



***DuTCH audio TBM1 manual***

# **DuTCH audio TBM1 manual**

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## **Introduction:**

*Thank you for purchasing the DuTCH audio TBM1. In this manual we will explain how this device works and how to use it.*

## **Important Safety Instructions:**

**Please follow these precautions when using this product:**

- Read and keep these instructions.
- Heed all warnings and follow all instructions.
- Dangerous voltage lives inside this machine. Opening is only allowed by qualified service personnel.
- Unplug this machine during lightning storms or when unused for long periods of time.
- Do not use this machine near water or outside.
- Clean only with a dry, soft cloth. Do not spray any liquid cleaner onto the cabinet, as this may lead to dangerous shocks.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other machines (including amplifiers) that produce heat. Avoid exposure to direct sunlight.
- This machine typically runs slightly warm when operated. Install in a normal ventilated area. If the product will be used in a rack, make certain there is sufficient air movement within the rack. Preferably offer some empty rack space above the unit and do not place it on top of hot equipment.
- Refer all servicing to qualified service personnel. Servicing is required when the machine has been damaged in any way, such as when the powersupply plug is damaged, liquid has been spilled or objects have fallen into the machine, the machine has been exposed to rain or moisture, does not operate normally, or has been dropped.
- **WARNING:** To reduce the risk of fire or electric shock, do not expose this machine to rain or moisture.

## Operation:

The TBM1 True Bypass Machine is the perfect solution for those looking to switch easily between 3 stereo processors. The TBM1 is fully passive relay-switched, designed straight-forward and delivers exceptional transparency.

## Buttons and functions:

### Insert 1 and 2:

This is a 100% passive insert section with just relays. When disabled, it will directly pass the signal internally to the next insert. When you enable the insert (*1 and/or 2*), it will pass the signal to the corresponding send/return. It will first pass insert 1 and then it goes into insert 2.

When you push the 'swap 1 /2' button, it will swap the order of the inserts. So instead of 1>2 it will become 2>1.

### Insert 3:

This is a 100% passive insert section with just relays. When disabled, it will directly pass the signal internally to the output. When you enable the insert, it will pass the signal to the corresponding send/return.

### Remote:

The 'remote' button can be used to switch between the internal (frontpanel) buttons or an external DIY remote unit. When the button is disabled, it lights up green which is to indicate internal switching. If the button is pressed the button lights up yellow indicating that the remote switching is in use. When using remote switching the leds in the frontpanel switches still light up to indicate if an insert is active.

*NOTE: When using the remote function, make sure the frontpanel buttons are disabled.*

### Remote connector:

Next to the remote button you will find the RJ45 connector to connect your remote control. Any standard RJ45/UTP cable will work. The cable is only used for voltages between switches, leds and relaycoils, no audio is passing along the UTP cable.

*NOTE: More information about building your own remote unit in the technical section.*

## Technical:

### Hardware:

This device is 100% passive with sealed, long-life (15.000.000 cycles) Omron Relays. XLR connectors are Gold-plated Neutrik connectors for all in, out and inserts.

### Specifications:

Maximum gain: >+28dBu

Noise level: >118dB(a)

Stereo crosstalk: >110dB(a)

THD: 0.00042% (AD/DA limitations)

Powersupply: Input voltage 5VDC.

Power consumption max 5 watt

Unit size: standard 1u 19 inch, depth 25cm

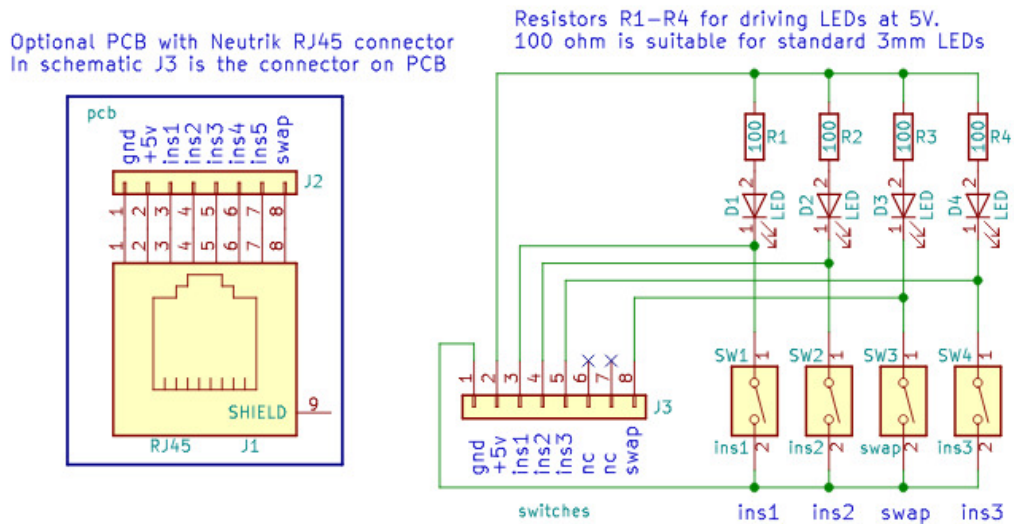
Weight: approx 1kg

*Specifications subject to change because always improving*

### Remote switching:

For remote switching we make use of Neutrik RJ45 connectors, any standard (cat5 and up) RJ45/UTP cable will work. Switching in/out of the inserts is done by connecting the relay coil to ground but for powering LED's we also added a 5v line to the RJ45 connector. We can provide an optional PCB with a RJ45 socket with easy to connect switches and LED's.

Of course, you will need some DIY and soldering skills but it's not too complicated. Below you will find the schematic/wiring diagram.



## Service and warranty:

- We offer a standard 2 year limited warranty on all of our products.
- In the event that you or a third party has (partly) altered or repaired anything, the warranty will expire, and you will be held responsible for the damages caused by any possible malfunctioning of the product. Warranty repairs are only made by us or by a workshop we agree upon.
- We are not responsible for any malfunction of or damage caused by parts that are not produced by DuTCH.audio.
- If you choose to ship back a faulty unit to us you must contact us before you do so. We need the serial number (located on the back of the unit) to handle the repair and if warranty is still valid.
- The product should be returned in it's original package or packed in such a way that it is not damaged during the shipment with extra support for the rack ears. We are not to be held responsible for any damages during the shipment.
- The customer always pays the shipping cost to us.
- The customer is responsible for the product until it is delivered to us
- If we find that the product is flawless the customer will be charged 200 euro to cover our costs for examination and handling. The return costs will also be charged.



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