



ifi  
audio

**micro iPhono3 Black Label**

# What is a phono stage?

## And why do I need one?

A phono stage, also called a phono pre-amp, provides the connection between the record cartridge/pickup (stylus) and the amplifier.

Turntables cartridges output a very small signal. This signal needs amplifying up to several hundred times the original size before it is loud enough for your amplifier. A phono stage increases the signal level from millivolts to volts.

Some integrated amps and preamps have phono stages built in, but these vary in quality and are never as good as a well-designed offboard phono stage placed in the signal chain between the turntable and a line-level input on the amp. For serious turntable users, a separate phono stage is a must.

## Introducing the iPhono3 Black Label

As music lovers across the land return to the tactile virtues of vinyl, so the demand for high-quality turntables has increased. This has raised the need for high-performance phono stages to make the most of the wonderfully natural and engaging sound of which vinyl records are capable.

Several years in development, our new flagship phono stage – **the iPhono3 Black Label** - is user-configurable to match any MC or MM cartridge and suit every record.

We feel it delivers performance and versatility that place it in a league of its own in the circa £1,000 category, competing with devices at much more rarefied prices.



# MC or MM?

## What do we mean by MC or MM?

Turntables cartridges (the stylus section) come in 2 types. MM = Moving Magnet MC = Moving Coil

On a MC cartridge, the coils are mounted on the stylus cantilever while the magnet is fixed. Here, the moving (vibrating) coils inside the fixed magnet form a tiny electromagnetic generator that produces the electrical music signal. The coils move with the stylus.

On a MM cartridge, there is mounted a permanent magnet on the stylus cantilever. As the stylus traces the grooves, the magnet vibrates between two sets of fixed coils inside the cartridge. The moving (vibrating) magnet inside the fixed coils create a tiny electromagnetic generator that produces the electrical music signal. The magnet move with the stylus.

## Is one better than the other?

In a nutshell, audiophiles tend to prefer MC cartridges for sonic performance.

MC cartridges provide more precise tracking of the grooves in your record. The sound is more dynamic. MC cartridges can be quite pricey and require a low noise, precise turntable set-up to perform well.

MM cartridges are usually found on affordable turntables. They are normally lower priced and don't require such a precise, low-noise turntable set-up.

Our iPhono3 Black Label works with both.

## Need help setting up your iPhono?

No problem! Just use our specially developed iPhono Calculator on our website.

<https://bit.ly/iFiiPhonoCalculator>



# The curious EQ curve.

## Not all LPs are created equal.

LP pressings have different EQ curves. An EQ curve allows a manufacturer to boost or cut particular signal frequencies as they wish. This shapes the 'character' of the sound/tracks on the LP.

At the introduction of the Long Play record (LP) in 1948, most record companies implemented their own particular equalisation curves and they also continued to experiment with others in order to get the best performance from their records. This led to a multitude of varying equalisation curves being applied worldwide.

In the mid-1950s, most adopted the RCA Orthophonic equalisation curve as the common standard. This was championed by the Recording Industry Association of America (RIAA) and became known as the 'RIAA equalisation'.

However, as an essentially American standard, it had little impact outside of the USA. The RIAA equalisation only became a truly international standard by the mid to late 1970s when European recording labels began to adopt it. Asian recording labels joined the bandwagon even later and many Eastern European recording labels were still using their own CCIR equalisation right up to the fall of the Berlin Wall.

And even though many had agreed to adopt the RIAA standard, many record labels continued to use their proprietary equalisation, even well into the 1970s - Columbia in the USA and Decca/Telefunken/Teldec in Europe for example.

