



## PRESS RELEASE

### **Introduction Ferrum ERCO headphone DAC/AMP Desktop high end just became a thing**

It is no small feat when you realize you've probably succeeded in creating yet another winner. The only thing we had to do, was to put one and one together. Like a professional chef we set out getting the ingredients from our own back garden. We simply had to integrate parts of the awarded HYPPOS technology and lend some of OOR's magic to make ERCO really work. The final ingredient proved to be the culmination of 20+ years' worth of experience in making DA converters. And man, did we pull it off. We managed to get the best out of our two winners and put it in our new sibling, adding awesome DA conversion to the mix. The team even succeeded to take it up a notch in their efforts to make ERCO go the extra mile. In fact, they managed to fine tune the IC power design with discrete elements to get as close to OOR as possible. Based on many years of experience with making of DA converters the engineering team rewrote the code for the specialized ARM processor from scratch to optimize all digital ports (USB, coaxial and optical S/PDIF) for audio and make MQA function more efficiently. In this sense ERCO can be looked upon as an incubator product. In the end ERCO could kickstart anybody's journey into the realm of high quality hifi and superb sounding music, that some call high end audio. To be able to do that we needed ERCO to be super simple and straight forward in its design language, both industrial and electrical. This simplicity and sophistication are what makes ERCO smart.

ERCO has a truly balanced topology, borrows heavily from OOR's excellent headphone amplifier and power section designs. On ERCO's stylishly understated front with its logo cut in corten steel, we see only three knobs. One to control volume, one to set the gain level to match your headphone's and one to select one of four inputs. A small LED indicating MQA status sits beside the two headphone outputs, one balanced Pentaconn and one unbalanced jack. For the best possible sound, we used a DAC chip from industry leader ESS we feel most comfortable with. On the rear we put four inputs and a trigger output. You can connect one analogue and three digital devices (via optical, coaxial or USB-C) and two output devices, one balanced (XLR) and one unbalanced (RCA). The logo brightness can be dimmed with the slider and the two DC power inputs (FPL and standard 2,5 mm DC pin) connect ERCO with the power supply of choice.



While ERCO plays beautifully right out the box, using the power supply we carefully selected to feed its unique electrical topology, its musicality can be elevated to even higher levels when used together with our HYPSES power system. Using our proprietary FPL cable HYPSES can perform its magic deeper into ERCO than anything else on the market today.

The name ERCO (not pronounced airco but ertso) is Esperanto for ore. We like to think ERCO will be able to forge musical gems from its components that lie inside of it. No matter what you connect ERCO to, be it your favourite set of headphones or powered speakers, it will turn your desktop into a place of high end. For some ERCO will prove to be their musical ceiling, for some the start of a beautiful journey. But any which way you look at ERCO, it is destined to bring you the real thing. No coloration, low distortion, high dynamics. Your music will get the perfect canvas, with a background of absolute silence.

**Clearing the path for high end audio** - perfect mix of flagship Ferrum technology combined with high grade in house developed Digital to Analog conversion. Choose from three digital and one analog input.

**Suited for high end personal audio** - connect your favourite headphones to the balanced 4,4mm or unbalanced 6,35mm headphone jack outputs or powered loudspeakers on your desktop to the XLR or RCA outputs to perform to their max.

**Truly Balanced** - the signal path is truly balanced from early D/A stage and becomes truly balanced using the RCA inputs.

**Ease of use** - only three knobs to control all settings.

**Proprietary amplification** - fully balanced modified IC power amp.

**Optimized Digital inputs** - specially programmed USB, coaxial and optical S/PDIF ports, optimized for audio.

**Optimized MQA** - ARM optimized MQA decoder and renderer.

**Enhanced transparency** - the whole design is focussed on a balanced and very transparent sound signature, making listening fatigue something of the past.

**Made for HYPSES** - while ERCO performs very good right out of the box it is made to excel above and beyond when used together with HYPSES. Using the proprietary Ferrum Power Link (FPL) connection HYPSES will perform to its maximum, unleashing unheard musicality when combined with ERCO.



