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& GadgetyReviews

OCTOBER 2017



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**BEST PRODUCT 2015** High Fidelity.pl

**HI-FI WORLD**



# Get Your Free Tickets For North West Audio Show 2018

You can now register for your FREE tickets for the North West Audio Show which will take place at Cranage Hall (De Vere Cranage Estate), Cheshire on Saturday 23rd and Sunday 24th JUNE 2018. Lots of great companies have already booked and this year's show will be bigger and better than any of the previous shows.

Anyone that has attended the North West Audio Show will tell you that it is simply one of the best Hifi shows in the country with a lovely relaxed vibe and hosted in a magnificent setting.

Of course Hifi Pig is intimately involved in organising and promoting the show as the Exclusive Media Partner...and very proud we all are with our association with this fabulous event.

## North West Audio Show 2018

The very best in Hifi and audio in wonderful surroundings

**Free entry, free parking, live music and lots more for all the family**

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# New Bowers & Wilkins 700 Series Loudspeakers

Bowers & Wilkins have just launched their new 700 Series loudspeakers, which, they say, develops the ethos of the CM Series that the 700 series replaces, plus adds technology from the 800 Series Diamond and new, bespoke acoustic innovations.

The series sees the implementation of technology first seen in the high-end 800 Series Diamond alongside bespoke technology newly developed for the 700 series. Technologies that have 'trickled down' from the 800 Series Diamond include the Continuum midrange driver which now features on every model in this new range.

The new 700 Series also benefits from a bespoke version of the Aerofoil profile bass driver plus improved tweeter-on-top housings on the two flagship models that are crafted from solid billets of aluminium. Both were first seen on the 800 Series Diamond. New technologies come first and foremost in the shape of Carbon Braced tweeters which B&W say is their best performing 'non-Diamond' tweeter that they have ever produced.

The new 700 Series comprises eight models, two with Tweeter-on-Top technology including the flagship 702 S2 (pictured above). The range includes three floorstanding models, three standmount speakers and two dedicated centre channels for surround sound and home theatre use. All models are available in a choice of Gloss Black, Satin White and Rosenut finishes. The launch also sees the announcement of a new subwoofer. The fourth model in the new DB Series, the DB4S is a single-driver subwoofer that shares drive unit technology, amplification and preamp section with the dual-driver DB2D, but in a single driver format. It has a single 10in Carbon Aerofoil drive unit in a forward-firing configuration plus 1000w of amplification and a digital preamp section with Dynamic EQ, Room EQ and an App-based configuration system. It is available in colours to match the 700 Series.

The Technology

## Carbon Dome Tweeter

The new 700 Series introduces an entirely new Bowers & Wilkins tweeter technology: the Carbon Dome. A tweeter that bridges the performance gap between the Aluminium Double Dome used in the 600 Series and the Diamond Dome used in the 800 Series Diamond. The Carbon Dome is composed of two sections. The front portion is a 30 micron aluminium dome that has been stiffened by a PVD (Physical Vapour Deposition) coating of carbon. The second section is a 300-micron Carbon Ring that has been profiled to match the form of the main dome. This is then bonded to the inner face of the structure. The outcome is exceptional stiffness and resistance to distortion without undue mass and a first break-up point of 47kHz.

## Solid Body Tweeters

The 705 S2 and 702 S2 Tweeter-On-Top designs feature Solid Body Tweeter technology. This design is derived entirely from the approach used in the 800 Series Diamond and has the same performance benefits. Instead of using a hollow zinc housing, the 705 S2 and 702 S2 use a shape milled from a solid mass of aluminium to provide a stiffer and less resonant structure, it weighs over 1kg. This design allows the use of the mass of the tweeter body as a heatsink, and means it can benefit from the same decoupling mechanism and acoustically transparent grille design as the 800 Series Diamond.

## Continuum cone

Each model in the new 700 Series features the Continuum cone midrange drivers first seen in the 800 Series Diamond. The Continuum cone's design is based on the concept of optimised and controlled flexibility. This helps it avoid the abrupt transition from piston to break-up mode. Like Kevlar, it is a woven composite.

## Midrange chassis

The new 700 Series has three floorstanding loudspeakers in the range, all equipped with dedicated midrange drive units. These

midrange units use a new Finite Element Analysis-optimised aluminium chassis that is stiffer than the zinc chassis of the outgoing CM Series. This optimised form is further enhanced with the addition of a tuned mass damper on the front face of the chassis.

## Midrange decoupling

A new midrange decoupling system simplifies the design used in the 800 Series Diamond, and replaces the drawbar design previously employed in CM10 S2.

## New Aerofoil cone

A new implementation of the Aerofoil cone used in the 800 Series Diamond has been developed for the 700 Series. The new design uses paper rather than carbon fibre skins, and the sandwich filling material is now EPS, not syntactic foam as used in 800 Series Diamond and DB Series subwoofer.







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# McIntosh Announces MA7200 Integrated Amplifier And MAC7200 Receiver

McIntosh, who have been producing audio for over 65 years, has announced the MA7200 Integrated Amplifier and MAC7200 Receiver.

MA7200 Integrated Amplifier (Available exclusively for countries outside the US and Canada) has 200 Watts per channel and 14 total inputs, McIntosh say: "the space-saving MA7200 Integrated Amplifier can easily become the core of a 2-channel home audio system".

Making up its 14 inputs are 8 analogue connections (5 unbalanced, 1 balanced and 1 each of Moving Coil and Moving Magnet) along with 6 digital (2 each of coaxial and optical plus 1 USB and 1 proprietary MCT for use with their series of SACD/CD Transports). The digital inputs are housed in the DA1 Digital Audio Module, which can easily be replaced by future modules to keep the MA7200 current with the latest digital audio technologies. The DA1 comes with an 8-channel, 32-bit Digital-to-Analogue Converter (DAC) used in Quad Balanced mode. The USB input accepts PCM signals up to 32-bit/384kHz and supports up to DSD256 and DXD 384kHz.

McIntosh expanded further: "The MA7200 is part of our line of next generation integrated

amplifiers and features many design improvements including new, more powerful control microprocessors; some of the latest audio-grade circuit components; and the addition of our Headphone Crossfeed Director (HXD®) technology. The MA7200 is full of other McIntosh technologies including

industry. The built-in AM/FM tuner in the MAC7200 Receiver comes from that same line of McIntosh tuners. Its advanced signal quality monitor can display the multipath and noise levels of the incoming RF signal to help fine tune antenna placement for optimal reception. Dedicated Preset and Tuning

knobs enable easy operation. The FM tuner includes Radio Data System (RDS) support, allowing it to display optional information sent by radio stations such as the station's name and call letters as well as the name of the artist and song being played. It features 20 presets for each radio band as well as a remote AM antenna. The MAC7200 is available worldwide.



Autoformers to deliver the full 200 Watts to each of your speakers regardless of their impedance, Power Guard®, Sentry Monitor™, Home Theater PassThru, Monogrammed Heatsinks™, bass and treble tone controls, High Drive headphone amplifier and gold-plated speaker binding posts. The MA7200 is available exclusively for countries outside the US and Canada".

The MAC7200 Receiver builds upon the MA7200 Integrated Amplifier by adding a built-in AM/FM Tuner. McIntosh has been making tuners since the 1950s and they are one of their hallmarks, with the MR78 model from 1972 considered a classic in the audio

## Pricing and Availability

MA7200 is available exclusively for countries outside the US and Canada while MAC7200 is available worldwide. Orders for both can now be placed with shipping expected to begin in September.

Suggested retail price (VAT, shipping and any customs duties related to current standards of individual countries are excluded):

MA7200: Contact the McIntosh distributor in your country for local pricing

MAC7200: \$7,000 USD





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# Karma-AV Introduces Mark Levinson No 523 And No 534 To The UK

Karma-AV has added two further Mark Levinson products to the range available to UK audiophiles. Supplied individually, the No 523 pure analogue preamplifier and No 534 dual-monaural power amplifier may be combined to create a pre-power partnership having matching Mark Levinson Pure Path discrete, dual-monaural signal path system topology from source input to speaker output.

## No 523 Preamplifier

With a discrete, balanced R-2R Ladder volume control, Class-A Phono stage, and Class-A Main Drive Headphone output, the No 523 preamplifier offers five line-level analogue inputs: two balanced (XLR), and three single-ended (RCA) in addition to the Pure Phono (RCA with grounding pin) input. The preamplifier delivers its signal to balanced (XLR) and single-ended (RCA) stereo outputs, as well as a 1/4-inch (6.3mm) Main Drive Headphone output integrated into the front panel metalwork – a first for Mark Levinson. A selectable, fourth-order, 80 Hz high-pass filter enables integration of subwoofers.

## R-2R Ladder volume control

Replacing the analogue potentiometer in the volume control, Mark Levinson engineers have employed an R-2R Ladder design, in which a string of resistors, all with identical resistance (R), form the side of the ladder, with another set of resistors having double the resistance (2R) forming the rungs. An

R-2R Ladder is a highly accurate device and has no mechanical contacts to wear out.

## Mark Levinson Pure Phono stage

Newly developed for the No 523 and No 526 preamplifiers, the Mark Levinson Pure Phono stage features fully discrete, low noise gain stages, with RIAA equalization implemented using a combination of active and passive filter circuits. Four gain settings, multiple resistive and capacitive loading settings, and an infrasonic filter are adjustable from the preamplifier's front panel and remote control. System integration connectivity includes Ethernet/IP control, RS-232, USB for monitoring and configuration via web page, plus DC triggers and an IR input a machined metal remote is included.

