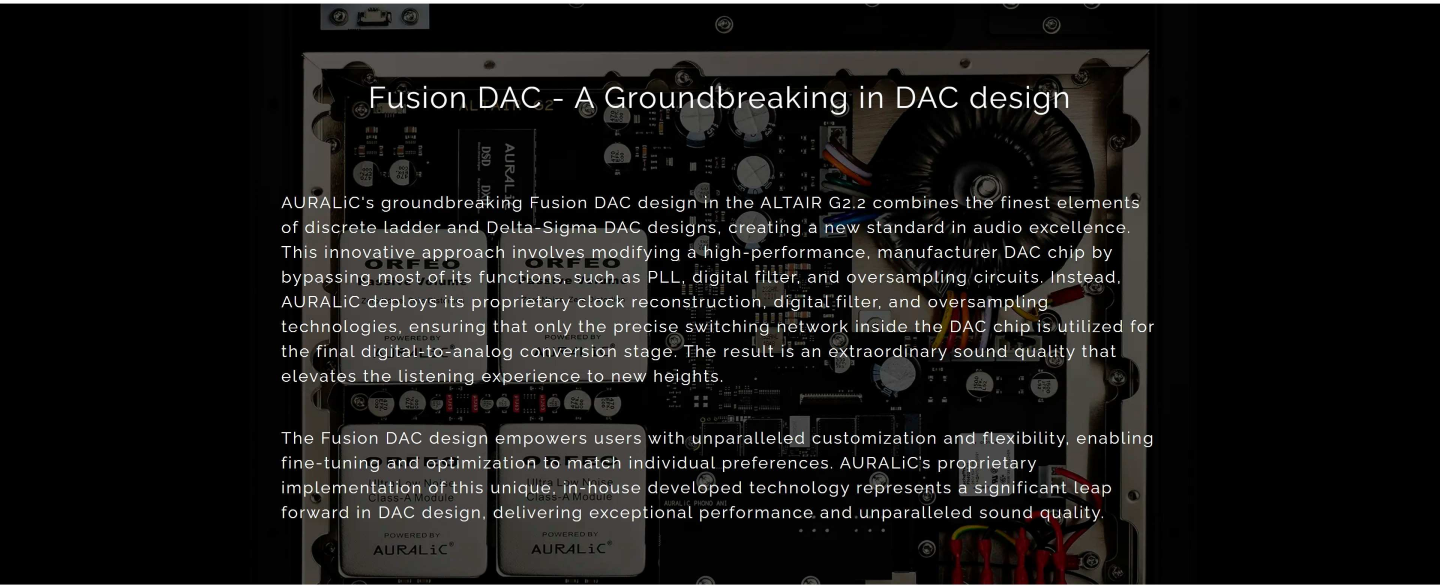
AURALiC
Sound of Innovation

ALTAIR G2.2

Digital Audio Streamer

The highly acclaimed ALTAIR all-in-one streamer has received its eagerly awaited update. Introducing the ALTAIR G2.2, meticulously crafted on AURALiC's cutting-edge Tesla G3 platform, integrating Fusion DAC design, Direct Data Recording (DDR), and Galvanic Isolation technologies. Boasting a refined analog preamplifier section with precise analog ladder resistor volume control, it ensures an unparalleled noise-free signal, seamlessly interfacing with our Class A ORFEO output modules. Catering to discerning audiophiles, the ALTAIR G2.2 transcends boundaries, effortlessly delivering high-resolution audio from diverse sources, be it online streaming services, files stored on NAS drives, or vinyl records on a turntable. Elevate your music experience with the ALTAIR G2.2.



