

## Press release

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Above: iFi Aurora wireless music system

## Light up your life with Aurora

**Electrify your music and immerse yourself in sound with iFi's all-in-one music system**

*Southport, England* – iFi's new wireless music system, the Aurora, brings together a unique collection of proprietary technologies to deliver a sonic experience unlike any other tabletop, all-in-one system.

Clad in bamboo and elevated by a distinctive aluminium frame, the Aurora's design is striking. The aesthetic was created by French product designer Julien Haziza, inspired by the architecture in Tokyo's Omotesandō and Harajuku districts. Six drive units nestle behind the bamboo fins that curve around the Aurora's sides, with a further two bass radiators underneath. The system's control panel sits front and centre, with touch-sensitive controls and an OLED display inlaid with bamboo.

The Aurora's name is inspired by its sound. It delivers a remarkably expansive soundstage, tailored to the space in which it sits. It fills the room with sound as the Aurora Borealis fills the sky with light, electrifying your music and immersing you in the performance of your favourite artists.

## Well connected

The Aurora connects to a home Wi-Fi network, enabling users to stream music via their favourite apps, or play audio files stored on networked devices such as computers and NAS drives. Bluetooth is also included, so that users may stream directly from any smart device.

The Aurora is hi-res audio enabled, supporting data up to 32-bit/192kHz without conversion or down-sampling via Wi-Fi, USB or Ethernet cable. Bluetooth streaming also delivers much better sound quality than is typically the case, engineered by iFi to be less 'lossy' than off-the-shelf Bluetooth solutions. The latest high-quality Bluetooth codecs are supported, including aptX HD, LDAC and LDHC, as well as AAC.

Connecting to a Wi-Fi network couldn't be simpler, with push-button WPS set-up. Linkplay's MUZO Player app – or any UPnP/DLNA streaming app – may be used to configure the system and control music. AirPlay and Spotify Connect are also supported.

Several Auroras may be linked together on a Wi-Fi network to make a seamless multi-room system, playing in-sync or controlled individually. Whether streaming music from services such as Spotify or Tidal, or surfing the thousands of internet radio stations available from an app such as TuneIn, the Aurora has your digital audio lifestyle covered.



## Music amplified by PureEmotion

At the Aurora's heart lies proprietary amp technology that iFi calls 'PureEmotion' – a hybrid circuit design comprising several key stages. The first of these – the preamp stage – incorporates a Russian 6N3P valve (visible through a window next to the OLED display). This takes the analogue audio signal delivered by the Aurora's DAC (Digital-to-Analogue Converter) circuitry – based around a chip from ESS Technology's renowned 32-bit Sabre DAC family – and adds gain in preparation for further amplification, imbuing the sound with pure tonality, open imaging and natural fluidity.

The resulting low-level signal then passes to the power amp stage – iFi's 'current multiplier circuit'. This is a highly efficient switching power amplifier, a description it has in common with Class D amplification – but there the similarity ends.

Class D amp modules are often used in audio products because they are energy efficient and able to generate relatively high current from a small device. However, in terms of sound quality, typical 'off-the-shelf' Class D amps leave a lot to be desired, not least because switching occurs at varying frequencies which may be within the audible range – the higher the power level, the lower the switching frequency.

iFi's current multiplier circuit is entirely different because the switching frequency is fixed at an ultra-high level – around 1.5MHz, far beyond the audible frequency spectrum. This results in a high level of efficiency, multiplying the current supplied by the valve several thousand-fold, whilst maintaining far greater linearity and lower noise than typical switching amplifiers. Coupled to this is a low-pass circuit and a feedback loop, the latter ensuring the output frequency is ideal for the load, and everything is 'clock-locked' via iFi's GMT (Global Master Timing) circuit to ensure unerring precision.

This ingenious fusion of amp technologies enables a sound that combines purity of tone with a high level of engagement, speed and dynamic gusto, ensuring the emotive quality of music is delivered in full effect.



### **Custom drivers, uniquely configured**

The PureEmotion amp stage delivers a total of 320W to power the Aurora's custom-made speaker drive units. The main drivers, of which there are four – two firing from the front and one from each side – sport a 120mm cone made from coated long-fibre paper, a material selected for its optimal balance between stiffness and self-damping. This is coupled to a large magnet, a basket that resonates above the audible range and extensive measures to ensure excursion is controlled and damped mechanically, so that clarity and control are maintained even at high volume levels.

Unusually, these main drivers are deployed in a wide-bandwidth role to cover the vast majority of the audible frequency spectrum, rolling off towards very low and very high frequencies. The drive unit design, together with the inert nature of the Aurora's housing – stiff, well-braced, naturally sound-absorbent bamboo with strategically placed damping material – enables a flat frequency response from around 60Hz to 8kHz. Avoiding the need for a crossover to hand over from one drive unit to another at critical frequencies enables excellent phase response through the midrange.

These are the only drive units, however. Two 28mm silk-dome tweeters, one at each side, cover frequencies from 8kHz to 35kHz. As the treble region is considered to begin at around 5kHz, and the

limits of human hearing extend to about 20kHz, the Aurora's high-frequency drivers behave more like super-tweeters than traditional tweeters. With a simple first-order crossover for the smoothest-possible transition and a shallow waveguide to provide time-alignment, these tweeters not only deliver high-frequency sounds such as cymbals but are also critical to the Aurora's spacious soundstage.

Two further drivers – a pair of rectangular passive bass radiators – fire downwards from the underside of the cabinet. The diaphragm used by these drivers is formed from a composite of carbon, iron and ethylene-vinyl acetate, a well-damped material enabling the correct resonant frequency to be obtained from a diaphragm of appropriate thickness. This is combined with a self-centring, double-ribbed rubber surround, negating the need for a basket.