## No 534 Dual-Monaural Power Amplifier

Featuring Mark Levinson's proprietary Pure Path circuit design, the No 534 Dual-Monaural Amplifier delivers 250 watts per

channel into 8 ohms, operating purely in class A for most listening conditions, doubling to 500W into 4 ohms, with stable operation into 2-ohm loads. Between balanced and single-ended inputs, and four pairs of gold-plated binding posts complete with Mark Levinson Hurricane terminals, its Pure Path discrete, direct-coupled, highly linear, wide bandwidth, dual-monaural signal paths are designed for "uncompromised sonic purity". Gain-stage JFET pairs have high gain, low noise, low distortion, and because they are

encapsulated in the same package, the two devices operate under nearly identical conditions. Capacitors used in critical filtering locations are film types, noted for their consistent performance. Resistors in critical gain-setting and feedback locations use tantalum nitride thin-film elements, chosen for their stability and low noise.

Housed in a cold-rolled steel and 6000-series aluminium chassis, the No 523 and No 534 are designed and handcrafted in the USA.

## Mark Levinson No 523 Dual-Monaural Analogue Preamplifier

Typical retail price inc VAT: £16,000.00

## Mark Levinson No 534 Dual-Monaural Power Amplifier

Typical retail price inc VAT: £21,000.00

Availability: October 2017





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## TAGA Harmony HTA – 1200 Integrated Amplifier



TAGA Harmony, manufacturer of speakers and audio electronics, has unveiled a new high-fidelity hybrid amplifier, the HTA-1200.

TAGA Harmony HTA-1200 is a 80W/8ohm high-fidelity hybrid integrated amplifier utilising a 12AX7 tube preamp section with a cathode type amp circuit and a 12AU7 stage serving as a buffer amplifier, and four Toshiba transistors at the output.

High-performance tubes and high voltage transistor hybrid power supply provide voltage stability and very low AC ripple current. High-power toroidal 300W transformer provides constant and immediately-available energy at any volume level. The tube circuit is cross-connected with audiophile grade MKP capacitors and an audiophile grade ALPS volume potentiometer provides minimal noise and channel crosstalk. Gold-plated speaker terminals transmit the audio signal to the speakers. Analog inputs with solid machined brass RCA sockets can accommodate up to 4 stereo devices including a turntable (both MM and MC cartridges).

You can connect a range of digital devices via optical or coaxial inputs and there is a built-in high-resolution 24bit / 192kHz DAC. The HTA-1200 is also equipped with a high-end headphone preamplifier. The preamplifier output is dedicated for an optional external power amplifier or powered subwoofer and speakers. The removable IEC power cable gives you an option to upgrade your system with a premium audiophile power cable in any time.

## Campfire Audio Announces Polaris Audiophile Earphone

Campfire Audio, who design and build their products in Portland, Oregon, USA, have introduced a new innovation to their dynamic driver design; Polarity Tuned Chamber™.

Campfire told us: "Our 3D printed tuned chambers in front and behind the driver allow us to optimise the performance of our dynamic driver. This opens up the sound and gives the driver an effortless power that must be heard to be appreciated. A balanced armature transducer coupled with our revolutionary TunedAcoustic Expansion Chamber™ (T.A.E.C.) compliments the dynamic driver; seamlessly working in harmony to achieve audio excellence. A single high frequency balanced armature driver discards a traditional 'tube & damper' tuning system for our new Tuned Acoustic Expansion Chamber™ (TAEC)". A 3-D printed chamber provides the acoustic tuning without compression. Campfire produce their earphones in small batches for quality control. The precision machined aluminium housing reduces vibrations that induce sonic

distortion. These tough shells extend the life the earphone by offering protection from drops. The shells are machined in Medford Oregon, just a short drive south the Campfire Audio workshop.

Campfire have also introduced a new coating to the earphone market. "Cerakote is a Polymer-Ceramic Composite coating. The unique formulation used for Cerakote ceramic coating enhances a number of physical performance properties including abrasion/wear resistance, corrosion resistance, chemical resistance, impact strength, and hardness."

They went on to tell us: "The ergonomic shape of the design offers an easy to wear and comfortable fit. The hard anodized finish makes for a great looking earphone. It is durable and ready to stand up to demanding daily use. The Polaris' lightweight design is ideal for all day listening sessions".

Available now at \$599 USA price.





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WHAT YOU FEEL  
THEY DON'T SEE  
WHAT YOU SEE  
THEY DON'T HEAR  
WHAT YOU HEAR  
THEY DON'T HAVE  
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## EC Living by Electrocompaniet – TANA And RENA

The new TANA from EC Living by Electrocompaniet is an all-in-one wireless (802.11AC) solution combining a loudspeaker, a powerful 150-watt A/B amplifier, 192kHz/24-bit DAC and an audio streamer.

Using the homeowner's existing network, TANA can play music from an existing collection, is compatible with popular streaming services and formats such as TIDAL, Spotify, and Airplay, and has built-in Internet Radio.

The TANA is easy to set up and use, and can be controlled with any tablet, smartphone, PC/Mac, third-party control system, or with the system's own controls—no additional software required. Its aluminium body is solidly constructed, while the variety of user-changeable grilles and decorative band finishes, including classic matte black and copper, matte chrome, and handcrafted

woods to complement any décor. TANA also offers an easily integrated add-on wireless active loudspeaker and the upcoming optional SIRA subwoofer.

EC Living by Electrocompaniet is also launching the RENA series, an option to bring wireless streaming to existing systems. The RENA SA-1 is both a compact streamer and a powerful 75Wx2 amplifier with internal 192kHz/24-bit DAC, designed to upgrade existing loudspeaker systems with next-generation audio streaming. It connects directly to existing loudspeakers.

EC Living components are compatible with all of the most popular streaming formats and services, including Spotify, Tidal, AirPlay, etc. The system also has built-in Internet Radio. . All products are manufactured at the company's base in Norway.



## Isotek Launch New Flagship Power Cable



IsoTek has launched a new flagship power cable, The Ascension. The company say "The Ascension represents the ultimate in conductor purity and power cable construction. Unlike other traditional 3-core power cables Ascension features three, 4sqmm Ohno Continuous Cast copper (OCC copper) high purity conduction, these are then silver plated before being encased in extruded FEP with an air dielectric barrier. This assembly is then individually wrapped in Mylar and shielded with an Oxygen Free Copper (OFC) braid before being deep cryogenically treated down to -196 °C".

Priced at £2750.00 for 2m terminated cable.





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# *The Classic*



August 2016



Best Turntable 2016-2017

## *An Instant Classic*

**The Classic** was released to celebrate Pro-Ject Audio Systems' 25th Anniversary. This retro-inspired turntable has been designed from the ground-up to combine timeless aesthetics with modern technology and audiophile sound performance.

The striking frame design is available in three wood finishes, and provides clever decoupling between the acoustically treated aluminium platter and the motor.

The new motor is powered by a built-in generator, for a consistent performance, and drives a sub-platter that sits atop a precision-engineered main bearing.

The all-new 9" Classic Tonearm is made of aluminium and carbon fibre, for unrivalled rigidity while retaining a low mass. The arm benefits from a new bearing system for completely free movement and is supplied as standard with an Ortofon 2M Silver cartridge.

**Available Now for £799.00 (UK SRP)**



Distributed by Henley Designs Ltd.

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# Zesto Audio Andros Allasso Step Up Transformer

Zesto Audio has announced their first audio accessory, the Andros Allasso Step Up Transformer. The international debut will take place at the X-FI Audio Show in Holland on September 30th and the US launch will be at the Rocky Mountain Audio Fest in Denver, CO, October 6-8 in exhibit room #7009 at the Marriott Tech Center.

Unlike many step up transformers (SUT) which are customised to a specific phono cartridge with few adjustments, Zesto Audio's Allasso has 40 adjustments in Mono and 40 adjustments for your stereo MC cartridge.

Zesto Audio is a company known for their Phonostages. The Allasso is a product cloned from the same gene pool with all the characteristics, components and knowledge that went into those products. Zesto thought that the biggest problem with phonostages is there are never enough inputs, so the Allasso was created.

George Counnas, President and Design Engineer for Zesto Audio told us, "You are

now free to roam the cartridge planet!" He goes on to say, "I wanted to design a Step Up Transformer that is very flexible, easy to use and can work on any standard phono preamplifier with a 47K MM input. I designed the Allasso with enough adjustments to tailor it specifically to your cartridge or your next

positions for each setting allowing for 40 adjustments in Stereo and 40 in Mono. The Mono switch is a unique feature which takes one input and sends it to both outputs. Mono cartridge lovers have the added benefit of listening in either the Mono or Stereo.

The Allasso is designed with the highest

quality multiple turn ratio MC transformers. This allows you to get the right gain and loading for your cartridge. They are quiet, with extra shielding and large enough with the multiple windings to handle even your high output cartridges.



one, and the one after that."

All the adjustments are easily accessible on the front and can be done "on the fly" without clicks or pops. No maths skills are required, it's just you and your ears as you freely adjust, listen and find the best match for your cartridge. There are 4 gain settings of 17dB, 21dB, 23dB and 26dB and the step up ratios of 1:4, 1:6, 1:8 and 1:12 with 10 load

The grounding scheme is designed into the circuitry, binding posts and enclosure. The input ground lift switches help eliminate ground loops, especially in Mono cartridges. The RCA connectors are gold plated with an isolated ground.

