

# | **audiodynamica** |

SUT N°3

MOVING COIL STEP UP TRANSFORMER

INSTRUCTION MANUAL



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## 1. INTRODUCTION

Dear Music Lover

Thank you for choosing this *Audiodynamica* component. We sincerely appreciate your trust in our products. You have purchased a unit which excels in musical fidelity and combines uncompromising manufacturing quality with technical innovation and the highest degree of operating flexibility. With the correct care it should give you many years of pleasure and enjoyment.

Please take the time to read all of the information in this manual before connecting your new component to an electrical supply or your system to ensure both your safety and satisfaction. It will enable you to make full use of all capabilities of this outstanding audiophile instrument.

If you have any questions regarding the information contained within this document or your new component, please feel free to contact us.

Enjoy the music.

Your *Audiodynamica* team

## 2. GENERAL INFORMATION

The SUT N°3 is a flexible Step Up Transformer (SUT), designed to boost the output of a Moving Coil cartridge for use with a Moving Magnet phono stage. It is wired to connect a moving coil cartridge (on a turntable) to a phono preamplifier or phono input of an integrated amplifier. The SUT N°3 uses permalloy (high nickel %) core transformers, one per channel, housed in mumetal screening canisters to minimize noise and interference.

These transformers were specially designed and tested with several low-output moving coil cartridges. High quality passive parts are used in the construction of the SUT: gold contact switches, precision resistors, gold Plated RCA/XLR sockets and a shielding case. SUT N°3 is equipped with both RCA and XLR input/output connections (only one usable at a time) and we encourage you to use balanced cables when possible to connect the turntable to the SUT, due to the superior immunity to noise of balanced connections.

All Audiodinamica products use the AES standard for balanced connections:

1. Chassis;
2. Positive signal;
3. Negative signal.

Do not connect pin 1 (chassis/ ground) to either pin 2 or 3 at any point in the cable, turntable chassis, or tone-arm. Pins 2 and 3 must only be connected to the cartridge pins

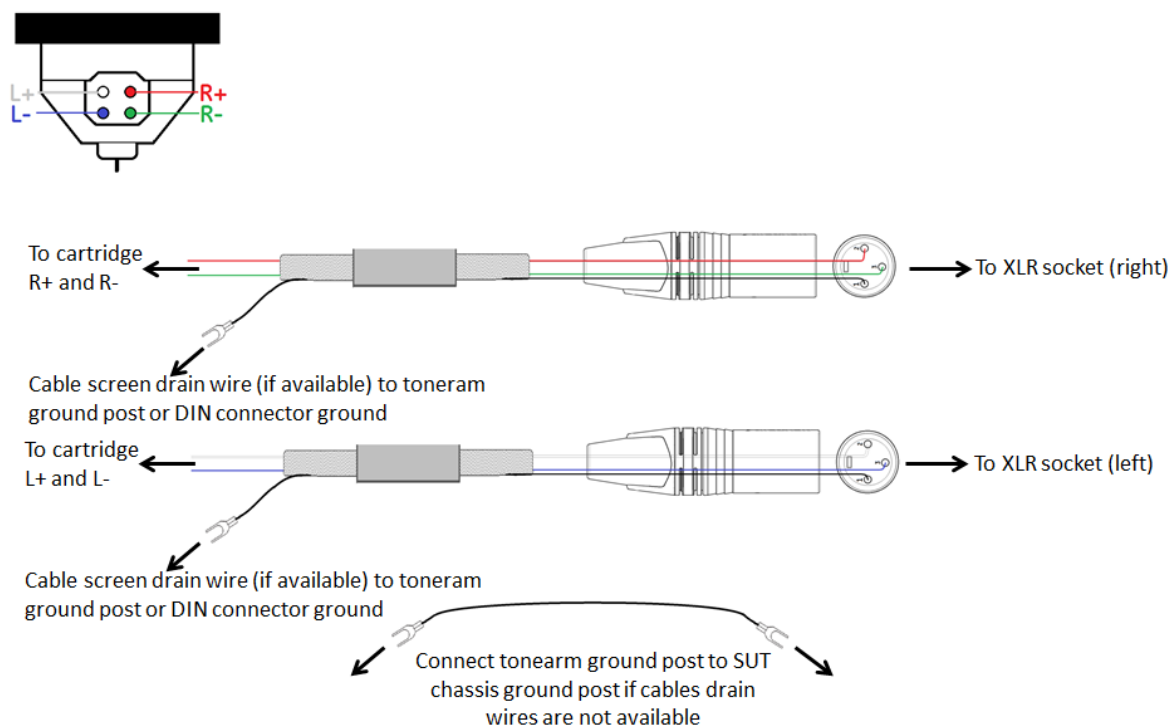


Fig. 1 – Cartridge-step up connection through balanced cable.

