AIRPULSE A300Pro ACTIVE SPEAKER SYSTEM

History

The A300Pro is a hybrid of our original Airpulse A300 bookshelf speaker and the A800 wood horn speaker.

Since its launch onto the market, the A300 has quickly captured the attention and recognition of high-end audio connoisseurs. The performance from its crystal clear high-frequencies, full and articulate mid and low-frequencies won the praise and recognition of many audio enthusiasts. But that was just a beginning! The spirit of perfectionism in high end audio has pushed us to continue the quest to take this product to the next level.

When our Airpulse A800 wood horn speaker first showcased at the Consumer Electronics Show in 2019.
At the exhibition, it immediately attracted the attention of visitors as well as news media that is always on the lookout for something new and exciting. The unique design of the A800 speaker came in a beautiffuly designed wood horn cabinet. It also incorporated conventional hardwiring and wireless features into one system with ease of use and practicality.

The amplifier inside the left and right speaker of the A800 is completely symmetrical to each other. They can be connected wirelessly to become a stereo system, or to analog signals individually or in pairs. The coexistence of wireless and hardwiring design eliminates the headache of wiring while the wired analog input also provides enthusiasts with a platform they can play with!
The overwhelmingly positive response for the A800 inspired us to expand this unique idea to a more cost-effective model to suit the budget of the majority audio lovers. We wanted to incorporate the acoustic design of the A300 bookshelf and the electronic design in the A800 wood horn speaker to create a powerful bookshelf system with 6.5 woofers.
And that's how the Airpulse 300 Pro was born!

More about the A300Pro

The cabinet of A300Pro is finished with a conservatively elegant walnut wood veneer. Sonically, it has the same horn-loaded aluminum ribbon tweeter but improved 6.5-inch aluminum cone, low distortion woofer in the A300. The depth of the cabinet is also increased to provide more extended low frequencies.

The power supply and amplifiers in the left and right speaker of the A300Pro is completely symmetrical. Each speaker has an internal 150W high-efficiency, low-ripple switching power supply. Using a Texas Instrument digital power amplifier TPA3251, each cabinet has woofer output power no less than 120W and tweeter output at 10W. The speakers also use XMOS xCore200 multi-core processor, and Texas Instruments' TLV320AIC3268 digital processor.
The interconnection of the left and right speaker uses KleerNet wireless transmission technology. It uses Qualcomm QCC3031 series 5.0 Bluetooth chipset and supports AptX HD high-fidelity codec, so that Bluetooth technology can be used with minimal signal loss.
The A300Pro cabinet is constructed with 25MM high-strength MDF. To ensure best signal transmission, we also chose the renowned US based, ***TRANSPARENT*** internal speaker cables.
A300 Pro has both wireless pairing and hard wiring connection modes. In wireless mode, it includes AUX, USB, optical fiber, coaxial and other input methods. In wired mode, XLR balanced and RCA unbalanced input methods can be used. The frequency response ranges from 40HZ to 40KHZ, which supports the playback from HI-RES high-quality audio sources, and it has obtained HI-RES official certification.

SPEAKER TALK

1. Horn Loaded Ribbon Tweeter

Our unique design of horn-loaded aluminum ribbon tweeter in the A300Pro delivers to audience every corner of a wide space with airy and harmonically pleasing high frequency musical notes. Listeners experience rich, articulate and evenly distributed high frequency sound that does not fade out with distance.
Aluminum ribbon tweeter is characterized by its extremely light weight diaphragm. The ribbon

functions as both the diaphragm and the voice coil all in one which has no output delay. Instead, it has instant transient response, a large vibration area, small phase distortion, and high sensitivity.
Forward distribution of sound field yields better axis shifting. Impedance of the aluminum ribbon is almost as constant as DC impedance, leading to a very high frequency response in the corresponding range.

The carefully calculated horn shape modifies and optimizes the directivity of this aluminum ribbon tweeter. It ensures that the high-frequency distribution is consistent to all listener regardless of their location
This even distribution mode is not affected by the reflection characters of the room, so that the high frequency notes are more articulate and three-dimensional. The perfect combination of aluminum ribbon tweeter and horn design gives the audience a new and unprecedented listening experience.

2.6.5-inch aluminum diaphragm low distortion mid-woofer

A300Pro's 6.5-inch woofer uses a high-strength magnesium-aluminum diaphragm and a costly underhung magnetic circuit design. It is supported by a 50MM diameter voice coil and an oversized, high-energy magnet. Combined with a cleverly designed heat dissipation mechanism, this woofer has the lowest distortion and highest level of dynamics, delivering clean low frequencies that are richly detailed, and deeply extended.
The cast aluminum chassis provides strong structural support for the woofer. The strengthened aluminum-magnesium alloy diaphragm effectively reduces the segmentation vibration and ensures that virtually all sound details are fully revealed. The underhung designed flat wire voice coil is 50MM in diameter. An oversized neodymium Iron-boron magnet sandwiched between two thick steel plates provides dynamic force and a large magnetic gap, which produces a symmetrical and linear magnetic field. Movement of the voice coil is completely immersed in this magnetic field, which greatly reduces harmonic distortion, resulting in a superior low frequency performance. The coupling of the voice coil and the aluminum diaphragm helps the voice coil to dissipate heat quickly. It forms a perfect heat dissipation system with a specially designed heat sink to reduce thermal dynamic compression and enables the speaker to maintain high-level playback for a long period of time.
The meticulous design, precision manufacturing, and fine tuning by using the KLIPPEL electro-acoustic analysis system, all contribute to the extraordinary dynamic and low distortion performance of the A300 Pro woofer that is largely responsible for the excellent performance of the entire system.