Fusion DAC - A Groundbreaking in DAC design

AURALiC's groundbreaking Fusion DAC design in the ALTAIR G2.2 combines the finest elements of discrete ladder and Delta-Sigma DAC designs, creating a new standard in audio excellence. This innovative approach involves modifying a high-performance, manufacturer DAC chip by bypassing most of its functions, such as PLL, digital filter, and oversampling circuits. Instead, AURALiC deploys its proprietary clock reconstruction, digital filter, and oversampling technologies, ensuring that only the precise switching network inside the DAC chip is utilized for the final digital-to-analog conversion stage. The result is an extraordinary sound quality that elevates the listening experience to new heights.

The Fusion DAC design empowers users with unparalleled customization and flexibility, enabling fine-tuning and optimization to match individual preferences. AURALiC's proprietary implementation of this unique, in-house developed technology represents a significant leap forward in DAC design, delivering exceptional performance and unparalleled sound quality.

ORFEO
Ultra Low Noise Class-A Module
POWERED BY AURALiC
ORFEO
Passive Volume
Zero Noise, Zero Distortion
AURALiC
DSD DXD

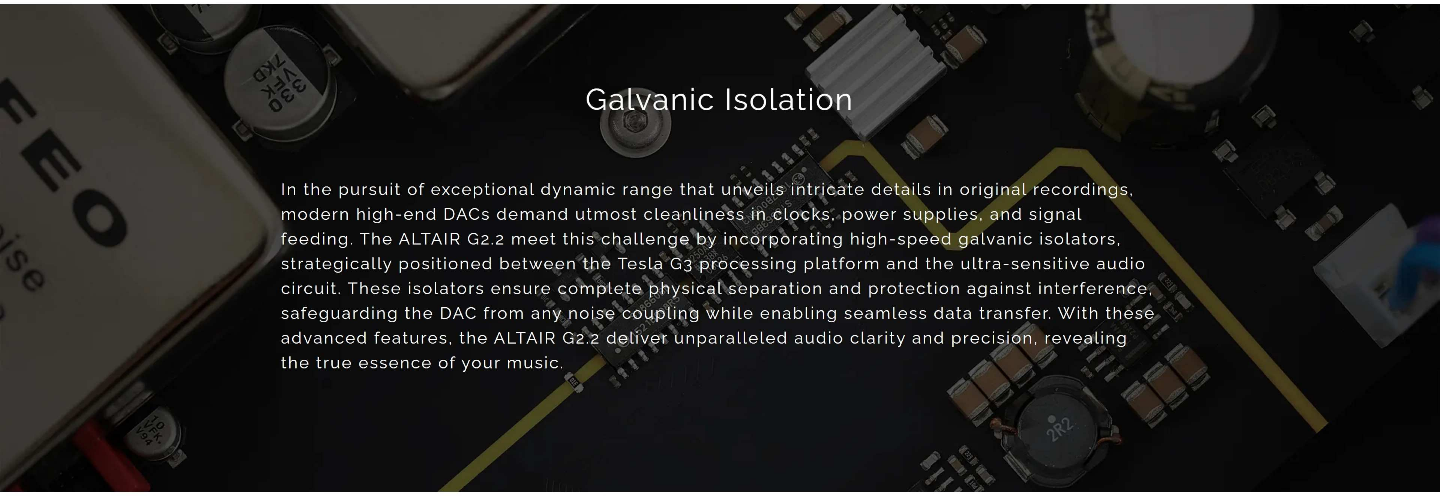
Analog Preamplifier

The ALTAIR G2.2 retain the successful analog preamplifier function from the original ALTAIR G2.1, now enhanced with an increased output level from 4.4V to 6V to cater to power-hungry amplifiers. The ORFEO Class-A output modules ensure the balanced output can drive loads well below 600ohm with minimal performance degradation. Users have the option to disable the preamplifier function through software and reduce the output level to 2V, allowing for seamless integration with external preamplifiers. Additionally, a convenient home theater bypass mode is available for analog input channels, providing maximum flexibility for your audio setup.