In figure 1 is represented the wiring scheme for connection from cartridge to step up using an XLR connector. Cable screen should be connected to SUT chassis and tonearm ground

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right at the connectors, if your cable does not have a screen it is suggested to use a ground wire to connect ground posts.

Typically, the tonearm cables are terminated with RCA connectors. In this case, it is important to check the wiring scheme to avoid any “hum” from your audio system. In figure 2 is represented the right wiring scheme for RCA connection from cartridge to step up.

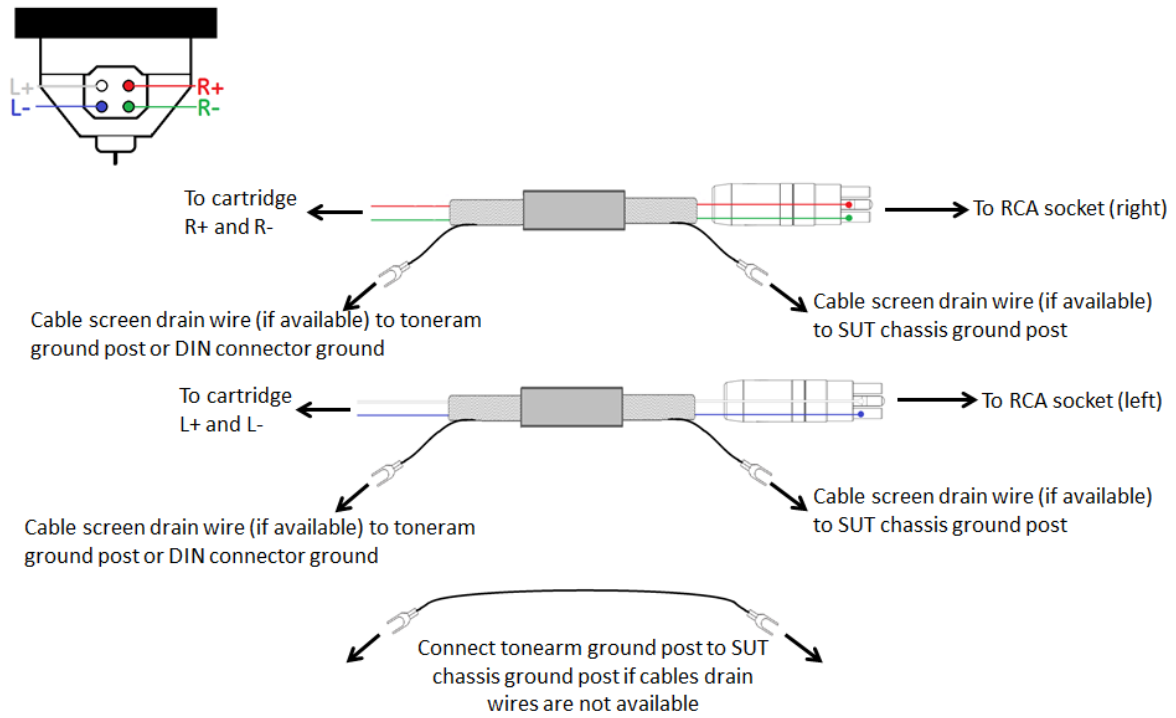


Fig. 2 – Cartridge-step up connection through unbalanced cable.

### 3. INSTALLATION AND OPERATION

Place the SUT n°3 in a suitable location close to your turntable and phonostage input. It is important to remember that the Step Up Transformers inside the SUT n°3 are susceptible to noise created by power supplies, mains cables etc. even if SUT n°3 is properly screened. Once located, connect the SUT N°3 to your turntable and to your phonostage input. Connect your tonearm/turntable output cables to the input sockets on the SUT N°3 and the output sockets of the SUT N°3 to your MM phonostage input.

In the figure 3 is represented the back panel of the SUT n°3.

