

*"UNCOVER, OPEN, REVEAL..."*  
THE **APERIO** FROM WARWICK ACOUSTICS



WARWICK ™  
ACOUSTICS

# APERIO

WARWICK ACOUSTICS



**“For those who  
want the best...”**

**APERIO** - from the Latin, meaning to *uncover, open, reveal*.

The model name for Warwick Acoustics' flagship, reference headphone system is a literal match for our design goal: *to reproduce and reveal all recorded audio content definitively, without alteration*.

The APERIO is designed for the demanding professional audio market, as a reference studio monitor headphone system for High-Resolution Audio production, mastering, mixing and recording applications. Moreover, the APERIO is designed to be equally capable in ultra-high-end home consumer applications.

The APERIO reference headphone system strives to deliver the highest level of audio performance achievable, by means of our proprietary planar electrostatic technology.

The APERIO utilizes a highly-refined, evolutionary advancement of technology originally developed by Warwick Acoustics for its ground-breaking and multi-award-winning Sonoma Model One Headphone System.



# DESIGN PHILOSOPHY

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Central to achieving our performance goal is the Design Philosophy behind the APERIO - a concept embodied in every product developed by Warwick Acoustics and the mantra of our design and development team, from initial concept through final production. To be truly revealing of all audio content without alteration requires the entire sound reproduction system, or every element in the signal path, to be accurate and free from all forms of distortion - in a word, completely "transparent". The reproduction system cannot impose its own sonic character - or colorations of any kind - upon the audio content. All data, whether it be analog or digital, must be reproduced unadulterated.

Warwick Acoustics espouses a "Complete System Design" approach for all of our products. Complete System Design entails development and engineering of every element in the signal path of the sound reproduction system, from the initial delivery of analog or digital audio content (data) to the final sound at the listener's ears.

The APERIO represents the pinnacle of this design philosophy by eliminating compromise for every element of the system and employing extraordinary attention to detail. A "flagship" or "reference" product should inherently mean that no compromises in design or execution are acceptable and that all the details matter.

We believe a "Complete System Design" philosophy is necessary and required to achieve the highest level of audio performance and sound quality. This is analogous to a computer company controlling and optimizing the hardware and OS software together, or to a premium automotive brand developing an ultra-high-performance sports car ("supercar" or "hypercar").



The highest levels of performance cannot be achieved with a “Hot Rod” approach of mixing and matching disparate components and technologies because they are not optimized to work together in a synergistic manner. Engineering of a complete and fully-optimized system will always outperform a combination of separately- engineered components at the highest levels.

This Engineering philosophy is well-understood, accepted and applied in the computer, aerospace and automotive worlds. And we believe the same philosophy is valid for sound reproduction.

The APERIO’s purpose is simply to reproduce audio content as pristinely and accurately as possible – without change or alteration. And this can only be achieved by means of a Complete System Design methodology.

While the APERIO exhibits exceptional audio performance measurements, both electrical and acoustical, it was not designed to meet specific measurements or expressly to measure well.

The performance measurements serve primarily to validate that relevant key metrics have been met and that no performance anomalies have obscured sound reproduction. We believe measurements do not fully characterize a product’s sound quality; however, we feel they are a necessary and crucial part of the design process, and provide confirmation that units are performing properly after assembly. Warwick Acoustics is one of the very few manufacturers to provide individual measurements of every system built to end users.

A final element of our Design Philosophy for the APERIO should be apparent from its appearance.

This is a product that employs the finest materials available in a carefully-assembled system of the highest build quality possible. Warwick Acoustics believes in and adheres to a “Form Follows Function” industrial design principle (per the American architect Louis Henry Sullivan), epitomized by the APERIO.

We do not design our products to appear purposely “exotic” or over-stylized, like much of the “audio jewelry” that inundates the high-end consumer audio market. Instead we aspire for our products to look and feel beautiful in an authentic, functional way, with an innate, timeless element of “quality” in every piece.



