

# Aria 900

4" Sandwich Technology

 **FOCAL**<sup>®</sup>  
THE SPIRIT OF SOUND



# Aria 900

Eighteen years after the launch of the "W" sandwich cone, Focal is unveiling its new major innovation: speaker drivers with the same sandwich structure, but composed of a natural flax-fibre cone. This innovation is the result of more than 5 years of research and a unique drive to work on the actual source of the emission of sound. This constant quest for acoustic excellence gave birth to Aria 900, a range which prefigures the radical technological changes and which launches a design combining elegant classicism and modernity.

Aria 900 marks a new milestone for Focal and a new chapter in high-fidelity technology. Designed and made in France, the range features

brand-new speaker drivers with Flax sandwich cones, new TNF Aluminium/Magnesium inverted dome tweeters with Poron suspension, injected zamak baskets, carefully designed cabinets and crossovers: nothing has been spared when it comes to maximising listening pleasure for well-informed music lovers.

The style of Aria 900 marks a step forward for the current Classic Collection: the strong identity of the Chorus 800 V range has been replaced with a purer, simpler and more timeless style combining beautiful mineral and organic materials. The loudspeaker cabinets of Aria 900 range are available in Walnut and Black High Gloss finishes. All cabinets

feature a glass surface and a leather-finished front panel. This design exudes style and quality, helping it to blend in perfectly with traditional or more contemporary interiors.

The vast range of Aria 900 products is ideal for stereo and Home Cinema audio systems. The two 8" woofers of the 948 model mark a return to true expressive and dynamic high-fidelity loudspeakers.



> For 35 years Focal has been developing and manufacturing loudspeakers for the home, speaker drivers for the car, monitor speakers for recording studios and more recently headphones. Market leader in High-Fidelity, Focal's worldwide reputation is well known: our brand is recognised everywhere for its sound quality and its numerous technological innovations.

# Returning music to its rightful place

In the course of the last decade the ways in which we reproduce music have seen enormous changes. Plummeting CD sales and the growth in downloads have turned our relationship with music on its head. It comes as no surprise that access to music, which has never been easier, and the cost of that access, verging on the free of charge, have led to a situation of abundance. But, when all is said and done, where is the pleasure?

What we need today is a new set of benchmarks, fully in tune with all new media, to guide us towards the music we love. Many specialised sites have appeared, with the editorial content to help us make our musical choice. This is the "upstream" phase of musical discovery: the pleasure of uncovering new talents, new works, and so on. Here at Focal, our work focuses more on the "downstream". Our role is to enable you to reproduce music at home with the best possible quality, while never neglecting the aesthetic

dimension that is the hallmark of every top quality product. And the good news is that sound quality is no longer limited by the quality of the source media. Digital has entered another phase: the high cost of data storage that meant files had to be compressed ten years ago is no more and nowadays it is perfectly possible to access high definition music of at least CD quality.

The unfortunate thing is that the majority of audio products developed back then for compressed music - albeit with advanced functionality - were made with severe economies placed on their acoustics, in the quest for "miniaturisation" and affordability. The result being that they are simply not good enough for quality reproduction of CD format or high definition files. It is time to return music to its rightful place and it is no coincidence that we are now witnessing a renaissance in "classic" High Fidelity. No-one would deny that hi-fi separates systems are

still out there for savvy, demanding music-lovers. Luxury does exist in the audio segment and we are well established within it with our Utopia III range. But one of Focal's defining characteristics has always been our desire to be ahead of the curve, anticipating the needs of audiophiles everywhere. Listening to a Utopia III system is a rare moment, a very particular sensory experience which opens up hitherto unheard musical landscapes. And the challenge for us is how to bring such emotion, such feeling, to a greater number of people. Ever since its creation this has been Focal's quest, through its respect for the acoustic art, through its constant innovation in the fields of materials and manufacturing processes, and last but not far from least, through keeping every step of production in house.

And so, Aria is an important milestone in the pursuit of "Affordable High End".