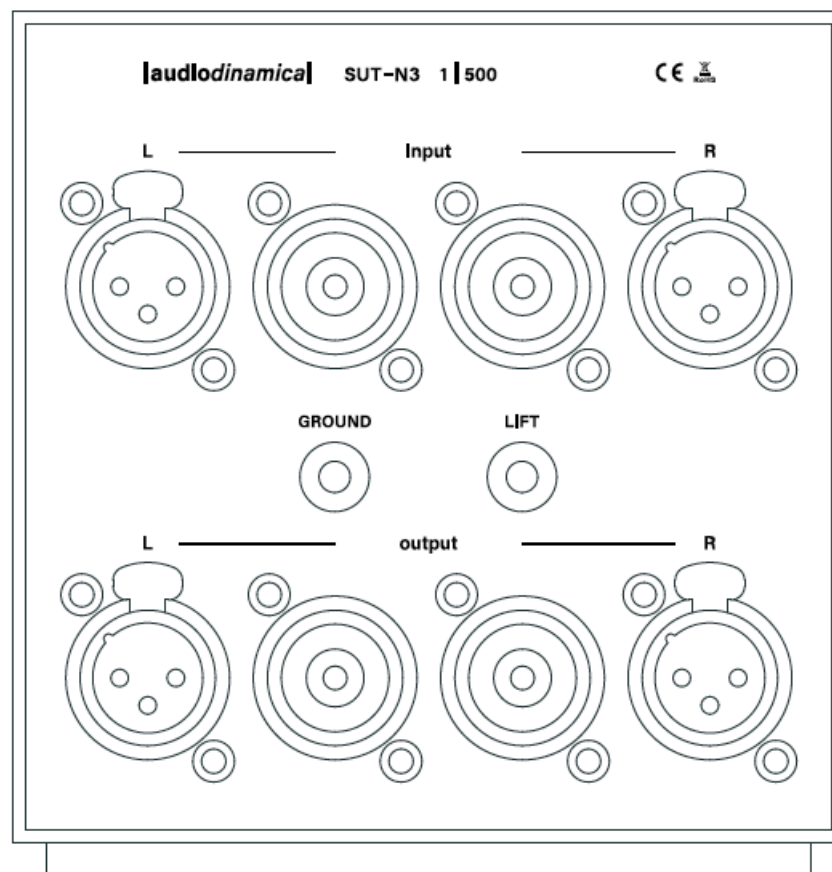


Fig. 3 –SUT n°3 back panel.

You can use simultaneously only one type of inputs (RCA or XLR) and only one type of outputs (RCA or XLR) on your SUT n°3. You can mix rca or xlr in inputs or outputs: for example you can use RCA inputs and XLR outputs, or XLR inputs and RCA outputs. It is important to use good quality, shielded interconnects for all turntable connections; this will help to minimize any noise or hum problems.

If your tonearm has a separate earth lead, connect it to the earth/grounding post located on the rear of the SUT N°3. It may also be worthwhile connecting this earth/ground post to the earth/ground post of your pre-amplifier/phonostage/amplifier (if one is available). This will often further reduce low level noise or 'hum', however this is not always guaranteed, so some experimentation is advised to ascertain the best arrangement.

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With the LIFT switch you can isolate input from turntable/pickup arm ground as well as the ground of the box containing this circuit. On certain cases this can help in the reduction of noise and “hum”. If you experience any ‘hum’ induced by the proximity to other electronics, move the SUT n°3 to a different location, further away from possible causes of noise, and try to change its orientation rotating it clockwise/anticlockwise until any noise is eliminated or reduced to an acceptable level.

The figure 4 represents the front panel of the SUT n°3. The SUT N°3 is switchable for gain (1:12, 22 dB gain or 1:24, 28 dB gain) and impedance (LOAD). There are two knobs, one for the gain (the lower one) and one for the load (the one at the top). Once all connections have been made, adjust the gain and the impedance switches on the front panel of the SUT N°3 to the appropriate setting for your cartridge. Mute your amplifiers or turn them down while adjusting the LOAD and GAIN to protect your speakers as pulses may be generated.