Analog Volume Control

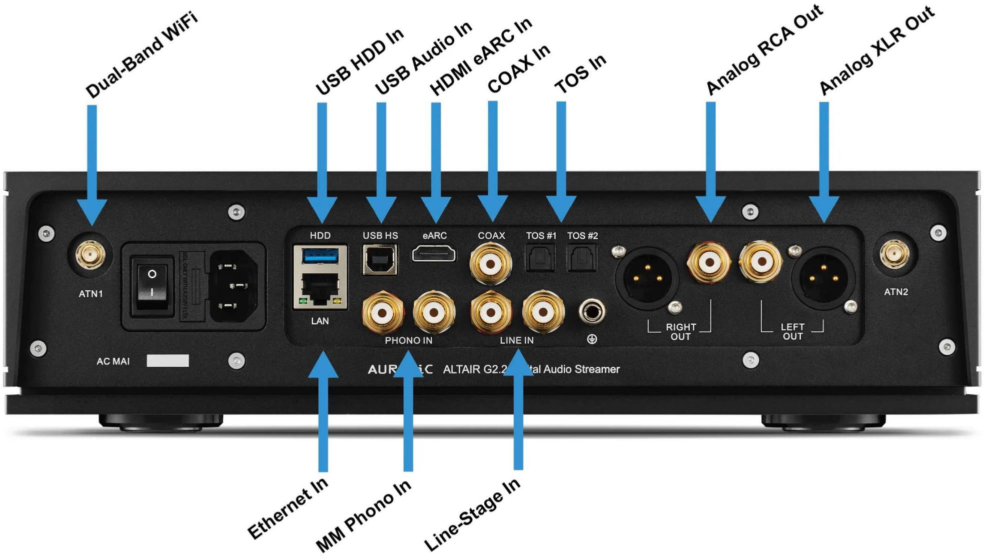
The ALTAIR G2.2 incorporate a highly regarded true analog ladder resistor volume control, which is recognized as the superior method for achieving high-performance audio playback. Unlike digital volume control, which accurately reduces the signal level but cannot address the noise floor, analog volume control reduces both the signal level and noise floor while preserving the system's dynamic range. By employing eight coil-latch relays, this volume control system consumes no power and emits no EMI noise when inactive, ensuring noise-free and distortion-free control. Once adjusted, the system remains electronically transparent, further enhancing the exceptional audio performance of the ALTAIR G2.2.

Passive
Zero Noise
FEO
Volume
Zero Distortion



Galvanic Isolation

In the pursuit of exceptional dynamic range that unveils intricate details in original recordings, modern high-end DACs demand utmost cleanliness in clocks, power supplies, and signal feeding. The ALTAIR G2.2 meet this challenge by incorporating high-speed galvanic isolators, strategically positioned between the Tesla G3 processing platform and the ultra-sensitive audio circuit. These isolators ensure complete physical separation and protection against interference, safeguarding the DAC from any noise coupling while enabling seamless data transfer. With these advanced features, the ALTAIR G2.2 deliver unparalleled audio clarity and precision, revealing the true essence of your music.



Flexibility to Explore

ALTAIR G2.2 offers multiple input choices, enabling you to use your preferred music playback software effortlessly. It is 100% compatible with OpenHome based control software like BubbleUPnP and Linn Kazoo, as well as being a certified RoonReady endpoint for optimized performance within your Roon ecosystem. Enjoy the convenience of TIDAL Connect and Spotify Connect support, and experience seamless compatibility with Apple AirPlay 2 protocol. Elevate your music experience with the ALTAIR G2.2 - where choice meets premium audio performance.

Tesla G3 - A New Era for Wireless Streaming

Built on a quad-core 64-bit architecture, our Tesla G3 streaming platform delivers eight times the processing capability of its predecessor. Equipped with 4GB of DDR4 system memory, the Tesla G3 can easily handle even the most demanding processing tasks, making it a future-proof solution which will accommodate the rapidly evolving digital audio landscape.