> Aria 906 in Walnut finish and Naim amplifier.



> Jazz à Vienne Year 2013.



> Aria 948 in Walnut finish.

# Design

Perceptions of the speaker enclosure have evolved over recent decades. From the "pseudo-musical-instrument" with its ostentatious wooden cabinet of the 70's and 80's, through the techno-object of the 90's, the general tendency towards miniaturisation of the 2000's has turned the audio loudspeaker into an intrusive item.

As in so many other areas, design is used to make these acoustic objects highly desirable. Our living spaces are awash with "high-tech" products, which often means miniaturizing them.

But the laws of acoustics are not so easily bent and audiophiles have just had to accept that Hi-Fi speakers have to be a certain size. And so they integrate them into their spaces as part of their furnishings, as a statement of their personality, of their passion...

Turning to current trends in home furnishing, it is striking that the influence of the great designers of bygone years has never been stronger. Charles and Ray Eames, Mies Van der Rohe, Arne Jacobsen...

they are all achieving mass appeal more than fifty years on, evidence of a search for meaning, for identity or for some other solid benchmark through consumption in this period of globalisation.

In this context, Aria has been conceived as an elegant piece of home furnishing; simple, with great stature, quality materials and soft shapes which capture the light and resist the passage of time.

Just as with Utopia III, our work on Aria with Pineau and & Le Porcher was based on simplifying, eliminating the superfluous, carefully choosing the most beautiful materials possible in support of the desired performance.

The glass on its upper face for strength, the leather finish to its front face for its absorbent and acoustic diffraction qualities, lightweight aluminium for its plinth. And to do away with unnecessary details, it has no visible fixings solid brushed metal rings surrounding the bass and

midrange cones; the tweeter has a small matt black urethane wave guide for improved sound diffusion, the fabric grille attaches magnetically.

Lastly, the remarkable "Flax Sandwich" cones made of natural flax fibre with their ultra-organic identity are the finishing touch that give Aria its unique style.



> Aria 926 in Black High Gloss finish and Aria 906 in Black High Gloss finish on the S 900 stand.

# The materials revolution, or the rediscovery of flax



The cone of a loudspeaker is a key mechanical component. Its characteristics have a direct impact on the sound quality. Its role could not be simpler: it makes the air molecules vibrate in response to the electrical signal from the amplifier.

An ideal cone should be light, for rapid acceleration, stiff so as not to distort the sound, particularly in the bass, and finally, damped - that is to say neutral - so as not to add sound colouration from its component materials.

Focal's reputation derives from its unique mastery of the loudspeaker, the fruit of multiple innovations: notable among them, the sandwich structure cone, introduced in the mid-80's. Numerous developments over time led to the "W" sandwich cone which, more than 18 years on, is still an unequalled benchmark.

Developed for Utopia, this patented technology meant that from then on Focal was able to sculpt the response curve right back to the original source,

unlike competitors who always had to employ electrical corrections which did nothing to eliminate the intrinsic weaknesses of the cone.

Unfortunately, as the only way to build these "W" sandwich cones is by hand, their cost means they cannot be used in more affordable products. In addition, the single-material solution is just not enough to meet all requirements.

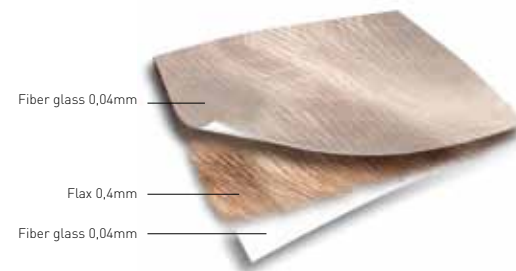
This is why Focal has been continually exploring innovations in materials science. Over recent years, ecological conscience playing no little part, hybrid materials have appeared blending composites chemistry with natural fibres, flax being foremost among them.

