



X-Tube

The Missing Link to Tube-Like Analogue Sound

Tube Buffer Stage and Impedance Matching Amplifier

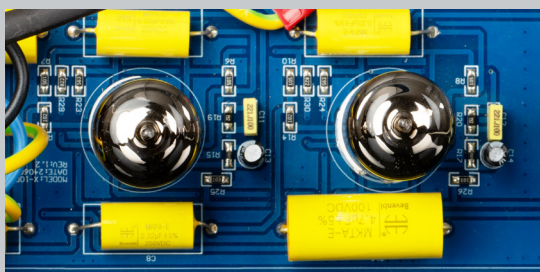
Follow up to the legendary, revolutionary X10D

Improves Drastically any Digital and Analogue Source

X-Tube In Brief

Tube Output Buffer

- Adds tube like tonal characters, depth and richness to every digital and line source
- 2x E88CC triode tubes



Impedance matching amplifier

- Maximise signal transfer
- Reduces distortion due to wrong impedance matching

- Protects your amplifier from reactive loads

Superior mechanical design

- Musical Fidelity invented with the X-line a perfect super-anti-resonance free cabinet out of extruded aluminium
- The X-Tube is the first product out of a series of X-products

Features

- Dramatically improves any digital and analogue source
- Enhancement for budget digital/streaming/CD sources that use all-in-one chip designs and lack proper output stages
- Ultimate impedance matching if used between preamplifier and amplifier
- Direct mains input, no external power supply allows for clean setup

General Information

We are proud to unveil the X-Tube – a revolutionary tube output buffer built with our newly reimagined X-profile aluminum die-cast chassis. This innovative design marks the return of the X-profile configuration, a distinctive element in the revered Musical Fidelity X10D tube output buffer and promises to breathe new life into a wide range of future audio electronics products.

From X10D to X-Tube

The X10D, as designed by Musical Fidelity founder Antony Michaelson, is an acronym - or if you want "a wordplay" - for **eX-(10)ten-(D)ed**. Extended. The internal circuitry design faithfully follows the original and just like it, the new X-Tube extends your signal chain and is connected between input source and amplifier.

It serves as an intermediary stage and is designed to enhance audio signal quality and add tube-like tonal characteristics to your line sources. Connectivity is simple, featuring 1x RCA input and 1x RCA output as well as an RCA bypass. The old external power supply has been reworked and moved into the chassis itself, allowing for a cleaner setup than before.

Advantages of a Tube Output Buffer and its Impact on Sound

Tube preamplifiers or tube output buffers hold a special place in the hearts of many audiophiles offering a distinct sonic signature that is prized by many audio enthusiasts. The warmer, more natural sound, improved dynamics, and potentially reduced listening fatigue contribute to a unique and engaging listening experience.

The X-Tube in Today's Audio World

What is the place of the X-Tube in today's audio world? We currently observe a surge in a new generation of affordable streaming devices and DACs. Even CD-players receive increased interest as people are holding on to their old collections.

These modern digital audio devices achieve great price points, but do this at the sacrifice of hardware. Software makes up most of their cost and there is no budget assigned to, amongst other things, proper output stages. Instead, cheaper integrated IC solutions are used that don't have the power to properly drive line inputs in many amplifiers.

The X-Tube has a clean, high impedance tube input, meaning it won't put as much strain on the output drive capabilities of connected source devices. Regular line inputs on most amplifiers are usually more demanding and cheap output stages will struggle.

On the output side, the X-Tube's clean, low impedance tube output buffer has plenty of drive and will not struggle with any low or high impedance amplifier input.