Made in the USA. Retail price US \$2,995



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## Burson Release PLAY Headphone Amp/Pre Amp/DAC



Burson have released PLAY, a versatile little pre amp/DAC/Headphone amp.

It's a high power headphone amplifier with over 2W per channel into 16ohm but also its a reference class DAC feature the ESS9018 DAC chip and Xmos USB receiver. Capable of playing back DSD256, DXD, 32bit / 384khz audio files. PLAY can also be used as a pure Class-A remote controlled preamp.

For gamers it also fits into any gaming PC, in which case, it draws power from the internal power supply of the PC. With a high-fidelity mic input, it's a USB soundcard for any gaming PC. Finally, it's an opamp rolling platform, rolling up to 5 opamps to tune its sound to your taste.

Starting from 299USD inc. shipping.

Shipping from the 15th of October, 2017

## McIntosh Announces MHA50 Portable Decoding Amplifier

McIntosh has announced the MHA50 Portable Decoding Amplifier.

Nearly everyone walks around with most if not all of their music library in their pocket or bag where it's readily accessible via a pair of headphones. While convenient, it likely doesn't sound as good as it could. The new handheld MHA50 Portable Decoding Amplifier from McIntosh can make your music sound better through your headphones.

portability with a bevelled case that fits comfortably in your hand or pocket. Its sleek design features a glass front panel with a touch sensitive volume control knob inspired by the classic knobs found on countless McIntosh products. It's built primarily from durable extruded aluminium which also has some inherent noise shielding properties to help block external interference. Two gain settings allow the MHA50 to work with all types of headphones from small in-ear models to large over-ear studio type designs

like the McIntosh MHP1000 Headphones (sold separately); it can drive headphones with impedances ranging from 8-600 ohms. Headphone Crossfeed Director (HXD®) brings added dimension to



The MHA50 includes wired inputs for Apple® iOS devices as well as Android devices that are compatible with USB On-The-Go technology plus Mac® and Windows® computers. It can also wirelessly connect to these devices via Bluetooth® 4.1 with aptX™ technology that ensures you receive the highest possible sound quality from your Bluetooth source device. Featuring a high-performance 32-bit digital-to-analogue converter (DAC), it decodes music files from almost any digital source and outputs audio that is superior to what your device alone can produce. It supports 32-bit/192kHz hi-res audio, DSD256 and DXD384 files as well as asynchronous USB audio. Its 3,000 mAh rechargeable battery provides up to 6 hours of playback on a single charge when connected via Bluetooth; playback can last even longer when using the wired connections.

Comparably sized to smartphones, the MHA50 is compact and lightweight for easy

your music in a natural sounding way and can be easily turned on and off depending on your preferences. All audio is output via a gold plated 3.5mm jack. This jack can also connect to a pair of powered desktop speakers, allowing the MHA50 to serve as a desktop DAC.

The MHA50 comes complete with three USB adapter cables to connect various devices, a leather carrying case, and a wall mount charger with USA plug and adapters for Europe and Japan.

### Pricing and Availability

Orders for the MHA50 can now be placed with shipping expected to begin in October.

Suggested retail price (VAT, shipping and any customs duties related to current standards of individual countries are excluded): \$700 USD





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# New Stereo Receivers From Pioneer



Pioneer say they are pleased to announce the release of two new Stereo Receivers, the SX-N30AE and SX-10AE. Both are equipped with powerful Direct Energy Amplifier technology and cater for a host of analogue and digital audio sources while also supporting Bluetooth (with in-built Wi-Fi connectivity on the SX-N30AE).

Both models are fully equipped for wireless multi-room use, supporting FireConnect, DTS Play-Fi and Chromecast built-in, as well as being able to work with Google Assistant smart speakers.

The receivers are equipped with Direct Energy Amplifiers with a discrete circuit configuration. This aims to achieve excellent signal transmission and a high signal-to-noise ratio by optimising the circuit blocks and parts layout. As a result, both receivers deliver a high power output (135W/ch: N30AE, 100W/ch: 10AE).

When it comes to connectivity, the SX-10AE (shown in silver) has the essentials: four

analogue inputs, one line out and a subwoofer pre-out. The SX-N30AE goes further, offering six analogue inputs, a phono input (MM), two digital inputs (one optical, one coaxial), a line out and subwoofer pre-out. The SX-N30AE also has two USB inputs (front/rear), so it really is possible to hook up virtually any and all audio sources to this receiver. Both models support wireless playback from smartphones and other Bluetooth-compatible devices.

When it comes to multi-room ability, both offer three ways of getting your music playing round the house...

1) FireConnect – this mirrors network audio and external analogue sources connected to the master component, from streaming services to vinyl records, on FireConnect-compatible speakers in other rooms. Music selection, speaker grouping, and playback management across the home are built into the Pioneer Remote App for iOS and Android.

2) DTS Play-Fi – This allows users to enjoy high quality, lossless music from leading streaming music services, networked media servers and personal device libraries, all delivered over Wi-Fi to any number of compatible products using the Pioneer Music Control App (available for iPad, iPhone and Android phones and tablets). Users can also control the system using the Apple Watch or Android Gear. DTS Play-Fi automatically synchronises the music in every room throughout the house.

3) Chromecast built-in – With this, you can use your mobile device to stream your favourite music, radio, or podcasts to any compatible speakers. You can control the audio from anywhere in the house using Chromecast-enabled apps running on your personal device – choose from iPhone, iPad, Android phone and tablet, Mac and Windows laptop,

and Chromebook.

As mentioned, the SX-N30AE also has a built-in network capability and supports the wireless playback of music stored on a PC and NAS, connected to a home Wi-Fi network. This lets owners enjoy a wide variety of streaming music services such as Spotify, TIDAL and Deezer. In addition it also features AirPlay, allowing for the wireless playback of music from an iPhone, iPad or iPod touch.

The SX-N30AE can receive and play high quality DAB/DAB+ broadcasts as well as FM/AM (thanks to the free AS-DB100 Adapter that's supplied) and also offers access to hundreds of free Internet Radio stations (via the TuneIn service).

Prices

SX-N30AE – £549.99, available in October

SX-10AE – £229.99, available in October



# Paint It Black

*"I felt I was listening to a more lifelike rendition of the music...good vocal projection combined with tight timing and a natural tonality make this cable extra special"*

Tony Bolton

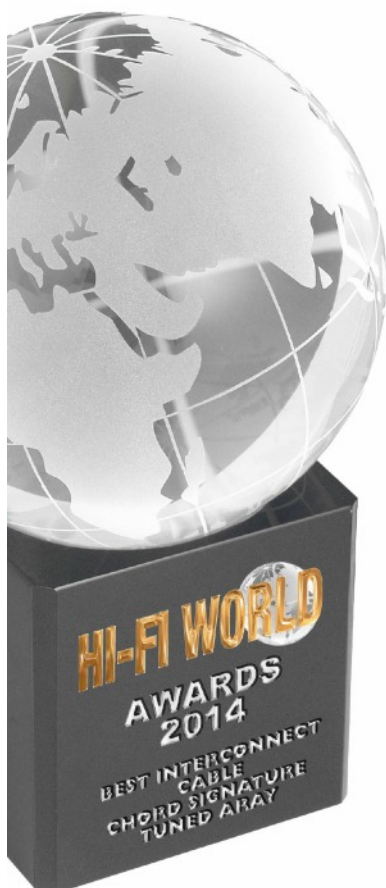


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## New Flagship SACD Player From Pioneer

Pioneer has announced the release of the PD-70AE, its new flagship SACD player & Digital to Analogue converter (DAC).

Featuring original technologies for pickup control and 'Quiet Drive', the player incorporates dual ESS DAC chips, XLR terminals with fully balanced circuitry, and discrete analogue/digital power supplies.

### Fully Balanced Circuitry

From digital to analogue conversion to analogue signal output, the whole analogue process is routed via a full-balanced circuit featuring independent left and right channels. When connected to an amplifier with a balanced (XLR) input, the common impedance effects encountered when transmitting an analogue signal can be minimised.

### Works as a standalone D/A Converter

In addition to being a SACD/CD player, the PD-70AE also functions as a standalone DAC for other digital audio sources. The DAC uses dual ESS DAC chips.

### Discrete Analogue/Digital Power Supplies

The digital and analogue circuits each have their own discrete power supplies.

### Custom Electrolytic Capacitors for High-Quality Audio

Custom electrolytic capacitors for high-grade audio have been selected through repeated trials while listening to SACD and CD sound.

### Lock Range Adjust Function

The function allows you to make fine adjustments in the DAC's lock range to reduce jitter in the input signal. Adjustments can be made in six steps, with the default set at Range 6. Ranges 1 to 3 are intended for fine-tuning

### 3-mode Digital Filter

The digital filter lets you fine-tune the sonic characteristics of the DAC – 'Slow' for soft and warm, 'Sharp' for solid and tight, and 'Short' for a quick and forward sound.

### CONSTRUCTION FEATURES

#### Rigid Under Base Construction

The PD-70AE uses Pioneer's trademark Rigid Under Base which works to eliminate external vibrations.

#### Shielded CD Drive Case with Anti-Vibration Paint

The CD drive is housed in a shielded case with a honeycomb-imprinted top cover and anti-vibration paint. The drive base is securely fixed to an aluminum-alloy frame and placed within a damped, floating structure.

## CAD Announce New USB Cable



CAD have announced their latest USB cable.

CAD's new CAD USB Cable I & II are specifically engineered to filter out noise from any and all digital music sources before it reaches the DAC says the company's latest press release.