French flax fibre is one of the best in the world, thanks to the very particular climatic conditions found in Flanders, Picardy and Normandy. Using this, and the multiple benefits of flax, as a starting point, we have developed a new technology, the "Flax Cone". Flax fibre, a product known from antiquity,

has superlative mechanical characteristics: low elasticity at 1.5%, which approaches that of carbon fibre, with rigidity close to Kevlar, at 60 GPa.

Sandwiched between two sheets of glass fibre, flax's inelasticity works wonders, endowing the cone with remarkable stiffness.

Composed of 80% cellulose, flax fibre is hollow, making it ideal for combining neutrality and lightness. By adjusting the flax braid's density it is also possible to maximise stiffness, in a woofer for example, or lightness and damping in a midrange speaker. More details on our website [www.focal.com](http://www.focal.com)



Fiber glass 0,04mm

Flax 0,4mm

Fiber glass 0,04mm

> Flax sandwich  
Details for midrange driver



> Aria 926 in Black High Gloss finish.



> Aria 906 in Black High Gloss finish.

# The new TNF Tweeter

Focal brand's signature product, the inverted dome tweeter has been continually developed ever since it was created. It bears repeating that its main advantage, apart from its very low directivity, lies in its use of a coil of small diameter (hence very light and better accelerating) directly fixed to the rigid dome.

Just as with the cones of its bass and midrange speaker drivers, what makes Focal unique is working directly on the sound output and, therefore, on the mechanical characteristics of materials. When we introduced the pure Beryllium inverted dome tweeter ten or so years ago, we clearly demonstrated the decisive advantage of this exclusive technology.

For Aria, we have brought two major evolutions to our aluminium/magnesium tweeter. The suspension between the dome and its bracket uses Poron, a material with shape memory.

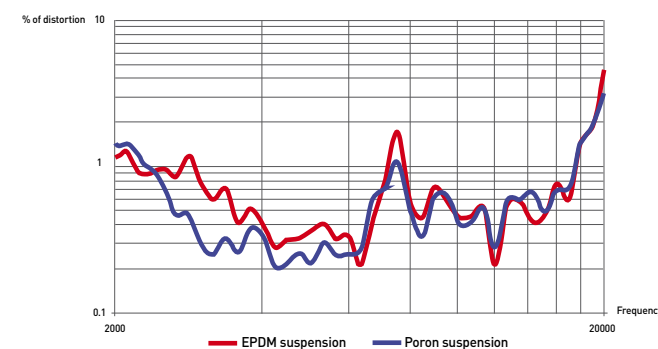
This suspension method is directly derived from the famous Utopia Beryllium tweeter, making it possible to reduce distortion by a factor of three in the 2-3 kHz range, where the human ear has very great sensitivity.

The inverted dome's spatial characteristics and very low directivity already make it greatly superior to the conventional domes used by our competitors and to further improve this a wave guide has been developed.

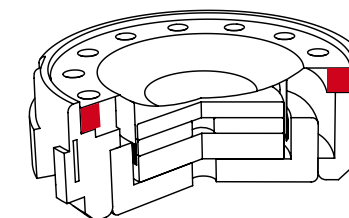
In a horizontal plane, its frequency response has a variance of +/- 0.5 dB. This performance guarantees an incredibly stable sound stage which makes the listening position much less critical.

It is due to more than twenty years' dogged work on our manufacturing processes that it is possible to achieve such precision in a component as delicate as a tweeter.

Control over production is the one and only solution for continued innovation when it comes to loudspeakers...



> Distortion levels directly affect sound quality. The use of Poron has reduced the distortion by half in the tweeter's. Bandwidth between 2-4 kHz: an area where the sensibility of the ear is very high.



> Cross-section of the TNF tweeter. Poron's physical properties provide improved control over the mobile assembly in the magnetic parts.

# Aria 948

Starting point for the Aria concept, the Aria 948 was designed to make the very most of our brand new "Flax" technology. In fact, it serves to some extent as a demonstration...