The Tesla G3 platform also employs Direct Memory Access (DMA) technology for its audio input and output channels, enabling all audio-related hardware and software to access the system memory directly. This significantly reduces latency and jitter by 90% compared to Tesla G2, giving us more flexibility to fine-tune the performance and sound quality of our products.

8X

Processing Speed

New quad-core 64-bit processor is eight times faster, ensuring a future-proof solution that adapts to the evolving digital streaming demands.

DMA

Direct Memory Access

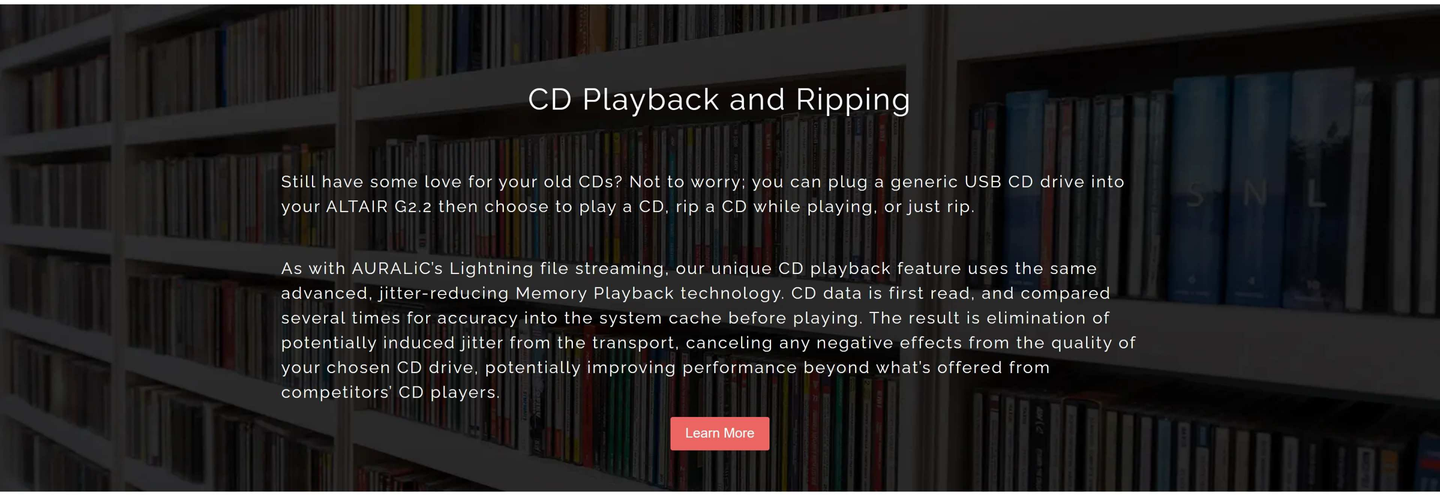
Audio input and output channels connect directly to the processor's core, resulting in an impressive 90% reduction in latency and jitter.

4GB

System Memory

Bigger system memory and data storage means fluid audio signal processing and support for even more advanced features at higher resolution.

Lightning DS is the ultimate control app designed exclusively for our streaming devices. Experience the power of seamless music management with our user-friendly interface, putting you in complete control. Browse and play your favorite tunes from various sources, including local files, streaming services, and internet radio, all with ease. Our app's intuitive layout and efficient navigation make it a must-have for audiophiles and music enthusiasts alike.