## iPhono3 Black Label to the rescue.

With the above in mind, we developed the iPhono3 Black Label to work with the 6 most common EQ curves. It will precisely 'correct' the recording with the intended equalization curve.





iFi

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Joni Mitchell

S A D E

# Why iPhono3 Black Label?

- Driven by iFi's Class A TubeState engine and Direct Drive Servoless design
- Wide range of settings – gain, load and EQ curves – to precisely suit the connected phono cartridge and the LP being played
- Ultra-low distortion and class-leading dynamic range
- Super-low noise floor – one of the 'quietest' phono stages at any price, lets you hear every detail
- High gain of 72dB on par with high-end phono stages at twice the price
- Cable connections are at opposite ends of the slim line chassis – MM/MC inputs at one end, power in and audio out at the other



# Comparison

		<b>iPhono3 Black Label</b>	<b>Leading Phono Stage</b>
Price		\$999	\$3,000
EQ Curves		6	1
Frequency Response (20Hz – 20kHz )		±0.2dB	±0.25dB
Gain		36-72dB	44-72dB
Dynamic Range	MM	(36dB): > 108dB (A-weighted)	not stated
	MC	(60dB): > 106dB (A-weighted)	
Signal to Noise Ratio	MM	(36dB): > 85dB (A-weighted re 0.5mV)	82dB
	MC	(60dB): > 85dB (A-weighted re 0.5mV)	74dB
Overload Margin	MM	(36dB): >26dB (re. 5mV, @ 1% THD)	>22dB
	MC	(60dB): >22dB (re 0.5mV, @ 1% THD)	
Max. undistorted output		7V (Load >= 600 Ohm, THD <=1%)	
Total Harmonic Distortion (THD)		<0.005%	<0.01%
Output Impedance		<100Ω	<200Ω

# Technologies



Unlike a typical phono stage, the iPhono3 Black Label's circuit is direct-coupled – that is to say, there is no coupling capacitor from cartridge to output. It achieves this without requiring a conventional DC servo. We call this design Direct Drive Servoless, and this incorporates our proprietary DC Infinity circuit that boosts DC gain to a level approaching infinity. This contributes greatly to the iPhono3 Black Label's audible clarity, accuracy and transparency.



Our TubeState engine is a solid-state circuit design created to capture the key attributes that make valve circuits so sonically appealing whilst maintaining ultra-low distortion. The key is not to just replicate the harmonic distortion that 'mimics' tube sound in solid state, but to avoid certain other types of distortion that damage sound quality. Everything should sound crisp and clear, yet no single element within the musical whole is over-emphasised.



Tailor the performance of the iPhono3 Black Label to match your phono cartridge and record collection. A series of DIP switches on the underside of the unit enable gain and load to be set. Gain can be adjusted between 36dB and 72dB, alongside a wide variety of load values – 8 for MC cartridges and a further 5 for MM cartridges. You can also select the precise EQ curve you need plus a series of advanced settings to counteract warped records and give an even higher frequency response.

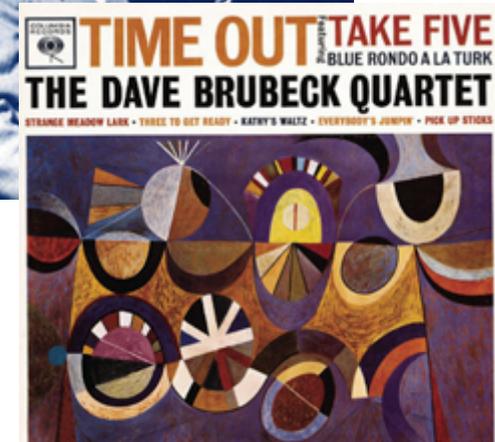
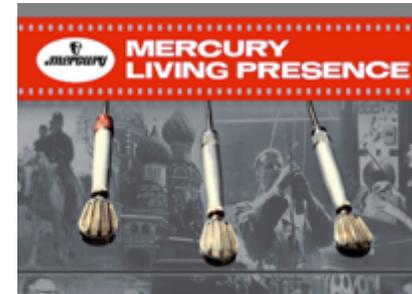
Find out more on all these technologies in our comprehensive tech note on our website at [https://bit.ly/theTech\\_iPhono3BlackLabel](https://bit.ly/theTech_iPhono3BlackLabel)



# LP & EQ recommendations

The following are some of our suggested LPs with the precise EQ curve. It sheds some light on how magical the performance of such coveted records need the correct EQ curve.

