



ifi

ZEN Phono
Lowdown

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INTRODUCTION

Pedigree. Performance. Peerless.

The ZEN Phono is an entry level phono stage with a difference. Normally, sub £200 phono stages add excessive noise that hinders musical enjoyment.

The iFi ZEN Phono is an exception to the rule due to its trickle-down know-how from AMR/iFi phono pre-amps.

First and foremost, the noise floor is a whisper-quiet – 90/96dB (36/60dB, BAL 2V/SE 1V, A-weighted) on MM/MC respectively.

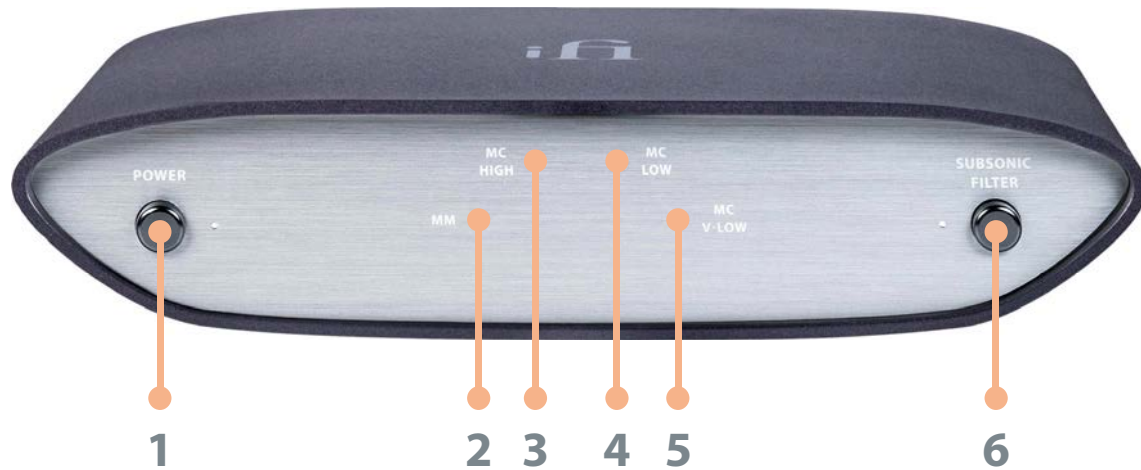
It is also able to handle MM/MC cartridges from <math><0.25\text{mV}</math> to >2mV to bring true high-end performance and flexibility to the entry sector.

Finally, the ZEN Phono has the performance and the features not found in many other phono stages:

- MM/MC-36dB >72dB gain. Noise floor of – 90/96 dB
- Balanced circuitry – unheard of in this category
- Intelligent Subsonic filter – solves warp issues effectively



BOX CONTENT



Guide:

1. Power ON/OFF

This is the power switch.

2. MM input LED

This is a MM input suitable for MM cartridges with the output voltage higher than 2mV. Please select Gain 1 at the rear.

3. MC HIGH input LED

This is a MC HIGH input suitable for MC cartridges with the output voltage less than or equal to 2mV. Please select Gain 2 at the rear.

4. MC LOW input LED

This is a MC LOW input suitable for MC cartridges with the output voltage less than or equal to 0.5mV. Please select Gain 3 at the rear.