The net result is a seamlessly coherent performance with silky-smooth frequency response, an out-of-the box soundstage and bass that delves far deeper than most all-in-one systems can muster.



Left: Three of the four main drivers and one tweeter are visible in this image, within their bamboo enclosure. The Aurora's outer enclosure, with its distinctive bamboo fins, sits over the top of this

### **SoundSpace and TrueBass – analogue signal processing**

There are plenty of audio products on the market that claim to deliver a big, spacious, three-dimensional performance from a single box. Many of these use DSP (Digital Signal Processing) to manipulate the digital data in order to achieve this effect; this is a 'lossy' process that has an adverse effect on the purity and resolution of sound.

iFi does not use DSP of this kind in any of its products; instead, the Aurora incorporates sound-tuning technologies that operate entirely in the analogue domain. SoundSpace is one such technology – this combines the drive unit array with a proprietary matrix, which adjusts the output from specific drivers at certain frequencies. SoundSpace is fundamental to the Aurora's immersive, room-filling performance, enabling the soundstage to extend beyond the confines of the cabinet with expansive width, height and depth. This gives music a palpable sense of scale and space you simply wouldn't expect from an all-in-one music system.

TrueBass is another proprietary sound-tuning technology that operates strictly in the analogue domain. The depth and quality of bass supplied by all-in-one lifestyle systems often leaves a lot to be desired; the TrueBass system, incorporating the two downward-firing bass radiators, ensures the Aurora delivers genuine bass with realistic depth and definition. Dual-level depth control means you can adjust the bass response according to taste, so that everything from timpani, to a bass guitar, to an electronic bassline is conveyed with power and poise.



**Left:** Two passive bass drivers fire downward from the base of the Aurora

### ART (Automatic Room Tailoring)

The Aurora incorporates a 'room correction' system called ART (Automatic Room Tailoring), entirely developed in-house. At the press of a button, six ultrasonic sensors measure the distance to the surrounding walls using ultrasound. Then, a 32-bit ARM Cortex microprocessor adjusts the output from the driver array to precisely tailor Aurora's performance. The effect is similar to the adjustments made by a live sound engineer at a mixing desk when adapting sound to suit different venues.

All the adjustments are made strictly in the analogue domain, without relying on DSP or feedback in the manner of many other room correction systems. This enables much finer and more accurate tailoring of the sound, reacting to room modes and reflections from walls without attempting to 'neutralise' the sound in an unnatural way. Wherever the Aurora is placed – in a large room or a smaller one, in a corner, against a wall or in free space – it always performs at its best.



**Left:** Six microphones at the back of the Aurora – two facing backwards, two left and two right – measure the distance to walls using ultrasonic sound

### Built to be versatile

Aided by ART, the Aurora adapts to the way you want to use it. You might place it on a table or sideboard and stream your favourite music playlists, radio stations and podcasts. You might site it under a wall-mounted TV and connect it via Bluetooth or optical cable, thereby delivering TV sound far better than any soundbar. Or, you might purchase a rechargeable battery pack and attach it to the Aurora's 12v input, so you can take it outside for a garden party. Wherever you place it, the ART system ensures the Aurora is calibrated to perform at its best.

In addition to wireless connectivity, there are plenty of cable inputs to connect source devices. Optical, coaxial, USB and Ethernet inputs cater for digital sources, while 3.5mm socket provides an analogue input. There is even a slot for microSDHC cards – upload music onto a card and play it on the Aurora.

One thing that isn't built into the Aurora is voice control. Integrating Alexa, for example, would have compromised performance, both in terms of limiting audio resolution to 16-bit/48kHz and re-focusing the design to prioritise the audibility of voice commands over outright sound quality. However, those who wish to incorporate Alexa may do so easily, by linking the Aurora (or several Auroras in a multi-room context) to any Echo speaker, from the Input upwards, via Wi-Fi or Bluetooth.

With its distinctive design and unique collection of proprietary technologies, the iFi Aurora is an all-in-one wireless music system like no other – available from August at an RRP of £1,299 including VAT.

#### Notes for editors

- Striking design with hand-made bamboo enclosure, elevated by distinctive aluminium frame
- Connects wirelessly via Wi-Fi and Bluetooth; single-room or multi-room use
- Digital cable inputs include Ethernet, USB, S/PDIF (optical and coaxial)
- Hi-res audio enabled – 32-bit/192kHz via Wi-Fi, Ethernet, USB; 24-bit/192kHz via S/PDIF
- Eight drive units – four 120mm drivers and two 28mm tweeters driven by 320W (4x 80W) amplification, plus two passive bass drivers
- Dimensions (WxHxD) – 59x27x29cm
- Unique collection of proprietary audio technologies:
  - PureEmotion – hybrid amp technology delivers the pure emotion of music
  - SoundSpace – creates an immersive, room-filling sonic experience
  - ART (Automatic Room Tailoring) – adjusts the sound to suit the room
  - TrueBass – deep, clean and accurate bass with dual-level depth control



iFi is the sister-brand of Abbingdon Music Research (AMR) and is headquartered in Southport, UK. The two brands respectively design and manufacture portable, desktop and lifestyle audio products and high-end hi-fi components. Combined in-house hardware and software development teams and a 'music first' approach enable iFi and AMR to create advanced audio products that deliver new levels of design, functionality and performance at their respective price points. Since iFi's formation in 2012, its products have earned many awards around the world, helping it to become one of the fastest-growing brands in its field.

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