3. Unique design

A300Pro features both a symmetrical acoustic and electrical design. Both left and right speakers are active. Each of them is equipped with a built-in 150W nominal high-efficiency low-ripple switch mode power supply, which preserves adequate power headroom for transient high output for the amplifier. Class D amplifiers used inside the speakers are Texas Instruments' top-of-line model TPA3251. With DSP based electronic crossover, dedicated amps are used to drive woofer and tweeter independently. Nominal bass channel output power for left and right speakers are 120W each, and 10W each for

ribbon tweeter. The system also features DSP based dynamic range control for protection of the ribbon tweeter.

Besides the top-of-line audio front end components, the core signal processing is built on XMOS xCore200 multi-core processor and a DSP chip TLV320AIC3268 from Texas Instruments. The XMOS xCore200 XU216 features a processing horsepower up to 2000MIPS, and its parallel structure is quite fitting for real-time signal processing like high-resolution audio processing.

The Bluetooth audio receiver inside the A300Pro is built with QCC3031 from Qualcomm, which is a Bluetooth V5.0 chipset with AptX HD high-fidelity codec. With high resolution audio source, the receiver can offer a much better audio playback experience than traditional Bluetooth SBC audio.

A300Pro also offers a USB digital audio interface which supports UAC2 digital audio application. An ASIO audio drive is provided to enable Windows users to have a high-quality low latency signal path out, avoiding redundant signal processing of the OS, and possible loss of quality and dynamic range. The USB audio interface supports up to 192KHz audio sample rate.

Wireless signal distribution between left and right speakers is built on the microchip's proprietary technology known as KleerNet. The radio is transmitted over 5.2GHz and 5.8GHz spectrum, and with a 22MHz radio bandwidth the technology guarantees lossless transmission of audio signal. With our proprietary synchronization technology, the accuracy of sound image positioning is ensured.

Another unique feature of the A300Pro is that, besides the pair-used left-and-right wireless stereo using scenarios, which are often seen in home audio conditions, the system offers an independent left and right configuration, just as traditional monitor speakers, which are often seen to be used with mixing consoles in recording studios.

On a dedicated sector on back panel of each speaker, there are a combination of connectors and controls designed to work under this configuration, just like a traditional monitor speaker. One XLR connector and one unbalanced RCA connector with fixed gain are available for signal input. Digital attenuator is incorporated to adjust the input sensitivity. Two trimmers, one low-shelf and one-high shelf are available for tone controls. Each speaker is working like an independently powered mono speaker that can be easily connected to mixing console of your home studio.

In short, with high-quality well-selected components and a carefully designed signal processing and amplification system, the A300Pro ventures one step ahead in design of a digital audio system that suits both home audio and professional applications

4. **Cabinet Construction**

The construction of its 25mm thick high strength fiberboard cabinets with strategically placed internal bracing lay down the foundation for sound quality. The cabinet is finished with a walnut veneer and high quality wood lacquer.
The classic and elegant aesthetic of the A300Pro cabinets makes it a great addition in all living room setups.
The 25mm thick cabinet walls not only provide strong support against vibration, it also reduces resonance and coloration. The interior is also lined with a 36mm thick professional wave-absorbing material to enhance the absorption of excess standing waves.
The A300Pro cabinet uses an inverted vent design. The elliptical shape inverted vent tube from precise calculation reduces airflow noise and further improves sound quality.

5.**TRANSPARENT Speaker Cable**

No detail was left unattended in the A300Pro. We selected ***TRANSPARENT*** brand, a US made cable for internal connections to ensure maximum accuracy of signal transmission. ***TRANSPARENT*** cables have a long-standing history and reputation of quality in high fidelity and resolution.
The use of ***TRANSPARENT*** cables further contributes to the impeccable performance of the A300Pro.

Last but not Leas

The AIRPULSE A300Pro active speaker system is a uniquely designed combination of HiFi speaker and digital HiFi system utilizing XMOS. Because of its non-compromising design and component selection, the A300 Pro can replay all types of music to perfection.
Its XMOS integrated USB function allows users to easily play high-quality audio sources without digital compression and enjoy music by simply downloading and installing software packages without adding unnecessary peripherals.

Specifications

Tweeter: Horn Loaded Ribbon Tweeter
Mid-Woofer: 6.5 inch Aluminum Cone Underhung Design Mid-Woofer
Amplifier System: Digtal Amplifer With Xmos Processor
Power Output: L/R(Treble):10W+10W, L/R(Woofer): 120W+120W
Frequency Range: 40Hz-40KHz
Signal-Noise Ratio: L/R: ≥90dB(A)
Input Mode: AUX, USB, Optical, Coaxial, Bluetooth.
Balance Input, Unbalance Input
Input Sensitivity:
Balanced:1100±50mV, Unbalanced:
AUX:700±50mV, USB:550±50mFFs, Optical:500±50mFFs
Coaxial:500±50mFFs, Bluetooth:500±50mFFs
Mains Voltage: 100-240 V AC/50-60 Hz
Cabinet Size (WxHxD) 225 x 385 x 350mm

Net Weight: 25.6Kg (56.6 lbs)

Gross Weight: 29.4Kg (65 lbs)

Packing Size (WxHxD): 484 x 649 x 473mm

MSRP: $1500/pair