5. MC V-LOW input LED

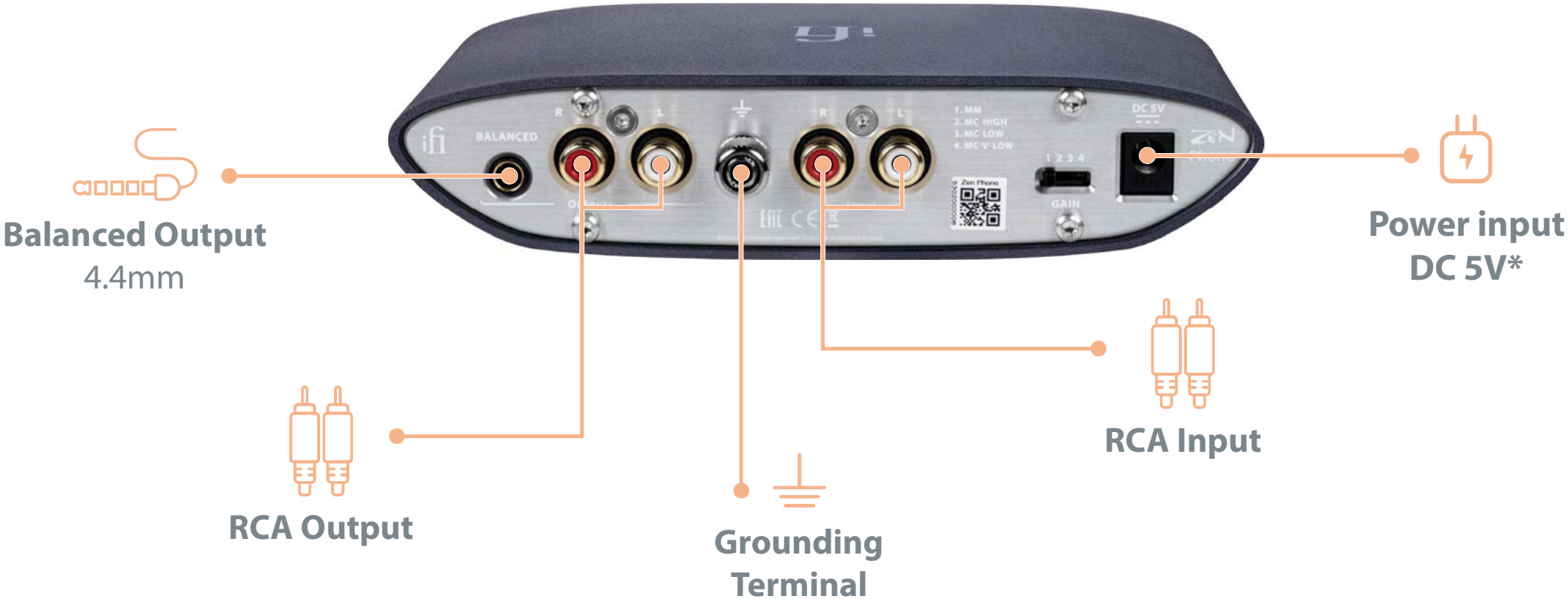
This is a MC V-LOW input suitable for MC cartridges with the output voltage less than or equal to 0.25mV. Please select Gain 4 at the rear.

6. SUBSONIC Filter ON/OFF

This is the SUBSONIC filter switch. The iFi-designed subsonic filter will intelligently detect whether a subsonic frequency is a warp or a bass note. It will eliminate the warps and let all the bass and mid-range frequencies pass through untouched. Therefore, it will not affect the sound quality.



CONNECTIONS



TECHNOLOGIES



Regenerated power supply

Top of the range audiophile phono amplifiers create their own power supplies off the mains, like a mains regenerator. This is the starting point for any good phono stage because without this, it will struggle to amplify the signal and not add noise.

The super quiet ZEN Phono is dedicated to this cause. It creates a 1.2MHz power supply (20,000x mains frequency of 60Hz). Here, a 10uF filtering

capacitor equals 200,000uF at lower frequency. The result? VERY large filtering, as per classic LC filtering in tube amplifiers. Located on its own 'island' so no surrounding noise pollution. It outputs super clean +/- 12V DC.

TECHNOLOGIES

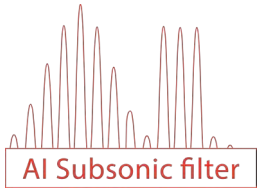


RIAA EQ at military specification level

Famous 2-stage circuitry with the latest op-amps. Equalization uses multiple parallel TDK C0G capacitors for the best stability and least distortion possible, even when compared to polystyrene capacitors. They are nearly as good as Teflon.

Despite already using the lowest tolerance capacitors and multiples in parallel, tolerance is exponentially improved by the square root of the number of capacitors. The ZEN Phono achieves RIAA EQ tolerance level (+/- 0.15dB) which is en par with hand-selected capacitors!

TECHNOLOGIES



No ordinary sub-sonic filter

Issue:

Normal subsonic filters remove 'rumble' AND bass AND phase issues.

Solution:

The iFi AI Subsonic filter removes 'rumble' ONLY and so has only a positive impact on sound.

Our own unique AI Subsonic filter has been used since our first iPhono in 2012. Thereafter in the iPhono2 and the iPhono3 Black Label and now, the ZEN Phono. There is no other £200 phono stage that has this.