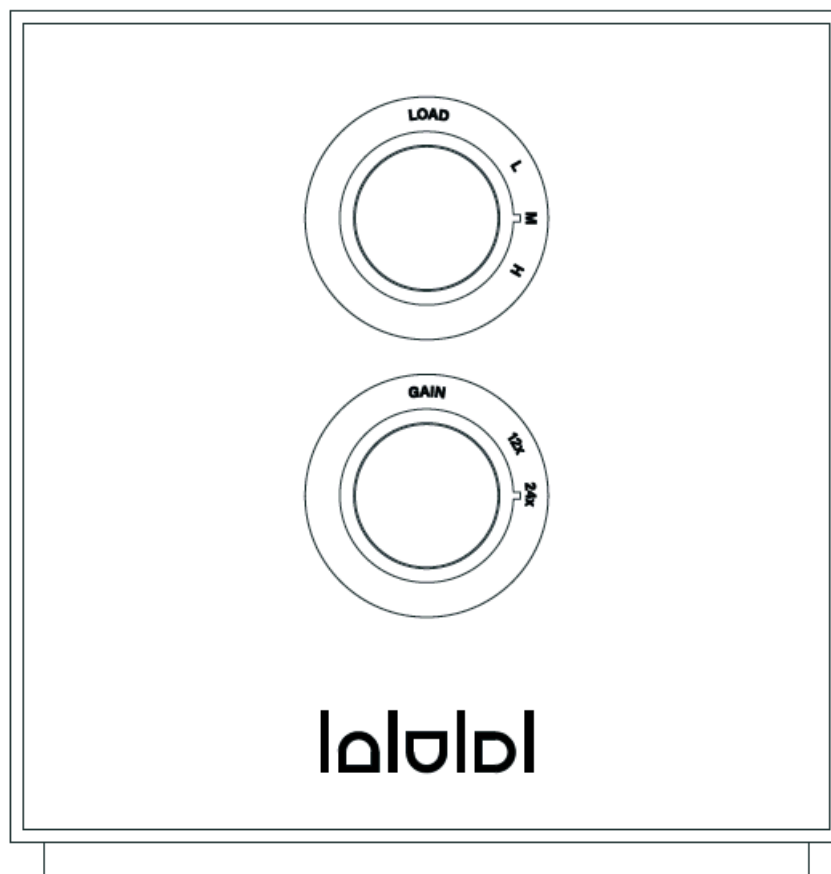


Fig. 4 – SUT n°3 front panel.

The table below gives an indication of the most suitable gain setting for your cartridge: please note that it will depend upon the characteristics of the following phonostage, amplifiers and speakers sensitivity.

SUT n°3 gain	Cartridges output level				
	0,1 – 0,2 mV	0,2 – 0,3 mV	0,3 – 0,4 mV	0,4 – 0,5 mV	> 0,5 mV
12x – 22dB			o	o	o
24x – 28dB	o	o	o		

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Three different impedance settings (L, M, H) are available for cartridge loading (per single gain), which can be changed through the load selector. There isn't a universal rule, the perfect matching load depends on your specific components and it is possible to use our SUT n°3 with cartridges that have greater or lower internal impedances, or values that are outside the suggested ranges as per the following table. However, it is important to realize that input impedance from three to four times the internal impedance of your cartridge will usually provide the best results.

Phono amplifier input impedance	Gain of the SUT n°3	L	M	H
47k	12x	120	240	330
47k	24x	30	60	80
100k	12x	150	390	700
100k	24x	40	100	170

**PAY ATTENTION!! Due to the high gain of the phono stage it is recommended to mute the amplifiers and speakers before switching load or gain in the SUT to avoid the risk of bumps.**

As final recommendation, we suggest to trust your ears for a perfect matching load between SUT n°3, your cartridge and the associated phonostage. Experimentation and listening sessions are always a good guidance to find your preferred tonal balance.

#### 4. MAINTENANCE

- Dust the unit surface with a clean, dry cloth.
- Keep the connectors clean to obtain the best performance. Using alcohol as a cleaning solvent is acceptable.



## 5. SPECIFICATIONS

- Frequency Response: 3dB Bandwidth 10kohm load: 7Hz-70kHz
- Gain: 22/28 dB
- Cartridge Impedance: 2  $\Omega$  ~ 60  $\Omega$
- Minimum input impedance prephono MM: > 47 k $\Omega$
- Channel unbalance: < 0.5 dB
- THD 60Hz -20dBu: <0.02%
- Channel Separation: N/A
- Dimensions: 150(W) x 150(H) x 150(D) mm
- Weight: 3 kg

## 6. CAUTION AND IMPORTANT SAFETY INFORMATION

- Do not remove cover, unless specifically instructed to do so in the user manual.
- Keep out of the reach of the children and animals.
- Do not store or operate this unit in areas of high humidity or in close proximity to water/moisture.
- Do not expose or immerse the unit in liquid of any kind.
- Never let an inexperienced person repair or reassemble the unit.
- Never put anything, especially metal objects, inside the unit.
- Never place excessive weight on the unit.
- Keep the unit away from magnetic sources.
- Protect the unit from high temperatures.
- Do not disassemble, modify or repair the unit by yourself.
- Keep the unit clean and dry and avoid contact with liquids.
- Using detergent or benzene may cause surface discoloration and may result in malfunction.