The new CAD USB Cable I is an enhanced version of the company's first cable, now featuring improvements to its patented filtering technology.

The new CAD USB Cable I & II are available now, priced at £540 and £880 respectively for a 1.1 metre length. Longer lengths and cables without the +5VDC line are available to order.





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# Dynaudio Announces Music



Music 3 (pictured) (£575) is battery- and mains-powered. It has one 5in woofer and two 1in soft-dome tweeters. Total power is 120W (each driver has its own 40W amplifier), its battery lasts up to eight hours, and the unit comes with a remote control.

Music 5 (£700) is mains-powered. It has one 5in woofer, two 3in midrange drivers and two 1in soft-dome tweeters. It delivers a total of 250W (each driver has its own 50W amplifier), and the unit comes with a remote control.

Music 7 (£875) is mains-powered. It has two 5in woofers, two 3in midrange drivers and two 1in soft-dome tweeters. Total power is 300W (each driver has its own 50W amplifier), and the unit comes with a remote control.

Dynaudio has announced Music – a family of four intelligent wireless speakers. The Danish company told us: “Dynaudio Music provides one-touch simplicity. It adapts seamlessly (and automatically) to any room or position, and to surrounding noise levels – so music always sounds its best. It even gives personalised playlists featuring only the music its users love with Music Now. All at the touch of a button”.

The accompanying free app for iOS and Android uses Dynaudio’s Music Now algorithm to learn users’ musical tastes and play automatically generated playlists with one touch of a button on the speaker. It means there’s no need to scroll through endless playlists, only to get bored trying to find something to listen to. This is just like turning on a radio – but the station is guaranteed to play music the listener wants to hear.

The speaker connects to popular music-streaming services including TIDAL and Spotify. Each Music speaker has five presets. These can be filled with anything accessible from the app: smart Music Now playlists (from multiple user profiles), internet radio stations, TIDAL albums, artists, Spotify playlists and more. TIDAL content can be accessed straight from the app, while Spotify can be added to presets from the ‘Now Playing’ screen.

Intelligent DSP Built-in RoomAdapt technology senses where the speaker has

been placed (in a corner, up against a rear wall or in free space) and optimises performance to always deliver the best sound possible. Essential musical details will always be clear too, thanks to NoiseAdapt – even when the room is noisy, and the speaker volume is low. There’s no need to crank the volume to hear tunes properly when the conversation gets louder, and there’s no need to tweak the tone controls either. It’s all based on Dynaudio’s expertise in DSP (digital signal processing), gained from researching and developing high-end active speakers, professional studio set-ups and in-car hi-fi systems.

There are four speakers in the family. All are active (each driver has a dedicated high-performance class-D amplifier specifically tuned to match it), and they all have slightly different features to help them fit different lifestyles and situations. All the speakers use Dynaudio’s proprietary MSP cone material in their woofers and midrange drivers (the same material used across the company’s entire product family, right up to the range-topping Evidence Platinum series). Their soft-dome tweeters are based on Dynaudio’s high-end speakers.

Music 1 (£450) is battery- and mains-powered. It has one 4in woofer and a 1in soft-dome tweeter. Total power is 80W (each driver has its own 40W amplifier), and its battery lasts up to eight hours.

All the speakers in the family can stream via Wi-Fi, Spotify Connect, aptX Bluetooth and Apple AirPlay, and can access DLNA devices on users’ home networks. They all have USB inputs for iOS audio and charging iOS devices, and can accept 3.5mm analogue inputs. The Music 5 and Music 7 add digital optical inputs to the mix (both support signals up to 24-bit/96kHz), while the Music 7 also has an HDMI connector with Audio Return Channel to turn it into a soundbar.

Up to six speakers can be connected at a time and arranged into multiroom groups, or controlled individually from the Dynaudio app.

Each model is available in Light Grey, Dark Grey, Red and Blue cloth finishes, custom-made by the acclaimed Danish textile house Gabriel, and is constructed from honest, high-quality materials – including a one-piece brushed aluminium surround on the Music 5 and Music 7. The front grille cloths on the Music 5 and Music 7 are interchangeable too, so you can change the look as you change your tastes. Both the Music 5 and Music 7 can be wall-mounted using a dedicated steel wall-bracket.

The design is typically as you’d expect from Dynaudio. Plus there’s some added inspiration from origami, traditional Chinese boat sails... and even stealth fighter jets.

At launch, all Music speakers will come with a free 90-day TIDAL trial, so users can get started straight away.



# Some Follow

others

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LEEDH designers have developed a new type of electrodynamic loudspeaker, the Acoustical Beauty Speaker. This technology does not contain a soft iron pole in the motor, a foam edge, or a spider in the suspension, because these three components produce the majority of sonic imperfections found in all traditional speakers.

The purity of each wave of sound reaching the listener is the zenith of the unique and innovative way the drivers in the loudspeakers are designed, bringing the concert hall into your living room.

## **Leedh - The Sound of Science**

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# SoundKaos LIBÉRATION Loudspeakers

By Janine Elliot

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Janine Elliot takes a listen to the SoundKaos LIBÉRATION Loudspeakers that use an open baffle design along with ribbon tweeters in a package costing just over £17,000.

# SOUNDKAOS LIBÉRATION LOUDSPEAKERS

**M**artin Gateley is Swiss, though he resides in the UK and was born in Jersey. With Swiss mum and Brummy dad he went back to Switzerland (well, who wouldn't) but left for the UK again in his mid-twenties, though hopes to return to Switzerland at some point in the future. An architect by profession with a commendable CV including Systemworks, MDA and Interfair, plus events and exhibition management projects at Kaos Events Ltd, he has since 2009 turned his ears and eyes to making very distinctive speakers, using the full range Enviee drivers from Alman Galm coupled with a ribbon top end.

The Wave 40 was their first offering with 8 inch Enviee full range paper cone and Raal ribbon for the top. Whilst his Swiss Egg shaped Wave 40 and the 42 that replaces it uses special tone wood the LIBÉRATION reviewed here liberates the drivers from the limitations of any box at all. In a conventional 'box' a loudspeaker radiates sound in two directions – at the listener and into its box. As Martin Gateley states, "Half goes out, half stays in and this pressure excites the walls of the enclosure. It bounces around like a bunch of billiard balls and attempts to escape through the thin driver diaphragms. Because it arrives at your ears delayed in time, it causes the equivalent of motion blur. That's a slight audible smear and fuzziness often

mistaken for warmth". Damping the box with padding of some sort kills or suffocates some of the direct sound too. In the Wave series rather than capture and damp the rear wave of sound, Martin claims the special wood construction he uses dissipates this unwanted wave rapidly and freely. I wrote at length about the technique used by Flare Audio in stopping sound pressure in their headphones and IEMs from affecting and ruining the sound. The Soundkaos LIBÉRATION speaker is something completely different to his earlier speakers as he does away totally with any enclosure at all, giving much more clarity to the sound and no pressure or "tightness". The sound is very open, with as much released out from the back as from the front, creating a large sound-space which is very real and easy to listen to, but with great detail and sound positioning from the 14cm ribbon dipoles. His company, SoundKaos, has a motto stating 'unnecessarily well-made audio', and their new loudspeaker certainly lived up to that title when I received it for review.

Beautifully built, though with a weighty price tag of £14,276 + VAT and a physique of over 40Kg each speaker, I was keen to have a play with this duo, though not perhaps lifting them. Both possessed features that instantly lit up my face; open back, large 18" bass-unit, and ribbon top-end. Topped with this,

The  
Soundkaos  
LIBÉRATION  
speaker is  
something  
completely  
different to  
his earlier  
speakers





This looks more like a piece of art deco artwork that also sounds good, and something I got to know and love whilst it was a resident in my house

two full-range speakers, meaning there was no 3-4kHz crossover set right in the middle of that all-important and most sensitive listening area of the voice and strings that daunts so many speakers I have listened to and reviewed. This beauty crosses over at 200Hz for the massive Spanish Beyma 18" bass and up at 8500Hz for the Serbian Raal ribbon speaker supplying the top end all the way to 50,000Hz.

In between are the two full frequency 8" Enviee drivers made by Galm Audio in southern Germany, just as in his Wave 40 and latest Wave 42. One is low/mid frequency and the other, with a whizzer cone made of maple, is mid/high. Typical of a number of full-frequency single driver speakers I have heard over the years that 'top end' can sound rather brittle and, as Martin puts it, "shout" at those top frequencies. So, as in common with the Wave series, the mid/high is rolled off with a simple second order filter at around 8.5kHz. The two Enviee drivers have a notch filter at 800 Hz to correct a slight anomaly in the driver, but otherwise they are theoretically running fully open. "Because they operate in free air" Martin explained "we had to stiffen the surround and the spider to keep maximum excursion under control. They also have 28 Ohm voice coils rather than the normal 8 Ohm [as] in the WAVES. This was done to bring them more in line with the RAAL ribbon tweeter". They are also extremely light. "Armin from Galm Audio has some 35 years' experience in driver design and manufacture and the Enviee project has been a bit of a labour of love for him" Martin told me. "It started as a side line 'I want to try this' and was never designed to be a commercial product. It is loosely based on a 1930 driver from Telefunken and he has tried over 100 different membranes until he was satisfied with measurements and sound. Martin likes to use similar/same components or materials so all three motor drivers are paper coned, and the simple 2nd order crossover is visible from the grilles behind the speakers, each hexagon cabinet connected via a solid wood structure with bi-wire connectors at the rear bottom of this support. For the crossover Martin uses high quality Jantzen capacitors and ribbon/wax inductors he has made. He claims these components are very much responsible for the LIBÉRATION's relaxed sound. All in all, the drivers combine to produce impedance between 4 and 6 ohm.