TECHNOLOGIES

With a great circuit comes great components

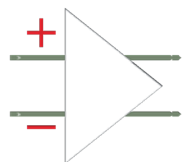
With some serious boutique audio components behind a circuit design that uses trickle down tech from its ultra-fidelity AMR PH-77 and iFi iPhono siblings, from the moment you lower the needle, you will be immersed, playing 'just one more album' into the wee, small hours.



Works with any cartridge

With MM/MC, high/low and very low, the ZEN Phono is able to handle just about any cartridge. From 36dB all the way up to 72dB. So, as your vinyl system grows over time, the ZEN Phono will keep easily keep up.

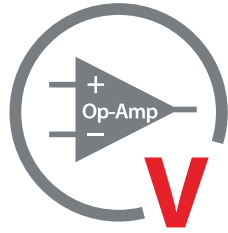
Balanced



Balanced circuit design

Balanced circuits are just not seen at this price point. It is a superior method to the traditional single-ended circuit approach. Balanced circuits reduce noise and crosstalk. Less Interference – clearer sound.

TECHNOLOGIES



iFi/AMR 'OV' ICs

This OV series operational amplifier is another example of a top-notch component used to get the best sound quality out of our products. The OVA2637 op-amp is used as it has low noise density and low distortion (0.0001%). This is an amplifier that performs on a much higher level sonically than the product price suggests.

ECPU

Panasonic ECPU capacitors

Each ECPU capacitor is constructed from some 3,500 layers of ultra-thin dielectrics less than 0.5 μ m thick. It offers class-leading Equivalent Series Resistance (ESR), low impedance and frequency stability and vanishingly low distortion.

TECHNOLOGIES



Texas Instruments ICs

TI low-noise ICs offer great Unity-Gain Bandwidth, very low-noise, high output-drive capability, Common-Mode Rejection Ratio: 100 dB and maximum-output-swing bandwidths, low distortion and high slew rate.



Class 1 ceramic TDK C0G

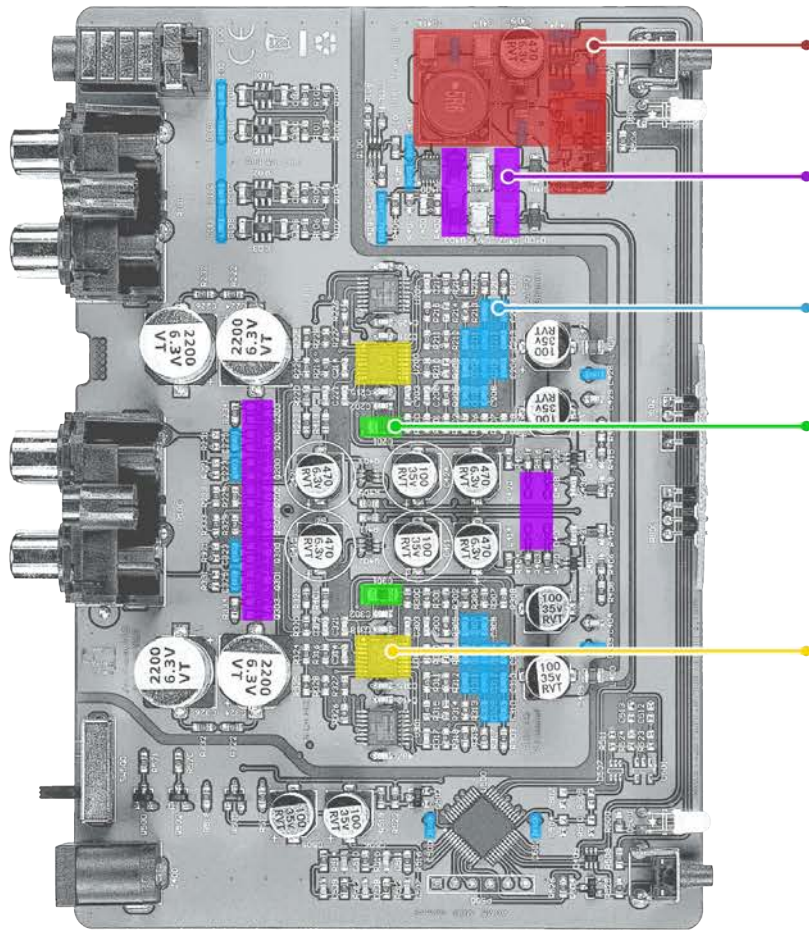
TDK C0G capacitors offer high stability and low losses for resonant circuit applications. They are pricey but are a perfect addition to our products.