Starting by going back to fundamentals, with its two large-diameter 8" (21cm) bass cones even if it meant defying market trends. This is the only solution to having performance and dynamics whilst retaining good bass extension.

Profiting from more than twenty years' experience in membranes, the woofers' "Flax" sandwiches use a 250 g/m<sup>2</sup> flax braid to maximise stiffness, while the midrange units use 125 g/m<sup>2</sup> density for optimal lightness and damping.

The Aria 948 is, therefore, a "generous" enclosure, with substantial dimensions. With its high 92.5 dB/W/m sensitivity it is easy to drive, even with modestly powered amplifiers. Keeping its componentry in mind, the objective given to the teams for finalising tonal

balance was to move towards that of the Scala V2 Utopia, our range's benchmark, if indeed it can be said that we have one! Of course, its definition is not as marked as that of the Scala V2 with its "W" sandwich membranes and its beryllium tweeter, but its overall sound signature comes astonishingly close, with the ease provided by its high dynamics, airy spatial characteristic and jubilant sense of rhythm.

The contribution made by "Flax" sandwich membranes is should be compared with products in a similar price range, formerly fitted with Polyglass cones. There is a very real gain here in terms of definition and presence in the midrange.

Aria 948 was clearly the prototype for definitive validation of "Flax" sandwich cones, like the Grande Utopia in 1995, developed as a concept product used to validate "W" sandwich cones. The results more than met our

expectations. The "Flax" membrane is offering Focal very encouraging prospects, finding a place for itself among the true acoustic values that Focal holds so dear.

There is no measurement for the ensemble of criteria used when one listens to a piece of music - the sensory dimension remains the final arbiter.



> Aria 948 in Walnut finish.



> Aria 948 in Black High Gloss finish.

# Home Cinema

The Aria range is vast, enabling a huge array of Home Cinema configurations to match, among others, the size of the listening room.

The CC 900 centre speaker is the keystone of the system. It needs to bring precision and consistency between the visual image and the sound stage. The "Flax" sandwich membrane's contribution to definition is marvellously apparent, with voices that have both intelligibility and depth. The TNF tweeter

waveguide and associated new Poron suspension also make their contribution to increased clarity of reproduction, most noticeably in the 2-3 kHz frequency range that is so critical for voices.

Focal's teams worked particularly hard on avoiding directivity problems when listeners moved to one side from the centre line. This led to the benefit of great stability, for a truly immersive 3D experience with the 906s used as surround speakers.

There are two main criteria for choosing the main speakers: the first is the size of the room, and the second is the dynamic capacity required.

And when it comes to dynamic capacity, the Aria 936 floor standing loudspeakers provide remarkable results, guaranteeing you a truly outstanding Home Cinema 5.1 system when used with the CC 900 and a pair of 906s.



> Aria 906 in Walnut finish on the S 900 stand.



> Aria 936 and CC 900 in Walnut finish.





> Aria 926 and Aria CC 900 in Black High Gloss finish.

# Subwoofers, a family of speakers in their own right!

In our catalogue, the subwoofer is free to wander. Instead of offering one model for each line of products, Focal has reversed the trend in order to offer consumers a more judicious choice, and has started a line of subwoofers destined for specific uses. This means increasing the number of possible combinations. From now on, according to the size of your system, you will be able to choose from models of subwoofers which perfectly stand up to expectations in terms of performance and use.



Despite its nonconformist appearance, the **Sub Air** is a true high-performance subwoofer equipped with a 8" (21cm) bass-reflex speaker driver and a 150W BASH® amplifier. Taking up little space, it blends in perfectly with its surroundings, whether it's on the floor or mounted to the wall thanks to the original mounting kit. Thanks to the high-quality wireless radio transmission (16 bits/44.1 kHz), the Sub Air is easy and quick to install. (Available end 2013 in Black and White High Gloss Lacquer)



The **Sub 300P** is a subwoofer destined for lovers of strong sensations. It is equipped with a 10" (27cm) woofer with polyglass cone powered by a powerful 300W RMS BASH® amplifier. Its textured Black finish will help it blend into your interior. The Sub 300 P is an essential feature to increase the response of the bass in various multichannel systems.