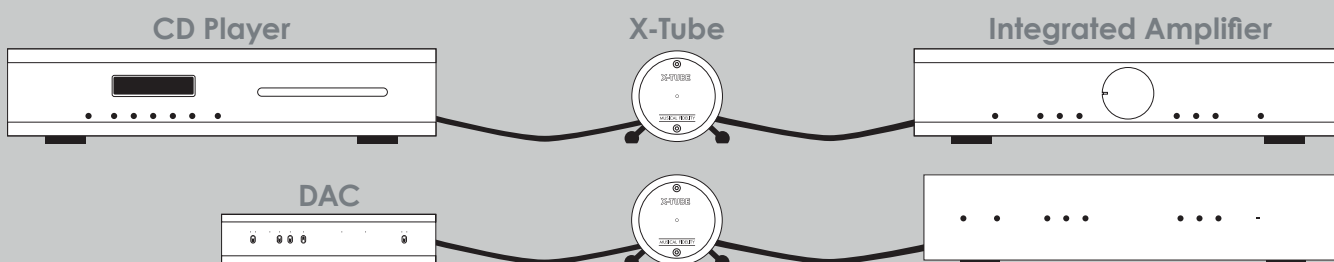
The X-Tube is designed to be the reliable core of your system, enhancing modern streamers and keeping pace as digital technology rapidly evolves.

While streamers excel at software and deliver great digital-to-analog conversion with the latest DAC technology, they often fall short when it comes to analogue output potential. And when their analogue drive is lacking, the X-Tube complements them perfectly.

The Missing Link in Action

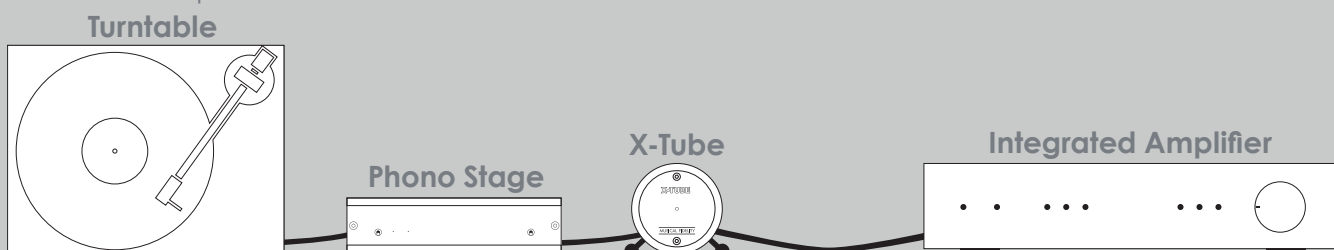
CD Players and DACs

The X-Tube adds tube like tonal characters, depth and richness to your digital CD or DAC sources.



Phono Stages

The X-Tube enhances analogue sources as well, and due to its ideal impedance characteristics makes the impact of audio cables less noticeable.



Streamers

Modern streamers have excellent software and apps, but to reach a certain price point take big hits in their hardware design. Low-quality output stages are often seen in the form of simple IC solutions. These output stages often struggle to properly drive line inputs in many amplifiers. The X-Tube's clean, high impedance tube input is easy to drive even for these types of IC solutions.



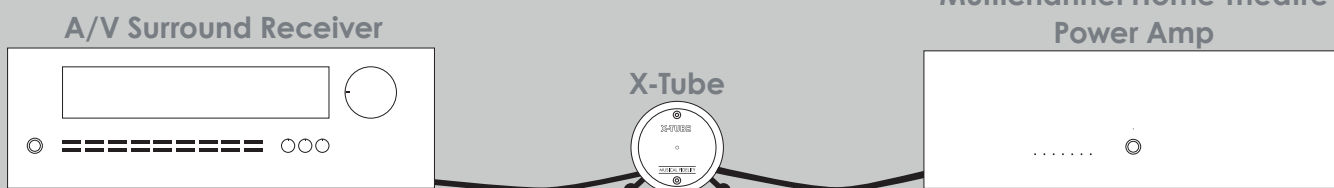
Preamps

If you are unsure whether your preamp's and power amp's impedances are matching, the X-Tube can be used as an intermediary buffer stage, providing suitably high input impedance and low output impedance. The X-Tube is the ideal driver for low and high impedance amplifier inputs.