*Balanced-Drive High Precision Electrostatic Laminate (BD-HPEL)*

# TRAVEL CASE

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The complete APERIO system, (headphone, electronics, accessories), is packaged in an exceptionally durable travel case, formed of heavy-duty Polypropylene.

This case is watertight, crushproof, and dustproof, and features an automatic pressure equalization valve that balances interior pressure, keeping water out. The case also features a retractable extension handle, stainless steel hardware and four polyurethane wheels. This rugged case provides complete protection of the entire APERIO system and enables it to be conveniently transportable.



# APPLICATIONS / FEATURES

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**NEW**  
High Resolution Color LCD Screen

The APERIO is designed for demanding applications that require ultra-high resolution and higher output levels.

The APERIO has been optimized for resolving the most minute, low-level details present on any form of audio media. These capabilities must be achieved without inducing distortion artifacts and other anomalies, such as “listener fatigue”. Sound reproduction quality and audio performance should be identical at all listening levels.

The APERIO features a wide range of inputs, including balanced and unbalanced analog, AES3 (AES/EBU), S/PDIF Coaxial, USB and Ethernet (LAN).

The APERIO is unique in being a fully networkable product that exceeds typical DLNA limitations and allows digital audio reproduction of native or DoP 256 fs DSD and higher sample rate PCM formats to 384 kHz.

Within the APERIO all audio signals are kept in their native domain and format: analog always remains analog; DSD stays DSD until its final conversion to analog; PCM sample rates are never converted. The signal path is pure, as direct as possible and unadulterated.





The APERIO also features an exceptional Line Output section for driving other electronics and sound reproduction components that include outboard amplifiers and loudspeakers. Balanced and unbalanced outputs are capable of driving very long cables to the highest levels with prodigious current delivery.

For studio applications, downstream components connected by 150-meter balanced cables can be driven to 15 dBu without distortion.

The Line Output feature, in conjunction with an uncompromised Digital-to-Analog Converter (DAC), preamplifier functionality and outstanding audio fidelity, enable the APERIO to perform optimally

as the central hub of a state-of-the-art, two-channel studio monitoring system or ultra-high-end home audio system.

The APERIO indicates its output level in precise 0.1 dB increments via a front panel full-color, high-resolution display.

This display also alerts the user if any faults such as output clipping, overheating or disconnected cables are detected.

The APERIO's firmware is updateable via its USB input, using a simple APP for any Windows / MAC / Linux-based host. This feature allows users to keep the APERIO current and up-to-date over its full lifetime.



**NEW**  
Fully networkable, exceeding typical DLNA limitations

**NEW**  
High current line Output

# IN SUMMARY...

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The Warwick Acoustics APERIO is designed without compromise to set new standards in sound reproduction, and to redefine the level of audio performance achievable in a headphone system.

The APERIO is hand-crafted in very limited quantities, assuring the highest degree of performance and quality.

The heritage of Warwick Acoustics' Engineering and development team has its genesis in high performance professional audio, specifically developing tools required for the production of High Resolution Audio recordings. Just as premium automotive brands draw upon

their experience and cutting-edge technology from competitive racing programs, Warwick Acoustics leverages decades of professional audio development of the most advanced and innovative gear ever produced.

The APERIO is a distillation of the collective passion, expertise and experience of the Warwick Acoustics development team and represents our vision of advanced technology in the service of art. It is our hope that everyone fortunate enough to listen through the APERIO will experience what we intended - whether in the creative process of producing music or in the enjoyment of hearing music re-created.