The Aria 906 bookshelf loudspeaker is faithful to the DNA of the Aria range: refined high-end acoustics combined with excellent perceived value thanks to the use of noble materials. This 2-way loudspeaker allows users to enjoy all the qualities of the "Flax" cone: neutrality, presence and finesse. The Aria 906 is recommended for rooms measuring from 160ft<sup>2</sup> and from a listening distance of 8ft.



The Aria 926 embodies the home 3-way floor standing loudspeaker. This musical and expressive loudspeaker is easy to install. All kinds of music lovers will be thrilled with its acoustic qualities. The Aria 926 is by definition an affordable audiophile loudspeaker. It is ideal for rooms measuring from 215ft<sup>2</sup> and from a recommended listening distance of 10ft.



The Aria 936 is a 3-way loudspeaker featuring an elegant design and a small footprint. Very linear and with impressive dynamics, thanks to these 3 woofers, it is naturally intended for listening in stereo for monitoring-type activities. This loudspeaker is also ideal for setting up a spectacular Home Cinema system. Appropriate for rooms measuring from 270ft<sup>2</sup> and from a listening distance of 10-12ft.



The Aria 948 symbolises the return of the "true" acoustic loudspeaker. A new type of 3-way loudspeaker with two 8<sup>1/4</sup>" (21cm) speaker drivers effortlessly providing intense and controlled bass. The intention was a return to the very essence of acoustics for those who are passionate about music. This is the ultimate loudspeaker of the range for rooms measuring from 320ft<sup>2</sup> and from a recommended listening distance of 12ft.



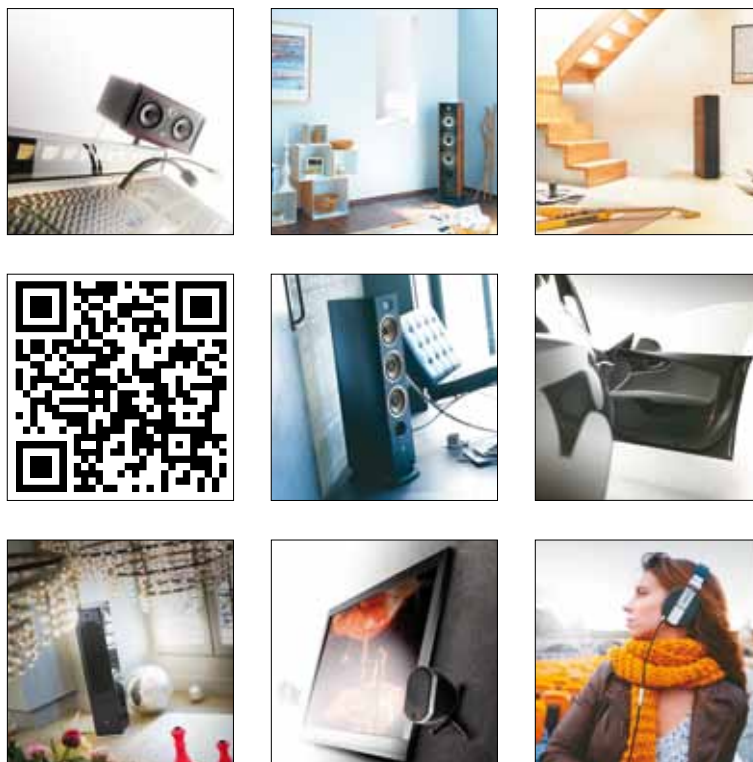
The Aria CC 900 2-way centre speaker can be easily combined with the front speakers of the range. The CC 900 was developed with particular attention to timber matching in order to obtain sonic coherence and homogeneity for all kinds of configurations. Recommended for rooms measuring from 215ft<sup>2</sup> and for a listening distance of 10ft.