The original Mercury Living Presence series	Decca FFSS, Decca FFRR EQ
The original Deutsche Grammophon Classical records	Decca FFSS, Decca FFRR, CCIR EQ
The original Miles Davis records	Columbia EQ
Verve Jazz records, with performers like Charlie Parker, Count Basie, Ella Fitzgerald, Nina Simone and The Righteous Brothers etc	Columbia & AES EQ
The original Dave Brubeck Quartet records	Columbia EQ
A significant number of the original stereo Decca (Europe) records	Decca FFSS, Decca FFRR EQ)
Rectify high-frequency roll-off and excessive phase shift of all, including Neumann and Western Electric vinyl cutting lathes	Enhanced RIAA EQ



The labels on our list also issued many records based on the RIAA equalisation as well.

# LP & EQ recommendations

Here's a short and sweet summary for you.

Columbia*:	most Columbia/CBS, Epic, EMI (records originally issued under Columbia) etc.
RIAA:	Standard EQ curve for all records issued after 1980s and some after 1950s.
Decca*:	Most Decca, London, Deutsche Grammophon (DG), Archiv, EMI, Argo, NAB etc

\*For pre-1980 records

## Tips and Tricks

If an LP sounds overly bright, edgy, thin and lacking scale and body via RIAA EQ, please try Decca EQ.

If an LP sounds both too bright and with muddy overblown bass, please try the Columbia EQ.



# Components

**nichicon**  
Nichicon audio-grade capacitors

**ELNA**  
Elna Silmic II capacitors

**TDK**  
COG capacitors

For audio use with extremely low distortion

**TDK**  
COG capacitors

For audio use with extremely low distortion



MELF resistors  
precise, costly but superior

**DIODES**

Computer-matched pair complementary planar  
Ultra-low noise bi-polar input transistors

