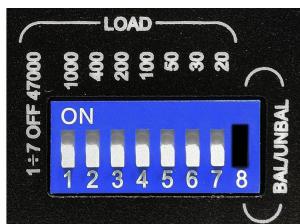
To ensure optimal cartridge matching the Sensor 2 has both LOAD and GAIN adjustment via DIP switches accessible on the rear.



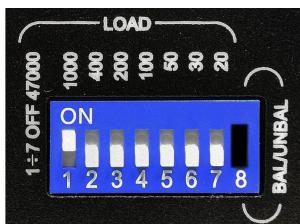
The **GAIN** (*i.1 pos.3 and 10*) switches enable the user to adjust the output of the preamplifier to match the other sources in the system. Start with all the switches in the OFF position and successively switch each one in and out until you reach the desired level to match other sources.



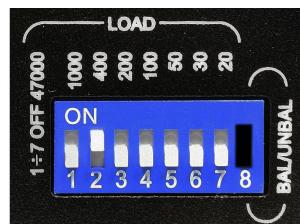
The **LOAD** (*i.1 pos.5 and 12*) switch allows you to adjust the input impedance that the cartridge sees. With all switches OFF the load impedance is 47k ohms. This is suitable for MM cartridges. MC cartridges generally like to see higher impedance and the manufacturer will usually state the optimum in the cartridge specifications. However it is best to adjust this by ear. You can progressively switch the DIP switches ON to increase the impedance. As you do so the sound will become progressively tighter and cleaner. As you pass the optimum position the sound will become slow and dull. Therefore you will want to settle on a position where the cartridge sounds lively but controlled. This will generally be just before it starts to slow down in perceived sound.



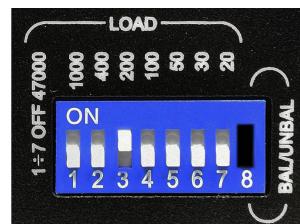
47 kohm



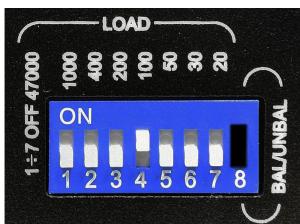
1 000 ohm



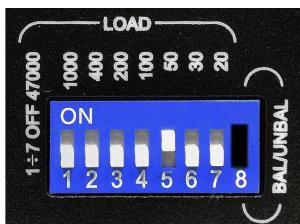
400 ohm



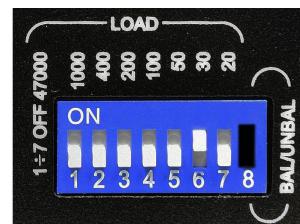
200 ohm



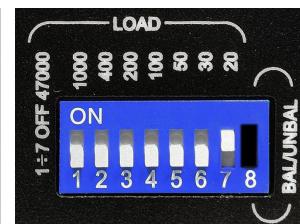
100 ohm



50 ohm



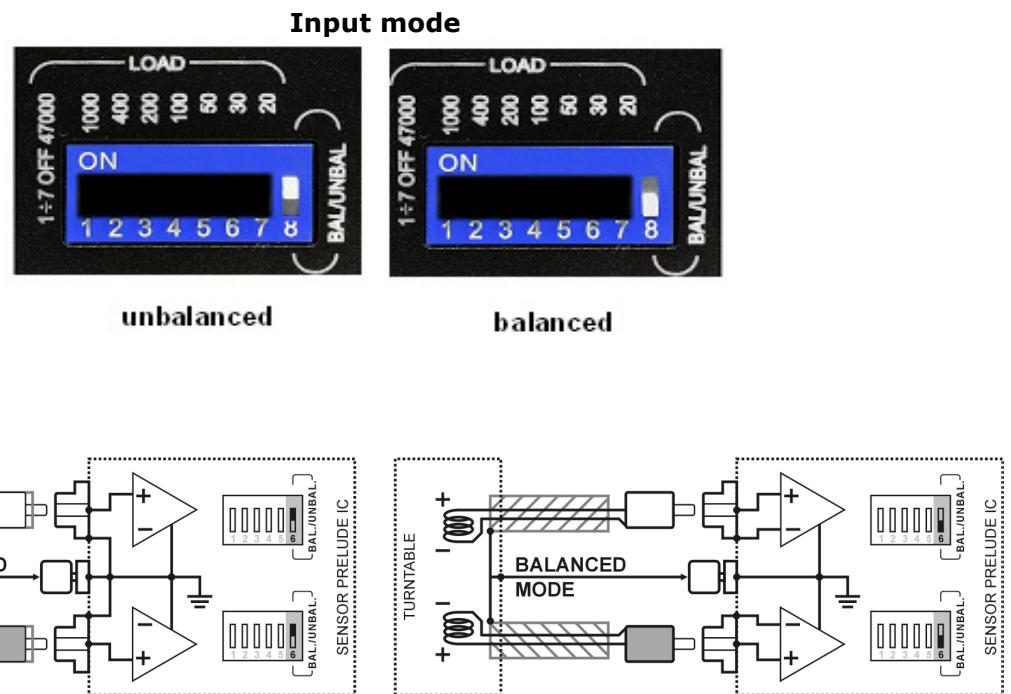
30 ohm



20 ohm

Balanced or unbalanced mode connection

RCM recommends that you wire your phono cable as per the diagram below if you wish to take advantage of the fully balanced operation mode. This will give your system the lowest noise floor and best sound quality.



Wiring diagram for balanced and unbalanced input using RCA connection

Great care has been exercised in manufacturing this product for your enjoyment. If you have any questions please feel free to contact us for advice.

We wish you many hours of happy listening.

RCM Audio

Technical data

Input:	RCA – Balanced and Unbalanced (selectable via switch)
Output:	1 pair Balanced XLR, 1 pair Unbalanced RCA (single ended)
Input sensitivity:	0.3 – 5 mV (selectable in 7 steps)
Gain:	52 – 76 dB (2 V rms output at 1 kHz)
Input impedance:	20 Ohm – 47 kOhm (selectable in 8 steps)
Input capacitance:	150 pF
THD:	0.01 % (1 kHz)
S/N:	85 dB (lowest gain settings)
RIAA linearity:	+/- 0.3 dB (20 Hz – 20 kHz)
Output impedance:	50 ohm
Nominal output:	2 V rms
Maximum output:	8 V rms
Power consuption:	17 W
Dimensions:	Preamplifier W 245 x D 227 x H 110 mm, 3.5 kgs. Power Supply W 122 x D 230 x H 70 mm, 1.7 kgs.