CD Playback and Ripping

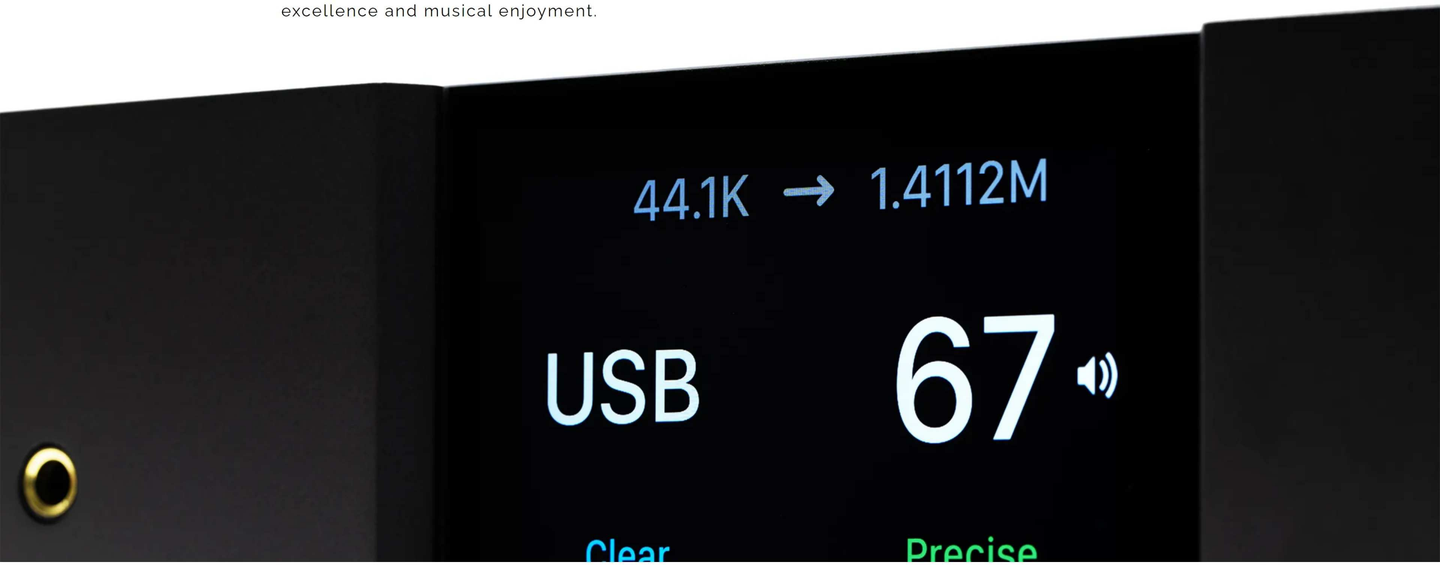
Still have some love for your old CDs? Not to worry; you can plug a generic USB CD drive into your ALTAIR G2.2 then choose to play a CD, rip a CD while playing, or just rip.

As with AURALiC's Lightning file streaming, our unique CD playback feature uses the same advanced, jitter-reducing Memory Playback technology. CD data is first read, and compared several times for accuracy into the system cache before playing. The result is elimination of potentially induced jitter from the transport, canceling any negative effects from the quality of your chosen CD drive, potentially improving performance beyond what's offered from competitors' CD players.

Learn More

Tone Mode Adjustment

Tone Mode adjustment refines the output sound character of the DAC by incorporating harmonic elements into the music signal, based on a model rooted in auditory psychology. This innovative feature enhances the listening experience, elevating the ALTAIR G2.2 to new heights of audio excellence and musical enjoyment.



Dual 60fs Femto Clock

With a dedicated, low-noise 0.8uV power supply to minimize phase noise and keep it as quiet as it is accurate, our 60 Femto Master Clock is amazingly precise for less jitter, and immaculate sound. Its 60 femtosecond cycles — that's 60 quadrillionths of a second — set a new standard for signal timing. Temperature-regulated for consistent performance, this clock is always there to keep things rock-steady.

Galvanic Isolation

One of the ALTAIR G2.2's high-speed galvanic isolators lies between the Tesla processing platform and its highly sensitive DAC circuitry. Data can flow across the isolator, even while it physically separates and shields the DAC from interference. The result is a whopping 80% reduction in noise levels compared to the ALTAIR G2.1.