	<b>Aria 906</b> Black High Gloss	<b>Aria 926</b> Walnut	<b>Aria 936</b> Black High Gloss
• <b>Type</b>	Two-way bass-reflex floorstanding loudspeaker	Three-way bass-reflex floorstanding loudspeaker	Three-way bass-reflex floorstanding loudspeaker
• <b>Speaker drivers</b>	6 <sup>1/2</sup> " (16.5cm) Flax bass-midrange 1" (25mm) Al/Mg TNF inverted dome tweeter	Two 6 <sup>1/2</sup> " (16.5cm) Flax bass 6 <sup>1/2</sup> " (16.5cm) Flax midrange 1" (25mm) Al/Mg TNF inverted dome tweeter	Three 6 <sup>1/2</sup> " (16.5cm) Flax bass 6 <sup>1/2</sup> " (16.5cm) Flax midrange 1" (25mm) Al/Mg TNF inverted dome tweeter
• <b>Frequency response (±3dB)</b>	55Hz - 28kHz	45Hz - 28kHz	39Hz - 28kHz
• <b>Low frequency point -6dB</b>	47Hz	37Hz	32Hz
• <b>Sensitivity (2.83V/1m)</b>	89.5dB	91.5dB	92dB
• <b>Nominal impedance</b>	8 Ohms	8 Ohms	8 Ohms
• <b>Minimum impedance</b>	4.6 Ohms	2.9 Ohms	2.8 Ohms
• <b>Crossover frequency</b>	2 800Hz	290Hz / 2 400Hz	260Hz / 3 100Hz
• <b>Recommended amplifier power</b>	25 - 120W	40 - 250W	50 - 300W
• <b>Dimensions (HxWxD)</b>	15 <sup>3/8</sup> x 8 <sup>7/8</sup> x 9 <sup>13/16</sup> " (390x225x250mm)	40 <sup>3/4</sup> x 11 <sup>9/16</sup> x 14 <sup>5/8</sup> " (1035x294x371mm)	45 <sup>1/4</sup> x 11 <sup>9/16</sup> x 14 <sup>5/8</sup> " (1150x294x371mm)
• <b>Weight</b>	19lbs (8.5kg)	55lbs (25kg)	64lbs (29kg)

	<b>Aria 948</b> Walnut	<b>Aria CC 900</b> Black High Gloss
• <b>Type</b>	Three-way bass-reflex floorstanding loudspeaker	Two-way bass-reflex center loudspeaker
• <b>Speaker drivers</b>	Two 8 <sup>1/4</sup> " (21 cm) Flax bass 6 <sup>1/2</sup> " (16.5cm) Flax midrange 1" (25mm) Al/Mg TNF inverted dome tweeter	Two 6 <sup>1/2</sup> " (16.5cm) Flax bass - midrange 1" (25mm) Al/Mg TNF inverted dome tweeter
• <b>Frequency response (±3dB)</b>	37Hz - 28kHz	57Hz - 28kHz
• <b>Low frequency point -6dB</b>	31Hz	50Hz
• <b>Sensitivity (2.83V/1m)</b>	92.5dB	91dB
• <b>Nominal impedance</b>	8 Ohms	8 Ohms
• <b>Minimum impedance</b>	2.5 Ohms	4.3 Ohms
• <b>Crossover frequency</b>	280Hz / 2 600Hz	2800Hz
• <b>Recommended amplifier power</b>	50 - 350W	40 - 200W
• <b>Dimensions (HxWxD)</b>	45 <sup>1/4</sup> x 14 <sup>5/8</sup> x 16 <sup>9/16</sup> " (1150x371x420mm)	7 <sup>7/8</sup> x 20 <sup>15/16</sup> x 9 <sup>5/8</sup> " (200x533x245mm)
• <b>Weight</b>	77lbs (35kg)	23lbs (10.5kg)



> 24" (60cm) Aria S 900 stand, Matt Aluminium.



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