## Specifications Ferrum ERCO headphone DAC/AMP:

Headphone output gain:	balanced -5.8 dB, +6 dB, +17.8 dB; single ended -11.8 dB, 0 dB, +11.8 dB
Operation:	fully balanced, proprietary IC power amp
Power inputs:	5.5/2.5 mm DC connector center positive; proprietary FPL 4-pin DC connector (FPL)
Analog inputs:	RCA (Consumer level; Pro option with future software update)
Digital inputs:	USB-C (all formats); S/PDIF Optical (up to 24-bit/96 kHz, DoP64); S/PDIF Coaxial (up to 24-bit/192 kHz, DoP64)
DAC chip:	ESS Sabre ES9028PRO
PCM sample rates (kHz):	44.1 / 48 / 88.2 / 96 / 176.4 / 192 / 352.8 / 384
DSD sample rates (MHz):	2.8224 / 3.072 / 5.6448 / 6.144 / 11.2896 / 12.288
MQA:	decoder and renderer
DAC resolution:	PCM up to 384k@32bit; DSD up to 256 (11.2 MHz / 12.2 MHz)
Headphone jack outputs:	balanced 4.4 mm (TRRRS); unbalanced 6.35 mm (TRS)
Line outputs:	balanced XLR; unbalanced RCA (both Consumer level; Pro with future software update)
Volume control:	analogue with bypass option (bypass for line outputs only)
Frequency response:	10 Hz – 30 kHz (+/- 0.05 dB) 10 Hz – >200 kHz (+/- 1 dB)
Output power unbalanced:	300 mW into 300 $\Omega$ ; 1,7 W into 50 $\Omega$
Output power balanced:	1.2 W into 300 $\Omega$ ; 6.1 W into 50 $\Omega$
THD on balanced output:	< 0.00018% / -115 dB, 1 mW into 16 $\Omega$ ; < 0.00018% / -115 dB, 100 mW into 16 $\Omega$
THD on unbalanced output:	< 0.00032% / -110 dB, 1 mW into 16 $\Omega$ ; < 0.00057% / -105 dB, 100 mW into 16 $\Omega$
Dynamic range analog:	130 dB (A-weighted)
Dynamic range digital:	120 dB (A-weighted)



Input impedance:	47 k $\Omega$
Output impedance unbalanced:	22 $\Omega$ on pre-amp
Output impedance balanced:	44 $\Omega$ on pre-amp
Output impedance Headphones:	< 0.3 $\Omega$
Power consumption:	idle <15 W
Power adapter:	100-240V AC to 22-30V DC
Dimensions (W x D x H):	21.7 cm x 20.6 cm x 5 cm / 8.6" x 8.1" x 2.0"
Weight:	1.8 kg / 3.97 LBS
Price:	2.395 EUR/USD

### **About Ferrum:**

Looking at the competencies of HEM and the rich local history of quality craftsmanship in the Warsaw region of Poland inspired the idea of creating a new brand of quality hifi products. The Ferrum brand was created in early 2020 and set out to combine sustainability, durability, and quality into compact yet attractive packages, focused on one thing only: delivering the best possible audio experience at an affordable price level. When Ferrum created HYPSONS, it redefined power supply designs. When Ferrum created headphone amp OOR, it raised the bar for intimate, analog listening through your favourite headphones. With headphone DAC/AMP ERCO, Ferrum put one and one together to forever change the way you will enjoy digital and analog audio. Exciting future products will follow suit in unique, exiting, and new ways.

### **About HEM:**

Founded more than 20 years ago in Warsaw, Poland by Marcin Hamerla, HEM set out to operate at the forefront of audio technology. Having done several projects for the Polish government, HEM's focus shifted to industry leading digital technology in collaborating with Mytek Digital. Experimenting with hi-res audio and Master Quality Authenticated files in particular, HEM manufactured the finest Digital to Analogue converters in the world under the Mytek brand. Apart from being responsible for manufacturing Mytek, HEM distributed the brand in European and Far Eastern markets. Another brand in HEM distribution is Clarus Cable. HEM recently introduced a new and completely in-house developed brand of hifi products under the name Ferrum, which HEM will be distributing as well. Because of HEM's in-house Research & Development and Software Programming Division, fields of expertise also include manufacturing of original electronic equipment (OEM) and electronic designs (ODM).

### **Editorial note:**

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