Tone & Filter Mode

Flexible Filter Mode gives you a nuanced level of control over your audio output. Its various modes were developed using a combination of objective data models and subjective testing, with each mode offering a unique array of filters to match the sonic quality of the source. Tone Mode adjustment refines the output sound character of the DAC by incorporating harmonic elements into the music signal, based on a model rooted in auditory psychology.

ORFEO Class-A Module

Inspired by classic analog circuit designs, ORFEO is capable of driving an array of loads to match the characteristics of a variety of amplifiers. Using small signal components with excellent linear qualities, thermally balanced and biased into Class-A, ORFEO has the power to drive loads as low as 600 ohms while keeping noise low — open loop distortion comes in at less than 0.001%.

Smart-IR Control

Smart-IR Remote Control lets your AURALiC device map its functionality onto any remote you'd like. Just let the device know which remote you prefer, and all of its operations (play/pause, volume control, track select, etc.) can be assigned to buttons just the way you like them.

Dual Purer-Power

The Purer-Power linear power supply reduces DC current noise by as much as 90dB with its power purification module. Using a specially designed transformer and unique wiring that minimizes vibration, noise from Purer-Power is kept below 1uV across the audible spectrum, leaving you to discover the details in your music, down to the last bit.

1GB Memory Cache

Open network connections and data fetching are prone to noise that can hurt the quality of your audio signal. The Tesla G3 hardware platform dedicates a whopping 1GB of RAM to the task of caching, lowering the frequency of open circuits and helping your music sound better.

Specifications

Benchmark

Frequency Response: 20 - 20KHz, +/- 0.1dB*
THD+N: < 0.00012% (XLR); < 0.00015% (RCA), 20Hz-20KHz at 0dBFS
Dynamic Range: 130dB, 20Hz-20KHz, A-weighted

Streaming File Format

Lossless: AIFF, ALAC, APE, DIFF, DSF, FLAC, OGG, WAV and WV
Lossy: AAC, MP3 and WMA

Sampling Rate

PCM: 44.1KHz to 384KHz in 32Bit***
DSD: DSD64(2.8224MHz), DSD128(5.6448MHz), DSD256(11.2896MHz), DSD512(22.57892MHz)****

Control Software

AURALiC Lightning DS for iOS
AURALiC Lightning DS for web browser (device setting only)
OpenHome compatible control software (BubbleUPnP, Kazoo)
Roon (Roon Core required separately)

Audio Inputs

Digital Inputs: Coaxial (2), Toslink, USB Audio, HDMI eARC
Analog Inputs: Line-stage (2Vrms max.), MM Phono (0.3Vrms max.)
Streaming Inputs: Network shared folder, USB Storage, USB CD Drive, Optional Internal Storage, UPnP/DLNA Media Server, Amazon Music Unlimited, HighResAudio, KKBOX, Qobuz Sublime+, TIDAL Connect, AirPlay, Spotify Connect, Internet Radio, RoonReady

Audio Outputs

Balanced: XLR (6V / 2V user selectable, output impedance 5ohm)
Unbalanced: RCA (6V / 2V user selectable, output impedance 50ohm)
Headphone: 6.35mm Headphone Jack (output impedance 5ohm)

Network

Wired: Gigabit Ethernet
Wireless: 802.11b/g/n/ac Tri-Band WiFi

Power Consumption

Standby: <0.5W
Sleep: <10W
Playback: 50W at max.

Dimensions - W x D x H

13.4 x 12.6 x 3.2 in. (34cm x 32cm x 8cm)

Weight

22.0 lbs (10kg)

Product Finishing

Anodized aluminum case in matte black with copper EMI shielding enclosure.

Contents

AURALiC ALTAIR G2.2
2*External WiFi antenna (2pcs)
Power cord
USB Cable
User's guide

---

* Tested under Filter Mode Precise, Clear Tone Mode for all sampling rate

*** 352.8KHz and 384KHz and 32bit are supported through streaming and USB inputs only

**** By 'DoP V1.1' or native DSD protocol through streaming and USB inputs only