The LIBÉRATION is very distinctive in appearance; a bronze fronted robot with two 8" woofer eyes and ribbon nose, looking like a long-lost cousin of the ESL57 or – as a visitor to my house commented – an art deco

fire guard. Not that I would be so rude. With wooden edges on the baffles made from 40mm solid spruce tone wood with an edge surround in either solid walnut or maple and oiled with wax, this looks more like a piece of art deco artwork that also sounds good, and something I got to know and love whilst it was a resident in my house. Indeed its distinctive looks raised a few comments from visitors, and being such a thin speaker made giving around 24" free space behind the units was easier than if it were a big box.

This is an exceptionally well made speaker. The distinctive and beautifully crafted wooden feet are coil-sprung stopping that excellent bass-end from being affected by, or affecting contact with, the floor. I am of the Townshend isolation fan club rather than worshipping spikes on the floor, so this was another teacher's tick from me. The removable bronze front and rear mesh covers of the maple/bronze version for review are made from woven bronze wire coated with a clear coat lacquer to protect it, and forming a rigid protective cover for the drivers, cross-over components and wiring. The opening of the mesh is 2.5 x 2.5 mm which gives a transparency of 70%, so it does not influence the sound quality. This means the covers can be left in place during that all-important listening. There is also an anthracite mesh cover version which is coated with an automotive paint, though this version isn't my preferred choice.

Martin works closely with Christien Ellis CEO of CE Electro Acoustics, a UK based consultancy specialising in engineering design of electro acoustical products. He works on the electrical and voicing side of things, a relationship that goes back to the original Wave 40. In that product he felt the full range Enviee needed more 'top-end', so Martin wisely added the ribbon tweeter, something central to all his speakers ever since.

## Music

For this review I played a lot of music and from sources including vinyl, reel to reel, CD and digital radio, and using three different amplifiers. The large and open design was perfect for classical music, and my first listening sessions were from my valve 8W Leak Stereo 20 (Soundkaos state their speakers loves tubes). I did find music well known to me on the LIBÉRATION not quite right from this amplifier, particularly in the mid band, showing the speaker needs more power to drive it well, so I switched to the 25W Graham Slee Class-Ab solid state Proprius and Magestic DAC/preamp and listening first to live Radio 3 Proms via Virgin

digital radio channel 903. The depth and power of sound from Beethoven's Eroica symphony or gentle piano solo recordings that followed just showed how great this speaker was at showing both intricate detail and real authority that I haven't heard from loudspeakers for a while. The company name 'SoundKaos' certainly wasn't living up to his name, just as Schiit Audio and other carefully chosen company names vie to get your attention. Martin laughs when talking about the company name, a name taken from his original events and exhibition company Kaos Events. Whilst the sound was without stress or any sense of there being a box holding back or shaping the sound (indeed the musicians were in my room, and not emanating from boxes, and classical music had never sounded so good from digital radio) it was only when turning to a rock channel that that sound started to get a bit chaotic. It was just not so clear, with the incessant compression and over modulation in the radio broadcast making for Kaos, but I wanted to audition this to see how an open baffle would work in this kind of music environment, something I refer to later in this review. However, sanity returned for the moment and I continued with high-end analogue through amplification provided by Krell/Music First Audio. The Leak and Slee amplifiers I had previously used were low powered and the LIBÉRATION worked surprisingly well but I wanted to now listen from higher powered sources, as the LIBÉRATION certainly warrants an amplifier of 25W or more. My gorgeous old Krell KAV250A can deliver 500W at 4Ω, so no worries about enough grunt.

I started gently with Pink Floyd's double-LP 'The Division Bell'. The first track, "Cluster 1" wakes up gradually just like the early summer morning as the sun works its way behind the houses to the rear of my garden, hardly any cluster of events. A long 'C' drone with a conversation between piano and guitar for some minutes until it modulates to A minor then D minor and then E minor and back to A again. A cyclic 3-chord phrase that builds up with ride cymbals that play so real that I forget these are speakers and not actual musicians in my room. That is the objective of speaker reviewing, after all, that there shouldn't actually be speakers in the room. All completes with a long happy C-major finale. That should make for happiness from me. The next track "What do you want from me" on this nameless album – no track names at all except on the record spines – is in E-minor, and only then do I hear a slight "shouting" from the sound in the mid-band, something I heard when listening to pop and rock from the Slee amplifiers. The detail is immense from these speakers; acoustic guitars on left and right in the third track

"Poles Apart" show just how meticulous these monitors are. I don't normally have to turn Floyd down, but felt the need to here; the speakers are very efficient and the soundstage is enormous so careful listening is vital. I wondered if having just one 8 inch full range would work better, though that would make for a pair of one-eyed robots in my room, and Martin assured me that the two work better. Reduced amplitude for the rest of the album enabled me to highly value these monitors, but that mid band area showed me just why classical music, particularly vocal and instrumental, was the best source for these speakers. In addition to that the ribbon meant cymbals and top frequencies gave the detail and clarity that makes for me dipoles the des res of any speaker design. Coupled with the other drivers working as dipoles, this was a well thought-out ensemble.

Turning to the brilliant Respighi 'Pines of Rome' (New Philharmonia Orchestra under Rafael Frubeck De Burgos, CFP), this is a highly realistic soundscape encompassing different environments of sounds and dynamics; as varied as Rome itself. The third movement is a night piece complete with nightingale bird sounds from a tape. Respighi when composing this epic work instructed that "a recording of a nightingale be played from the orchestra", though at the time of writing this work only wind-up 78rpm discs were available and no BBC sound effects library, since in 1924 the then company was a mere 2 years old. I have two versions of this LP, my favourite from the Cleveland Orchestra, both epic recordings of an epic work. Turning fittingly to Ravel's 'Ma Mere L'Oye' (The Mother Goose Suite) complete with 'cuckoos' and other beautiful bird noises, this time played by the orchestra, I was able to enjoy some amazing three-dimensionality from a well-loved Pye 'Q-S' 4-channel stereo record. Whilst the Audio Technica AT33sa cartridge is only two-channel, there is certainly a sense of space in this recording which the Liberation speakers pull off well, both front and back of stage, something lacking in many speakers I have listened to, and not just the fact that these ones are all dipoles. With the atmosphere and beautifully written simplicity from the strings and woodwind and glockenspiel I was beginning to love and get to know these unusual shaped three legged visitors to my house. A sense of seamless captivation and understanding of the music from them made me rather sorry to see them leave my house at the end of the review. I could only complete this relationship with possibly my most favourite tunes of all, the Bela Bartok 2 Romanian Dances Op 8a. Dating from 1910, also from this same

The detail is  
immense  
from these  
speakers;  
acoustic  
guitars on  
left and right  
in the third  
track "Poles  
Apart" show  
just how  
meticulous  
these  
monitors are



## I was able to enjoy some amazing three-dimensional

record, this lovely work is made up from folk songs that Bartok had heard, and marks the start of his interest in folk music. Whilst there are two movements, they contain lots of different themes and emotions. The first movement might have a forthright heartbeat but the personality from string melodies is both human and loving, and rarely heard so well. The high pitched first violin B-minor 'cry for help' is soothed by long chords from the rest of the orchestra. The A-major melody just before the jubilant closure is one of the simplest and most beautiful tunes a composer could ever set on paper, not even Bartok; one that sets me crying whenever I hear it, the LIBÉRATION giving a very open sound with clarity from lowest to highest frequencies, nothing sounding hurried or confused. As an encore I played "John Barry

– The Collection" a four-disc CD that has some good and bad recording in it, but all are highly spacious and something the LIBÉRATION was excellent in separating the instruments, particularly the percussion; which are always key part of John's writing for film. The "Midnight Cowboy" could set me in the Grand Canyon with the grandiose sound from the strings and enchanting mouthorgan solo. The Last Valley offers the snare drum clearly far left of the speakers but vocals and strings mid-stage could sound somewhat confused and almost phased. This is not a good recording and it rarely work well on any speaker, and on the LIBÉRATION that slight mid band complexity didn't get separated into its individual instrument and vocal parts as much as I had hoped it would. With everything else though, this was a very clear, fast and stress-less performer.

### Conclusion

The LIBÉRATION is a breath of fresh air in the loudspeaker marketplace and a product that should be taken very seriously if you are in the process of buying a high-end monitor, providing a very open and large sound-space, but with great detail as to placement of instruments, largely from that Raal ribbon. It does work best on classical music, but once I had positioned it correctly and fed it with well-engineered rock and blues, this little robot was very well mannered and I really was sorry to see it go home to its maker.