Home Theatre

The X-Tube enhances the front left and right stereo channels of an A/V receiver going into a multichannel power amp for high-fidelity stereo music listening.



The Missing Link FAQ

What is the X-Tube - The Missing Link?

The X-Tube is a pure Class A triode tube line stage. It dramatically improves the performance of any analogue or digital source to which it is connected.

How is it used?

All you have to do is take the analogue output from your existing source (any analogue or digital source) plug this into the inputs of the X-Tube and then plug the outputs of the X-Tube into your existing amplifier. You will find that there is a dramatic improvement in performance. The sound is sweeter, clearer and more dynamic. At the same time the bottom end is deeper and the imaging is greatly improved.

Come on! Who are you kidding? The Missing Link is just adding distortion, noise and altering the frequency response and therefore destroying the purity of the original.

This is not correct. The Missing Link's measurements are as follows:

Distortion from 10Hz to 20kHz, less than 0.003%

Residual noise measured at full output, better than 96dB unweighted

Frequency response 20Hz to 80kHz + 0, - 0.3dB

Crosstalk better than 95dB.

So as you can see, in practice the X-Tube produces no appreciable distortion or noise and does not alter the frequency response. In fact, its technical measurements are better than most source devices.

Okay, so how does The Missing Link work then?

Some modern audio devices never quite seem to achieve the potential that their technical specifications promise. Musical Fidelity believes that we have discovered the reason why. The modern software or digital side is often quite excellent. However, we have found that they are usually let down by the analogue output stage, which has difficulties driving the variable inductive, capacitive and resistive loads presented by a typical amplifier and cable combination. What The Missing Link does is to offer a perfectly steady load for these source devices' analogue stage to drive. Once The Missing Link has presented a perfect load to your sources, and allowed it to work to its full potential, it then drives the load presented by the amplifier with ease. The result is a hard-to-believe improvement in sound.

Ah yes, but if all you're after is impedance matching why bother with tubes?

Inherently tubes have a very high input impedance and allow elegant simplicity in the circuit design. This means that whilst The Missing Link is offering a perfect load to your CD player its subsequent circuitry is elegant simplicity itself. The Missing Link does not add distortion, noise or alter the frequency response, but it does deliver the simply indefinable magic of tubes and will turn any analogue and digital sources into state-of-the-art sounding machines.

Technical Talk

The X-Tube configuration utilizes two E88CC (also known as 6922) triode tubes arranged in a unique, non-traditional way. Both valves process the entire signal in a single-ended manner. Single-ended designs can exhibit faster transient response, meaning they can handle rapid changes in volume within the audio signal with minimal distortion. Tube output stages provide a multitude of other technical advantages:

Impedance Matching

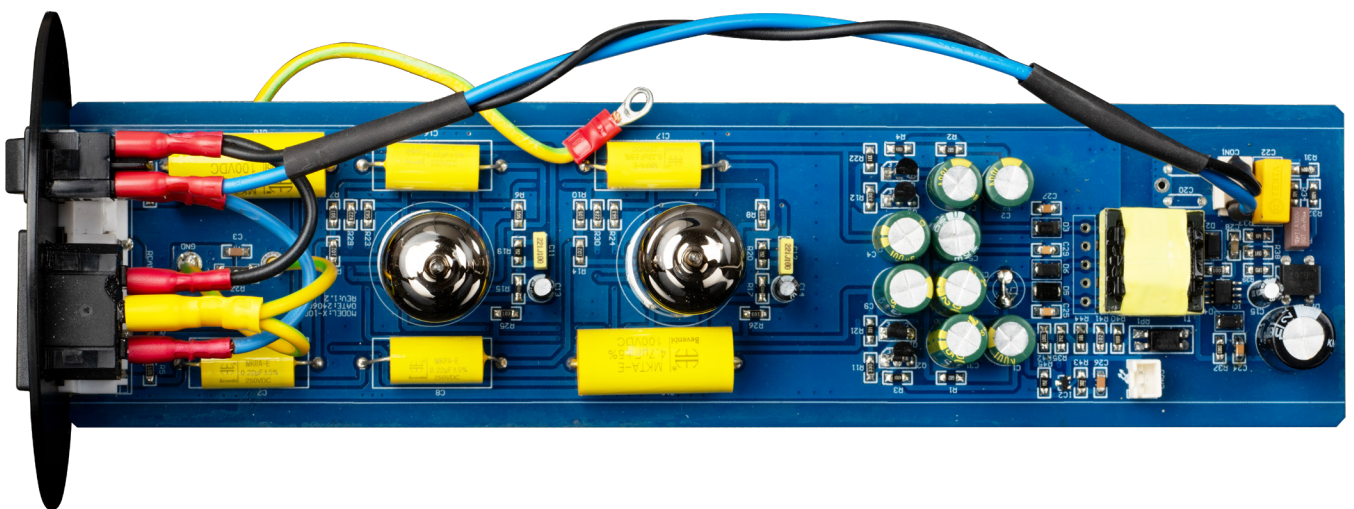
Tubes naturally exhibit a higher input impedance than solid-state devices. This characteristic allows tube output buffers to provide better impedance matching, ensuring maximum power transfer and minimizing signal loss.