Multi-layer capacitors

The ZEN Phono uses muRata control-type, low-ESR high-Q multi-layer capacitors. The 'ESR control' aspect of the muRata is something special. Their noise suppression abilities are impressive.

COMPONENTS



High-precision (1,2MHz) high-current power supply controller



Ultra-linear bipolar input transistor



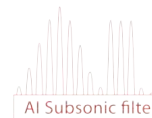
COG Capacitors: For audio use with extremely low distortion



Ultra-linear Panasonic capacitors



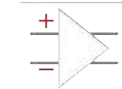
Low noise/ distortion OV2637A (0.0001%)
Performance equals/surpasses many high-end headphone amplifiers.



AI Subsonic filter



Balanced



Balanced Circuits

OUR VINYL DNA

A short history of our vinyl DNA

AMR made the PH-77 which was a £12,000 'Stereophile Class A' rated phono stage. It is a dual-mono, 35 kilo beast. It just sounds amazing.

Michael Fremer said, "The PH-77 is a sweet, tonally well-balanced, quiet performer that produced a large, authoritative sonic picture packed with honest detail."

iFi audio made the iPhono, and the iPhono2 and then, most recently we launched the iPhono3 Black Label that pushes the performance of our phono stages even further

Michael Fremer's advice, "If you own an iPhono2 and love it, sell it and buy an iPhono3. It's that much better. The improvement isn't incremental. It's a major step forward."

One customer said of the new iPhono3 Black Label, "My wife and I agree on the term "sweet" which is not an adjective I've ever heard to describe an audio component. But it is quite involving, and we don't want to stop listening."

Mr. D. O.

Our experience of making quite exceptional phono stages is long-standing and deep-rooted in the £1,000 and £12,000 sectors.

We have distilled much of the AMR/iFi audio vinyl design into the £200 segment with the ZEN Phono. It makes your vinyl come alive.

FAQs

- **What is it?**

It is a phono preamplifier that amplifies the low level signal from a turntable's pickup to a line level signal that can be applied to amplifiers, preamplifiers, mixers, A/D converters etc. The ZEN Phono also applies the required equalization per the RIAA standard.

While designed to be sold at a highly competitive price point and using ultra-modern manufacturing methods, the ZEN Phono's fundamental design is based on classic ultra-fidelity products. These were, in their time, considered as market defining (Vendetta Labs SCP-2, AMR PH-77). The ZEN Phono offers true high end performance, objectively and subjectively.

- **Who should use it?**

It is an extremely high performance phono stage, which is compatible with all kinds of vinyl pickups and can be used either to connect a turntable to an amplifier without a suitable input, or as substantial upgrade over in-built phono circuitry.

FAQs

- **How do I connect the ZEN Phono to my turntable?**

You need to connect your turntable's RCA outputs with the RCA inputs on the ZEN Phono's rear, and also connect your turntable's ground with ZEN Phono's grounding pin. This is located just next to its inputs.

- **How do I connect the ZEN Phono to my amplifier?**

From your ZEN Phono output of choice, you go to your amplifier's inputs. The ZEN Phono is a fully balanced product, so if your amplifier is balanced as well, we suggest you use the ZEN Phono's 4.4mm

Pentaconn output with a suitable cable. For equipment with XLR balanced inputs, a 4.4mm -> 2 * XLR cable is required. For equipment with 1/4" jack inputs, a 4.4mm -> 2 * 1/4" jack cable is required.

- **What types of cartridges can the ZEN Phono handle?**

The ZEN Phono works with all electro-dynamic stereo cartridges currently and historically manufactured, excluding optical, capacitive and strain gauge types which are exceedingly rare and require dedicated electronics. Please refer to the manual and our online calculator for detailed settings. (<https://ifi-audio.com/home/iphono-calculator/>)

FAQs

- **How do I know which cartridge setting is for me?**

Please see your cartridge's instruction manual, and select its type and gain setting via the gain switch located just next to the DC input on ZEN Phono's rear.

Alternatively, connect your turntable and try to play an LP in the MM setting of the selector. Should this not give acceptable playback levels at a normal volume setting (i.e. the volume is too low), move the cartridge selector to next higher gain position, turning the ZEN Phono OFF before changing the switch position. Please repeat until playback levels are normal.