## AT A GLANCE

**Build Quality:** Excellent construction and use of components and feet – something often overlooked by manufacturers

**Sound Quality:** A detailed and wide soundstage, better on classical music.

**Value For Money:** At £17130 including VAT this is not cheap, but boy does it sound good, and beats a large number of speakers at this same price point and higher

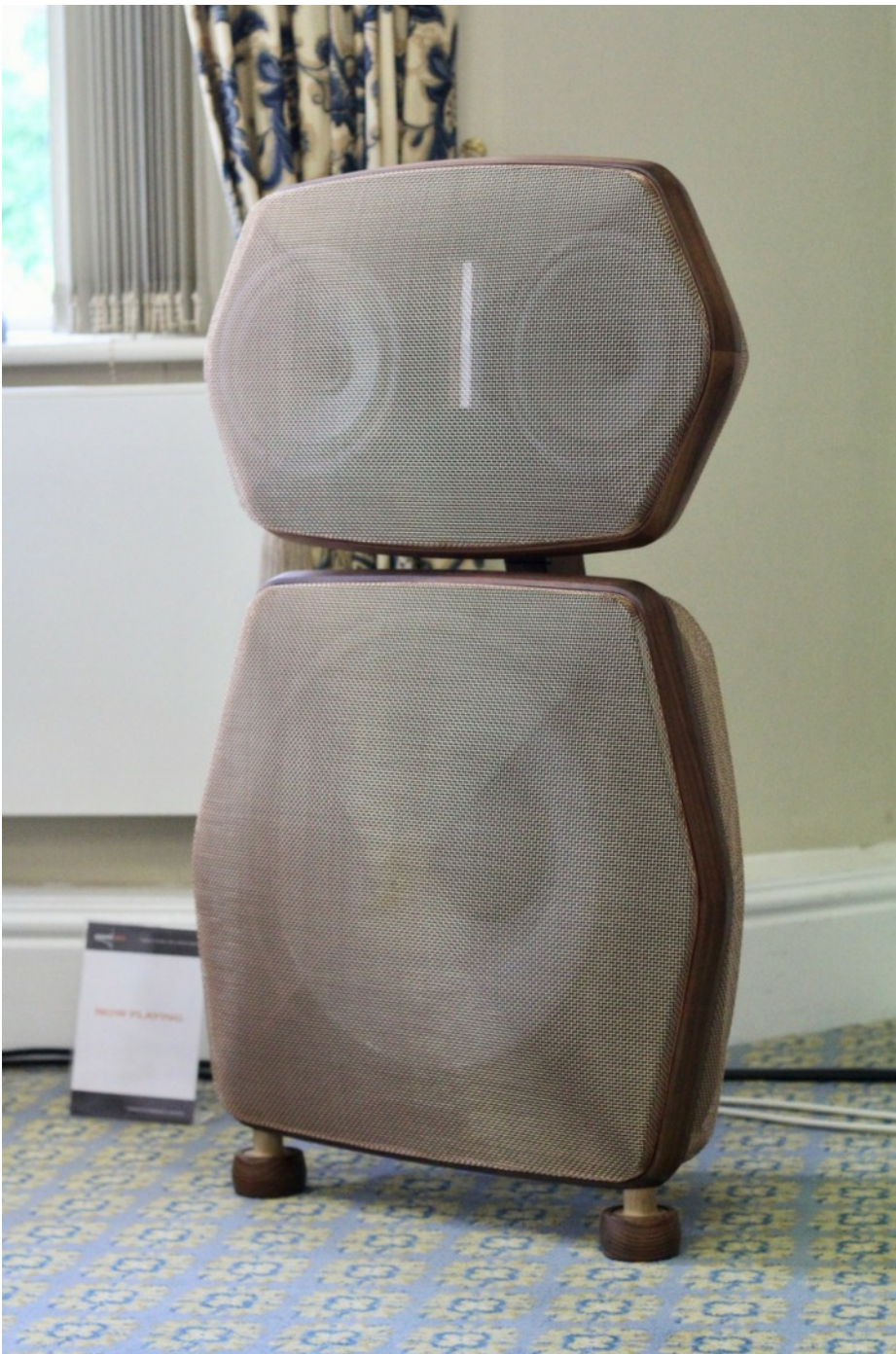
### Pros

A very open and controlled sound  
Wide soundstage  
Covers deepest bass to highest highs  
Detail and transparency

### Cons

Not cheap!  
I don't have the space for another pair of speakers

**Price:** £17130







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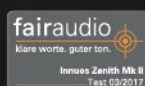
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# RMB

## Loudspeakers 12/3 and 22/3

By Dominic Marsh

---

Dominic Marsh takes a listen to two somewhat unusually designed loudspeakers from UK manufacturer RMB. The larger floorstanding 22/3 model costs £1850 a pair and the smaller 12/3 standmount costing £1200.



# RMB LOUDSPEAKERS 12/3 AND 22/3

Not just one but two loudspeaker models from RMB Loudspeakers landed at Dominic towers, delivered in person no less by Richard Best (Mr RMB) himself. That was one heck of a long drive in one day down to me in Cornwall from West Yorkshire and back again. Have to admire the man's stamina.

## RMB Loudspeakers Model 22/3

### Construction(Model 22/3)

Anyway, rather than the usual rectangular boxes with drivers mounted on the front, these RMB speakers have a five sided construction utilising 18mm heavy grade stained Birch plywood and visible as such without any camouflage to obfuscate that fact. I found it not unattractive and a refreshing change from the customary painted, veneered or high gloss finishes. The Model 22/3 is a true floor standing speaker but not in the accepted sense; it is a largish speaker for sure in measuring 1,050mm high by 330mm wide by 230mm deep, but it has built-in legs and there is a good reason for that as this is a reflex ported design with two bottom reflex ports firing downwards.

Cabinet construction is as stated before, of 18mm Birch plywood with considerable internal bracing. All edges have been rounded off so there are no sharp corners and then finally stained and clear varnished all round including the rear and bottom of the cabinets. The review sample had a pale honey colour. There are four colour tint choices available, Natural, Whiskey, Chestnut and Black Ink. I asked Richard Best what happens if prospective buyers would like another colour other than RMB's standard palette, his response was that plywood is very difficult to finish off to a perfectly smooth substrate, so the tinted and lacquered finish is the best compromise, although he is open to other finishes or for buyers to finish off how they please themselves. I was going to ask for a Hifi Pig pink colour finish but discretion kept that request to myself.

Driver complement consists of a 28mm fabric dome tweeter with 2 x 145mm mid/bass drivers with natural fibre cones. What is unusual with the RMB designs is the sloping front driver baffle plate which aligns the drivers at an upwards jaunty angle. And no, I didn't measure the actual angle, hence use of the word "jaunty"!

Detachable grilles are supplied, which are a simple wooden lath frame covered in a thin and very transparent black fabric, held to the

speaker baffle by small neodymium magnets. These dropped off at the slightest touch during the evaluation and I understand that RMB have remedied this in current builds by fitting stronger magnets.

Model 22/3 – priced at £1,850.00 per pair at time of review.

### Sound (Model 22/3)

I was given to understand that the review samples already had some running hours on them, so the evaluation began straight away with the speakers tight up against the rear wall as instructed.

My first impression was how clean and clear they sounded. With a baffle plate angled upwards I was expecting the imaging and sweet spot to be somewhere above my head, but to my surprise this wasn't so, the imaging placed firmly between the speakers at roughly ear height. Of course, a clean sound also suggested some lightness in the bass registers and more detailed listening confirmed this to be true. Bass went down into the low registers and well defined for sure, probably into the high 40's in Hertz terms, but lacked weight and body, particularly so in the upper bass/lower midband. I moved the speakers away from the rear wall and this actually lifted bass output slightly. Now rather than actually class this as a "fault" per se, I was trying to figure out and put into words what section of the listening audience would welcome this because not all audiophiles desire a deep prodigious bass output and some are also very mindful of neighbours who might be affected, so in that context this speaker would suit really well. Leaving that aside then, the treble was extended and very natural without being harsh or splashy, cymbal strikes having a crisp realism, while midband was uncongested, with female vocals sounding rather sublime and sweet.

I certainly wouldn't class this speaker as marrying well with rock or indeed bass heavy pop music and I would be just a tad hesitant to say jazz fans would also be

similarly enamoured with that lack of upper bass power. But, feed them some acoustic, chamber music, female vocals, even orchestral pieces and they really did shine with their soft delicate touch and accurate clarity, untangling some rather complex music with ease.

However, when I listened to my benchmark recording in the shape of Fink's "Wheels Beneath My Feet" live album, the RMB 22/3's were fighting an unequal battle they simple could not win. Qu'elle surprise. Track 12 "Sort of Revolution" has a pounding kick drum underpinning the entire track, plus some serious Floor Tom whacks the drummer also inflicts on his drum kit and by golly my listening room certainly vibrates if a speaker passes that benchmark test. The RMB 22/3's gave almost a polite whimper in that area, lacking the outright slam and weight I would normally expect, although the audience was crisply clear and a delight to listen to, so in the 22/3's defence, they didn't render the audience sounding like bacon sizzling in a frying pan and so give credit where it's due. Treble was pin sharp and very well focused.

All in all I cannot and would not criticize any aspect of the 22/3 speakers performance. I did a web search for people that actually WANT less bass output because of neighbor problems or they simply preferred a reigned back bass quantity and I was to surprised to learn that there are a good number of audiophiles who fall into that category and they might well be reading this review with interest because of that.

## RMB Loudspeakers Model 12/3

### Construction (Model 12/3)

The evaluation pair of these speakers are a pre-production example and will differ from the finished production sets. The review pair were stained a dark green

colour (it's actually black ink tint) with a high gloss clear lacquer top coat and to me it looked very nice indeed and yes I would say "different"



## My first impression was how clean and clear they sounded

from the general rectangular or cuboid box shape speaker herd they compete with.

Similar in shape to it's larger sibling with a sloping front baffle plate, the same driver complement and five sided carcass, there the similarities ended. These are deemed to be stand mounted speakers with their own custom designed stands, bolted firmly to the bottom of the cabinet with two bolts. Naturally, they could also be shelf mounted without the stands.