**Panasonic OSCON**

Excellent noise reduction capability  
and frequency characteristics



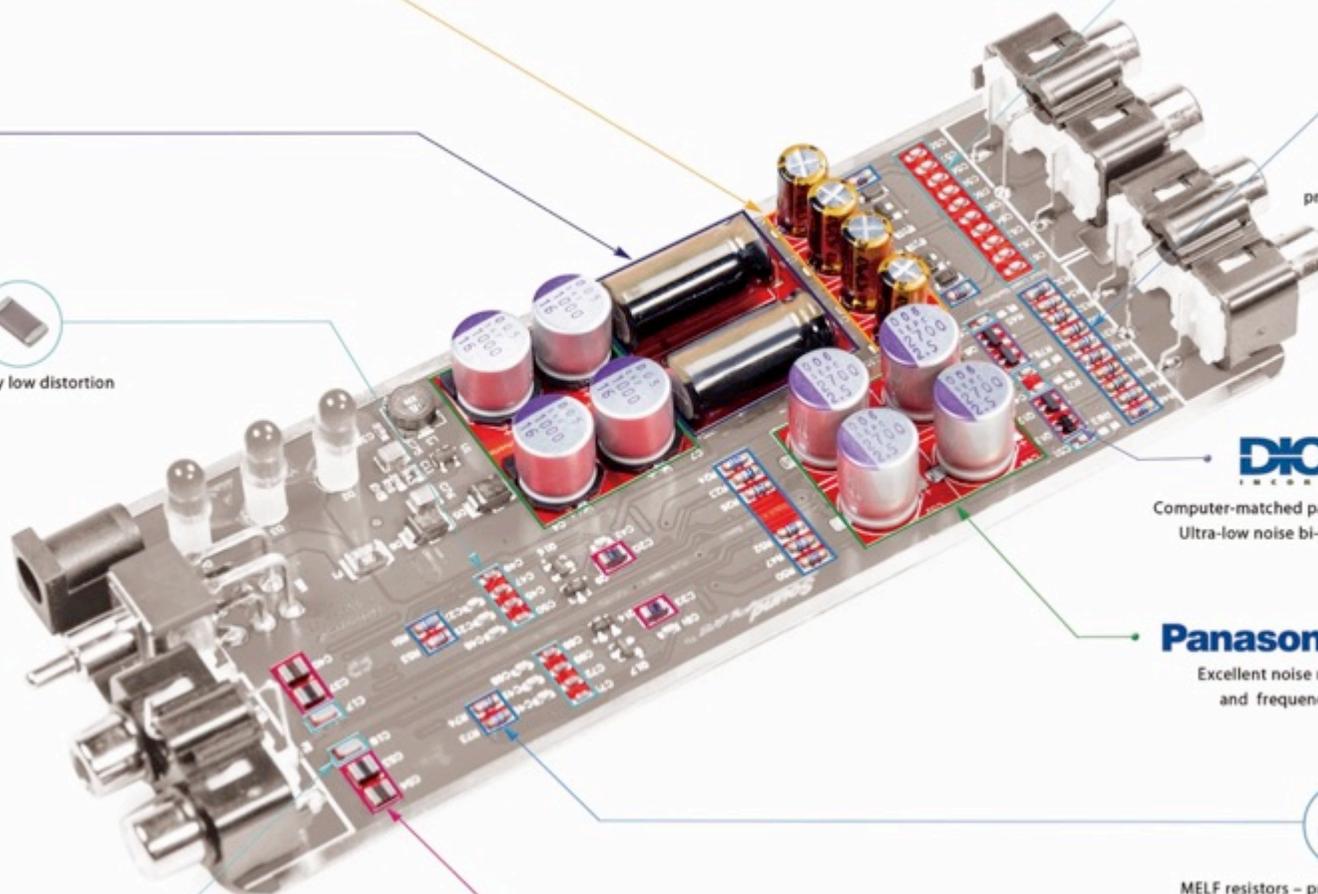
MELF resistors – precise, costly but superior

**TDK**  
COG capacitors

For audio use with extremely low distortion



**Panasonic ECPU**  
Panasonic film capacitors



# What's in the box?

**ifi**  
warranty

In order to activate the warranty for this ifi product, you must register with the ifi website.

Component:  
Serial no:

**Terms and Conditions**

**After-Sales**

**3 Easy Steps...**

Step 1: Register your product  
Step 2: Receive your warranty card  
Step 3: Enjoy your product

Please do not hesitate to contact us if you have any questions concerning the product or its usage.  
<http://support.ifi-audio.com/>

**MQA Setup**

For the best listening experience please visit [www.mqa.com](http://www.mqa.com)

**TIDAL**



# Specifications

Freq. Resp.:	10Hz – 100KHz ( $\pm 0.3$ dB) 20Hz – 20kHz ( $\pm 0.2$ dB)
Dynamic Range:	MM (36dB): > 108dB (A-weighted) MC (60dB): > 106dB (A-weighted)
Signal-to-Noise Ratio:	MM (36dB): > 85dB (A-weighted re. 5mV) MC (60dB): > 85dB (A-weighted re. 0.5mV)
Overload Margin:	MM (36dB): > 26dB (re. 5mV, @ 1% THD) MC (60dB): > 22dB (re 0.5mV, @ 1% THD)
Crosstalk:	<-71dB(1KHz)
Maximum undistorted output:	7V (Load $\geq$ 600 Ohm, THD $\leq$ 1%)
Total Harmonic Distortion (THD):	<0.005% (MM 36dB 1V out 600R Load)
Output Impedance:	<100 $\Omega$
Input Voltage:	15V/1.2A, AC 100 -240V, 50/60Hz (with iPower X)
Power Consumption:	< 5W (ships with iPower X 15v – do NOT use any other power supply)
Dimensions:	178 x 64 x 26 mm / 7.0 x 2.5 x 1.0 inches
Weight:	265g / 0.58 lbs

**BLACK LABEL**  
*iPhono3*

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