Isolation and Protection

Tube output buffers can provide a level of isolation between the amplification circuitry and the load, protecting the amplifier from reactive loads and minimizing the potential for instability or oscillation.

Tonal Character

Tube output buffers can introduce a nuanced amount of harmonic flavor that adds depth and richness to the audio signal.



The Allure of Tubes

The Musical Fidelity X-Tube offers an avenue for audio enthusiasts to introduce tube characteristics and tonal enrichment into their audio systems. Its tube circuitry is a valuable tool for enhancing sound quality and adding musicality to the listening experience. Whether used in a high-end audio setup or as a significant upgrade to budget systems, the X-Tube provides users with the opportunity to explore the distinctive qualities of tubes in their audio reproduction.



Warmer, More Engaging Sound

One of the most sought-after characteristics of tube amplifiers is their tendency to produce a “warmer” sound compared to solid-state designs. This warmth can be attributed to the way tubes handle even-order harmonics. Unlike solid-state components that introduce more harsh-sounding odd-order harmonics, tubes tend to emphasize even-order harmonics, which are generally perceived as more pleasant to the human ear. This results in a smoother, more natural soundscape that some listeners find more engaging.

Improved Dynamics and Transient Response

Tubes, especially the X-Tube's triode design with two tubes processing a single ended signal, can exhibit faster transient response, meaning they can handle rapid changes in volume within the audio signal with minimal distortion. This translates to a more lifelike and dynamic listening experience.

Reduced Listening Fatigue

The smoother sound characteristic of tube output buffers, combined with the emphasis on even-order harmonics, can lead to a less fatiguing listening experience. Solid-state amplifiers or preamplifiers, particularly those with bright tonal characteristics, might cause listening fatigue for extended periods.

Enhanced “Air” and “Space”

Tube output buffers are often attributed with creating a more spacious and airy soundstage. This perception can be due to the nuanced harmonic flavor introduced by the tubes, which may add a sense of depth and ambience to the music.



X-Tube

SPECIFICATION

Tube Buffer

- Tubes: 2x 6922/E88CC triode tubes
- Frequency Response: 20Hz to 80kHz + 0, - 0.3dB
- THD: < 0.003% 10Hz to 20kHz
- SNR: > 96dB unweighted ref. full output
- Crosstalk: > 95dB, 20Hz to 20kHz
- Gain: 1dB
- Input impedance: 470k Ohms
- Output impedance: < 33 Ohms

In & Outputs

- Inputs: 1x RCA
- Bypass: 1x RCA
- Output: 1x RCA

Power requirement

- Mains input: AC 100-230V 50/60Hz IEC C14 socket
- Consumption: <0.25 Watts in Standby

General Information

- Dimensions (WxHxD): 108 x 105 x 274 mm
- Weight: 2,29 kg net / 2,58 kg in shipping box