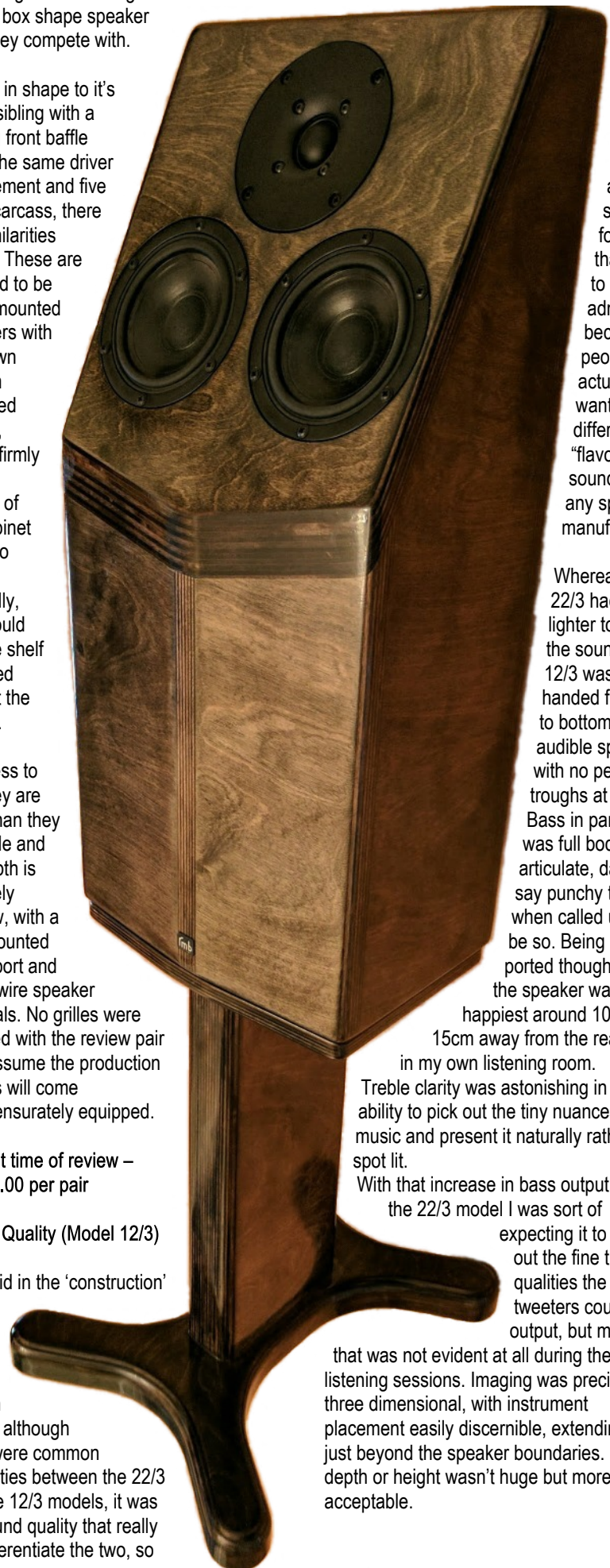
Needless to say they are taller than they are wide and the depth is relatively shallow, with a rear mounted reflex port and single wire speaker terminals. No grilles were supplied with the review pair but I assume the production models will come commensurately equipped.

Price at time of review –  
£1,200.00 per pair

Sound Quality (Model 12/3)

As I said in the 'construction'

section above, although there were common similarities between the 22/3 and the 12/3 models, it was the sound quality that really did differentiate the two, so



there apparently isn't a "house sound" that RMB are striving for. And that has to be admired, because people actually want different "flavours" of sound from any speaker manufacturer.

Whereas the 22/3 had a lighter touch to the sound, the 12/3 was even handed from top to bottom of the audible spectrum with no peaks or troughs at all. Bass in particular was full bodied and articulate, dare I say punchy too when called upon to be so. Being rear ported though meant the speaker was at it's happiest around 10 – 15cm away from the rear wall in my own listening room.

Treble clarity was astonishing in it's ability to pick out the tiny nuances in music and present it naturally rather than spot lit.

With that increase in bass output over the 22/3 model I was sort of expecting it to drown out the fine treble qualities the tweeters could output, but mercifully

that was not evident at all during the listening sessions. Imaging was precise and three dimensional, with instrument placement easily discernible, extending out just beyond the speaker boundaries. Imaging depth or height wasn't huge but more than acceptable.



I listened to my benchmark recording in the shape of Fink's "Wheels Beneath My Feet" live album, the RMB 12/3's fared so much better than their larger siblings. Track 12 "Sort of Revolution" has that pounding kick drum underpinning the entire track, plus some serious Floor Tom whacks the drummer inflicts on his drum kit and by golly my listening room certainly vibrates if a speaker passes that benchmark test and so it was with the 12/3 model, so that brought a big smile to my face. I was starting to like these speakers for their finesse and some raw power too as they showed their capabilities.

On to Hugh Masakela's "Hope" album which as some of you will know has a good measure of dynamics that a system will deliver with verve and accuracy, or simply mangle it. Trumpet in particular can have some raspy tones with a rough blare to it and to be truthful that must be evident to keep it realistic although well controlled to be rendered well and a fine line to tread for any speaker. Happy to inform you that's exactly how the 12/3 speakers handled this instrument, so no concerns there and that was another benchmark test passed. I suppose the real test was could I live with either of these speakers on a permanent basis? My own personal tastes are for a speaker to be accurate, fast and exciting with a big healthy bass and I couldn't say the 22/3's or 12/3's fit that bill entirely. Yes, they could pick up their skirts and serve up some fast transients but I yearn for pin sharp leading edges and equally fast recovery, but this review is not about what I look for in any speaker, it is about me describing what I hear and for you the reader to decide whether they merit an audition, so I will sum up now what those qualities are.

## Conclusion

The 22/3's have a soft and gentle bass output, which does in fact go quite well down into the lower registers. It is the upper bass that doesn't have a lot of energy and it is that which gives the perception there isn't a lot of bass content. Not a true "fault" because a lot of people don't like big heavy tub thumping bass anyway, or they have neighbours to consider and in that respect these speakers would suit those situations well. On the positive side, the treble and midrange are a delight and there is more than enough pace, midrange clarity, nuances and fine details to keep you entertained. They do not sound shrill or harsh and as such they are superb for intended listening sessions without fatigue.

The 12/3's on the other hand do have a more even handed frequency response and can kick out bass that the 22/3's simply don't, which will probably in reality make them to be the more popular model.

Both of them are entirely hand built to order and very well too I might add. Richard didn't give me any lead times but it really is only the final cabinet finish that determines the timescales so I don't foresee an overly extended wait for delivery.

## AT A GLANCE

### Build Quality: (Both models)

Given that they are entirely hand built, the finish is exceptional with attention to details some other speaker manufacturers seem to ignore, like around the back of the cabinets and underneath too.

### Sound Quality: (22/3)

If you like big powerful room shaking bass then these speakers are not for you. A lot more subtle in presentation and your complaining neighbours will love you for that.

### Sound Quality: (12/3)

Of the two speaker models, the 12/3 has a more even frequency response with a more conventional sound to them that will surely make many friends.

### Value For Money: (Both Models)

Hand built from the ground up isn't cheap to do, yet these speakers are not overpriced in that respect.

### Pros:

Superb hand built quality and good value for money. Sound of the 12/3 will win many friends, while the 22/3 model will also have a band of dedicated followers with it's particular attributes.

### Cons:

An unusual cabinet design may not be to everyone's tastes.

Treble  
clarity was  
astonishing  
in it's ability  
to pick out  
the tiny  
nuances in  
music and  
present it  
naturally  
rather than  
spot lit



MC Step-Up Transformers  
Phono Amplifiers  
Pre Amplifiers





# KJF Audio Frugel Horn Lite Speaker Kit

By Ian Ringstead

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Ian Ringstead takes delivery of a pile of ready cut wood and puts together the £300 KJF Audio Frugel Horn Lite Speaker Kit.

# KJF AUDIO FRUGEL HORN LITE SPEAKER KIT

## The Build

A lot of the products I review come from talking to the manufacturers and designers when I attend shows. I really enjoy talking to people and there is nothing better than getting to know the person behind the product and trying out their creations. That is how I came about this review and build of Stefan's Frugel Horn Lite kit. I've always wanted to build a speaker but shied away from the hassle of making one from scratch, cutting my own panels and sourcing the parts. The answer to that issue could be this kit which does it all for you apart from assembly of course.

The kit is fully CNC machined from 18mm Baltic birch ply which is the best you can get and is a very reliable ply used by the industry for any quality job. The kit comes with all the parts you need with accurately cut panels that just require gluing together. The front baffle is cut for the driver you specify in the kit, this being the Mark Audio Alpair 6M, although KJF will cut out holes for other drivers if you wish at a small cost if they know it will work in this design. Also, high quality gold plated speaker terminals and good cable are supplied.

The Frugel horn is a tapered hypex horn with an internal choke and the option to dampen the horn with wadding to suit personal tastes regarding bass output performance. You can therefore tailor the sound as you wish. Scott Lindgren designed this current range and it was Scott who got me interested in these in the first place. The kit can be built from scratch if you are more ambitious than me by accessing the Frugel horn website where full plans are provided.