# SPECIFICATIONS

## HEADPHONE SPECIFICATIONS:

Configuration	Open-back; circumaural type
Transducer	Balanced-Drive High Precision Electrostatic Laminate (BD-HPEL)
Effective Diaphragm Area	3570 mm <sup>2</sup>
Frequency Response	10 Hz - 60 kHz
Output Level (SPL)	Compliant with EN 60065/A12:2011 (EN50332) when driven by APERIO electronics (for all inputs); digital input: ~ 104 dB; analog input: ≥ 106 dB (continuous, est.)
Ear and Headband Cushions	"Cabretta" top-grain, sheepskin leather; perforated surface on ear cushions
Input	Polarized, 4-pin, self-latching connectors for left and right channels
Drive Cable	Dual mono, shielded, ultra-low capacitance; silver-plated OFHC ultra-fine stranded copper, with silicone insulation and Kevlar reinforcement; 2 meter length
Weight	399 grams (14 oz.), without cable

## ELECTRONICS SPECIFICATIONS:

Balanced Analog Inputs	Dual (female) XLR jacks; switchable (high / low) input range; 18 dBu / 10 dBu
Unbalanced Analog Inputs	Dual RCA jacks; switchable (high / low) input range; 5.0 V <sub>rms</sub> / 2.1 V <sub>rms</sub>
USB Digital Input	Type B jack; USB 2.0; accepts digital audio formats up to 32-bit / 384 kHz PCM and DSD (DSD64/DSD128/DSD256) via DoP or Native
Network (Ethernet LAN) Digital Input	RJ45 jack; DLNA-compatible; accepts digital audio formats up to 32-bit / 384 kHz PCM and DSD (DSD64/DSD128/DSD256) via DoP or Native
AES3 (AES/EBU) Digital Input	XLR (female) jack; accepts digital audio formats up to 24-bit/192 kHz PCM
S/PDIF Coaxial Digital Input	RCA jack; accepts digital audio formats up to 24-bit/192 kHz PCM
Line Outputs	Balanced and unbalanced, high current outputs; +5 dB gain; switchable
Digital Formats	PCM: 16-32 bit / up to 384 kHz; DSD: up to 256 f <sub>s</sub> DoP and Native
Equalization	HP only: digital EQ (DSP) for PCM sources; analog EQ for analog and DSD sources
Digital Signal Processing (DSP)	64-bit (double-precision) fixed-point processing at native sample rates
Switchable Gain	Rear panel switch; high level / low level selection for balanced analog input (professional audio and consumer levels) and unbalance analog input
Source Selection	Multi-position front panel selector with indicator LEDs for all sources
Level Control	Front panel, 31-position; digital and analog domain volume control (HP & Line Out)
Status Display	Front panel, 51 mm, full color, QVGA, TFT LCD (240 x 320 pixels)
Display Functions	Digital readout and bar graph of volume control setting; display of digital audio data format; display of rear panel analog input (gain) settings; display of Ethernet and USB data link transmission lock; display of detected fault modes and output clipping
Auto Fault Detection	Automatic detection, display and protection for: output amplifier clipping, unplugged connections and malfunctioning wiring, over-temperature conditions and internal electrical faults
DACs	2 x dual mono, 32-bit / 384 kHz DACs with balanced outputs, for PCM & DSD inputs
Amplifier/Energizer	Balanced, discrete MOSFET, high-bias, single-ended Class A output; dual mono topology, including power supply; 1800 V <sub>DC</sub> bias (charge) voltage
Distortion + Noise	< 0.001%
Bandwidth	> 65 kHz
Enclosure	CNC-machined 6063 aluminum
Power Supply	External: world voltage compatible (90-264 Volt AC, 50-60 Hz); 24 Volt DC, 200 VA (8.333 A), fixed frequency, class B-compliant SMPS; Internal: isolated, dual mono; switching and ultra-low-noise linear regulation
AC Mains	Types B, C, F, I; IEC-60320 C14, earth-grounded power cable; 1.5 meter length
Dimensions	H x W x D: 68 mm (2.68 in.) x 413 mm (16.26 in.) x 351 mm (13.82 in.)
Weight	7.4 kg (16.28 lbs.), without Power Supply

NOTE: All specifications shown are subject to change without notice.

DESIGNED TO AMAZE

# APERIO

WARWICK ACOUSTICS 

AT WARWICK ACOUSTICS,  
WE CREATE GROUND-BREAKING  
AUDIO PRODUCTS DESIGNED WITH A  
SINGLE-MINDED MISSION;

TO DELIVER TRULY REMARKABLE  
LISTENING EXPERIENCES

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