If you find the playback is too loud and/or distorted despite the volume being set very low, please move the

cartridge selector one step towards the MM position, turning the ZEN Phono OFF before changing the switch position. Please repeat until playback levels are normal.

You may not be able to use the same volume setting as you do with modern CDs or downloads as many LPs are mastered less "loud", with greater dynamic range than modern digital recordings. It is normal to have to use a higher volume setting than with digital sources. If in doubt, select the lowest gain (closest to MM) setting that gives satisfying playback levels and does not require you to turn the volume up excessively.

FAQs

- **How will I know that the ZEN Phono engaged the right setting for my cartridge?**

One of four LEDs on the ZEN Phono's front will indicate the setting selected via the gain switch on its rear. Please see if a LED corresponding with your cartridge is engaged.

- **Can I use a DC power supply more powerful than suggested 5V?**

As long as the voltage is 5V +/-10% and with the correct polarity any power supply, (including USB using a suitable adapter cable), can be employed.

- **Can I power ZEN Phono from my USB port?**

If it provides 5V as requested and you have a suitable cable, then yes.

- **Is ZEN Phono's DC input with a center pin positive or negative?**

ZEN Phono's center DC pin is positive.

FAQs

- **How is the ZEN Phono's 4.4mm balanced output wired?**

It's wired accordingly to the Sony standard.

- **Can the ZEN Phono be powered on all the time?**

Yes, it can be powered on constantly, but to be kind to the planet, we suggest to power it off if you don't intend to use it.

- **What does the 'subsonic filter' button do? And should I have it engaged?**

The subsonic filter removes extreme low frequencies resulting from warped records (records that are not perfectly flat). Such signals can cause the so-called "woofer pumping" effect, excessive distortion and possibly damage to speakers if the volume is set too high.

The way the filter is implemented in the ZEN Phono only removes the unwanted (vertical) extreme low frequencies, however actual bass signals present on the LP are allowed to pass unaltered with a -3dB point of 16Hz (generally the lowest signals that are cut on LP tend to be 32Hz and up).

You should engage this filter if your woofers show visible "pumping" as in [this video](#).

LIFESTYLE DESKTOP SYSTEM

When combined with ZEN CAN

- Creates a lifestyle vinyl system
- Compact desktop headphone system
- Future expansion with active speakers



SPECIFICATIONS

Gain Settings	MC (vlo)	72dB (+/- 1dB)
	MC (lo)	60dB (+/- 1dB)
	MC (hi)	48dB (+/- 1dB)
	MM	36dB (+/- 1dB)
AI Sub-sonic filter	20v RMS BAL output into 100k (< 1% THD & N)	
	13.5V RMS BAL output into 600R (< 1% THD & N)	
Output Impedance	MC (vlo)	72dB (+/- 1dB)
	MM	36dB (+/- 1dB)

SPECIFICATIONS

Signal / Noise Ratio	94dB (A weighted) MM re 2V BAL/1V UNBAL
	80dB (unweighted 80kHz BW) MM re 2V BAL/1V UNBAL
	84dB (A weighted) MC Hi re 2V BAL/1V UNBAL
	71dB (unweighted 80kHz BW) MM re 2V BAL/1V UNBAL
	90dB (A weighted) MC lo re 2V BAL/1V UNBAL
	79dB (unweighted 80kHz BW) MC lo re 2V BAL/1V UNBAL
	79dB (A weighted) MC vlo re 2V BAL/1V UNBAL
	69dB (unweighted 80kHz BW) MC vlo re 2V BAL/1V UNBAL

SPECIFICATIONS

EIN (equivalent input noise)	0.6nV /Hz (unweighted) MC lo/vlo	151dBV (A weighted)
		141dBV (unweighted)
	6.5nV /Hz (unweighted) MM/MC hi	130dBV (A weighted)
		119dBV (unweighted)

Harmonic Distortion	< -110dB / 0.0003% MM re 2V BAL/1V UNBAL
	< -80dB / 0.01% MC lo re 2V BAL/1V UNBAL
	< -86dB / 0.005% MC vlo re 2V BAL/1V UNBAL

Net weight	515g / 1.14 lbs	Power Supply	DC 5V / 500mA	Dimensions	158 x117 x35mm / 6.2" x
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ZEN Phono