## 7. CE DECLARATION OF CONFORMITY AND DISPOSAL

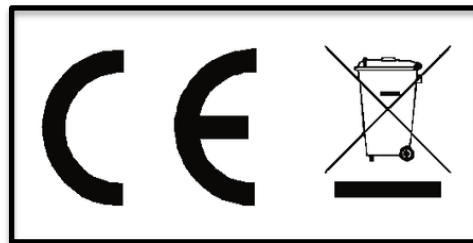
Audiodynamica declares that its products are in conformance with:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive 2004/108/EC
- Restriction of Hazardous Substances (RoHS2) Directive 2011/65/EU
- Waste of Electrical and Electronic Equipment
- Directive 2012/19/EC Energy Using Product Directive 2009/125/EC

Audiodynamica products comply with the following standards:

- EN60065 - Audio, video and similar electronic apparatus - Safety requirements

Products that display the crossed-out wheeled bin logo cannot be disposed of as domestic waste. These products must be disposed of at facilities capable of re-cycling them and appropriately handling any waste by-products. Contact your local authority for details of the nearest such facility. Appropriate recycling and waste disposal helps conserve resources and protects the environment from contamination.



## 8. WARRANTY INFORMATION

### 8.1. General

Audiodynamica warrants its products to be free from defects in materials and workmanship for 5 years from the original date of purchase from Audiodynamica or an appointed dealer, and agrees to cover the cost of parts and associated labour required to correct such defects, subject to below terms & conditions.

### 8.2. Warranty Exceptions

Vacuum Tubes (including replacements under warranty) are covered for 6 month from the date of the original purchase.

Power Tubes (including replacements under warranty) are covered for 90 days from the date of the original purchase.

### 8.3. Warranty Details

This warranty is for the sole benefit of the original purchaser of the covered product, and may not be transferred to a subsequent purchaser of the product.

If the product fails in normal domestic use and during the Warranty period, Audiodynamica will, at its discretion, repair or replace the item free of charge within a reasonable time once it has been returned to Audiodynamica or an appointed Audiodynamica dealer or service engineer.

Audiodynamica is not liable for any shipping and custom charges incurred whilst transporting the product to Audiodynamica or to an appointed Audiodynamica dealer or service engineer, should the item require service or repair during or after the Warranty period.

Audiodynamica reserve the right to replace discontinued or special and limited edition products with a comparable unit or a refund.

If the product must be shipped, please use the original packaging materials. Packing material may be purchased from Audiodynamica if necessary. Only use a reputable Courier Service or Shipping Agent, and ensure that your product is insured during transit. Returned products must be accompanied by a written description of the defect, and a return authorization number (available from the factory via email: [info@audiodynamica.com](mailto:info@audiodynamica.com)).

Upon receipt of the defective product, Audiodynamica agrees to repair the product without charge for parts (except vacuum tubes if the unit is more than 6 month old, or power tubes if the unit is more than 3 month old), or labor: this constitutes the purchasers sole remedy. Audiodynamica will offer free return of items shipped for repair under warranty unless no faults are found.

Any servicing, repairs or modifications not authorized by Audiodynamica, or carried out by persons other than appointed Audiodynamica service engineers will invalidate the warranty.

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This Warranty does NOT cover:

- Damage sustained whilst in the possession of a shipping agent, retailer or consumer and not caused as a direct result of defects in materials or workmanship.
- Damage caused by normal wear and tear.
- Damage or defects caused by abnormal or unreasonable use.
- Damage caused by accident, acts of nature, misuse or negligence
- Damage caused by a failure to follow the operating and installation instructions supplied with the product.
- Damage caused by improper or careless cleaning.
- Damage caused to other components such as cartridges, preamplifiers, amplifiers, speakers, headphones, cables and any other piece of equipment connected to *Audiodinamica* components.

In no event *Audiodinamica* liability will exceed the original purchasing price of the unit under warranty.

*Audiodinamica* reserves the right to refuse warranty for any component of which the serial number has been removed, defaced or tampered with.

This warranty does not extend to any incidental or consequential costs or damages to the purchaser. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

#### *8.4. Contact details*

If in the future your *Audiodinamica* product requires servicing, or if you require technical support or have any questions regarding this or any of our other products, please contact your local *Audiodinamica* dealer.

Alternatively, please feel free to contact us directly:

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