It took me about two weeks on and off to build the kit in my garage, but if you had the time to spare a weekend would suffice. I just needed to purchase some clamps for the panels when they had been glued. These were easily obtained from my local Srewfix at a very reasonable outlay of about £30. I contacted Stefan about finishing the cabinets off after having built them and he recommended a product called Osmo Polyx which is a wax oil that is tough and hard wearing, resistant to scratching and highlights the grain of the wood. It's not cheap at about £11 for a small tin 125ml, but it only needs to be applied in two coats for a lovely durable finish.

There is nothing better than getting to know the person behind the product and trying out their creations





It never ceases to amaze me how such a tiny drive unit can produce such a good sound

There isn't much else I can add to the build side other than take your time and make sure all the panels are accurately lined up before gluing and clamping. Once built I sanded the cabinets down and then applied the wax oil.

## Listening

My main speakers at home are Audio Physic Avanti IIs which are at the other end of the scale to the Frugel horns in terms of price and complexity. I put the Frugel horns in my second system upstairs in my studio/ hobby room. They fit perfectly here in a smallish bedroom taking up minimal space and I partnered them with my Temple Audio mono blocks, Tisbury Audio passive pre-amp and a Sony CD player. I spend a fair bit of time in this room when I am building model kits, another passion of mine, so I like to listen to music at a good standard.

After a few hours of running in I started listening to the Frugel horns seriously. It

never ceases to amaze me how such a tiny drive unit can produce such a good sound. The Alpair 6M is very well suited to applications such as this kit for desk top or nearfield use. The warm bass tone aids the often harsh sound of smaller speakers and so helps balance the sound out. The driver has had its cone profile modified to improve vocal clarity and the Nomex rear suspension and new lower mass copper wound coil aid performance over previous designs. Mark Audio recommend careful running in of the drivers operating at low volumes for the first 100 hours and then gradually increasing the volume to normal levels. The driver is only rated at 20 watts rms so headbangers beware. That may not sound like a lot but on normal listening sessions you rarely use more than a few watts as a rule and the higher power ratings on amps are for peaks in volume where headroom is essential at louder levels or driving inefficient designs.

I found that used sensibly the Alpair 6M worked brilliantly for their size and gave me



# KJF AUDIO FRUGEL HORN LITE SPEAKER KIT

plenty of volume in my small room. It's all about knowing when to stop turning the volume up. I had so many customers in my retailing days who brought speakers in with blown drivers or amps with blown output fuses purely because they didn't understand power ratings and being sensible. It's not sheer power that blows drive units but distorted power. It only takes a few watts of distortion to burn a drive unit out whereas a much larger output power of clean watts will not be an issue for short durations.

Right, lesson over with, back to the sound. The Frugel horns were rather good. Bass for such a small driver was excellent and once my ears had adjusted I happily accepted their limitations. Of course, they won't shake your room, but believe me they do a remarkable job of tricking the ear into thinking they produce more than they really do. This is down to psychoacoustics and how our brain adapts to different situations. Without going into the complexities and remarkable ability the human brain has for coping with the environment around us, let's just say they work.

Human voice was indeed very good and I listened to Sting's "Live in Berlin" album admiring the concert venue and the way in which his and the other artists vocals were captured. Clarity was indeed very good if it was there on the recording. Guitar, whether electric or acoustic from Dominic Miller came over well and the orchestral strings added real feeling and weight in sound to the concert.

Donald Fagen's latest album "Sunken Condos" was reproduced with all the clarity he always puts into his albums and the backing singers accompanying his songs with their usual sublime harmonies. On a different tack, Jean Luc Ponty's "Cosmic Messenger" was next and his electronic/ jazz styled violin with its complex rhythms sounded sharp and detailed without becoming harsh and strident. There's a lot going on in his tunes and it takes a good system to reproduce his music correctly. Intricate harmonies and the interplay between the musicians make these compositions. The sign of any good system is its ability to reproduce any type of music well, and the Frugel horn doesn't disappoint. So, a very interesting project with a great outcome of an excellent sounding pair of loudspeakers. For £300 these are a bargain and you have the satisfaction of having built them yourself. Being a full range drive unit there is no crossover of course which aids the very good sound quality.

## AT A GLANCE

**Build Quality:** Depends on your skill, but high quality can be achieved.

**Sound Quality:** Excellent, open and detailed

**Value for Money:** Excellent

### Pros:

Great sound from a budget product that you build yourself, so giving fantastic value and pride of ownership.

If you have reasonable DIY skills it's a straight forward build that's uncomplicated.

### Cons:

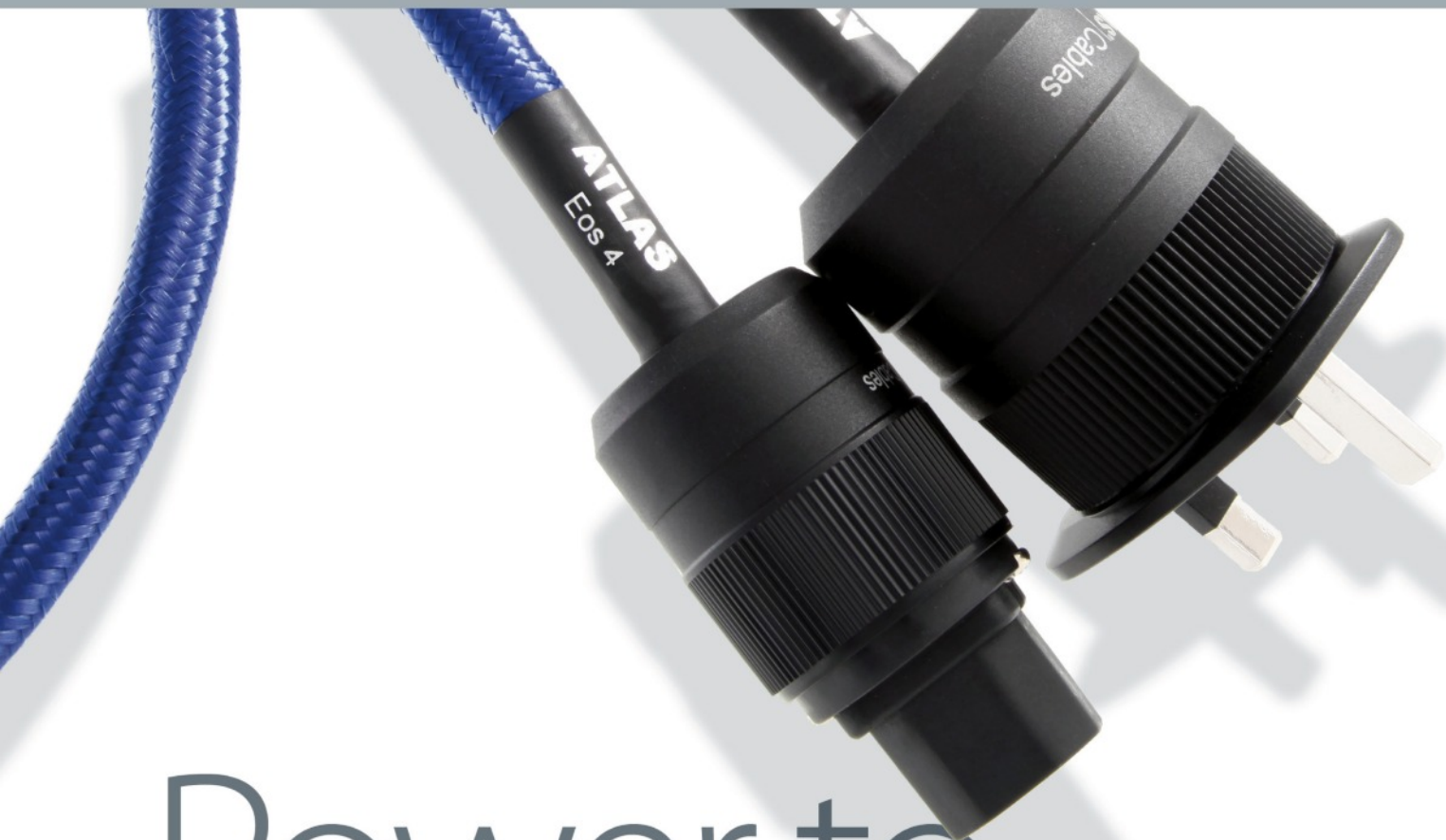
None really unless you are no good at rudimentary DIY skills. Not a high-powered design so may limit the type of music and level at which you play them.

**Price** £300 approximately excluding any tools you may have to buy.

# The Frugel horns were rather good







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# TAGA Harmony Diamond B60 Loudspeakers

By Ian Ringstead

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Ian Ringstead has reviewed Polish manufacturer TAGA's more budget oriented loudspeakers previously, this time he takes a listen to their Harmony Diamond B60 Loudspeakers which cost £1610.



# TAGA HARMONY DIAMOND B60 LOUDSPEAKERS

I had already reviewed the TAV616F SE speakers and was so impressed that I asked TAGA if I could review one of their flagship models. The result is this model the Diamond B 60 stand mount. TAGA pride themselves in producing superb value for money products so I was keen to see what they could do with a bigger budget. I wasn't disappointed.

The B60 is beautifully made with the classic boat shaped cabinet and finished in a luxurious high quality clear gloss piano lacquer. Along with the superb finish the B60 is bi-wireable and rather than supply ordinary metal links TAGA provide fabulous wired jumpers with spades and banana plugs as standard. Not many companies do that for this price.

Out of the box I placed them on solid Atacama speaker stands at 50cm high. Cabling was the excellent TQ black 11 I was also reviewing at the same time. The high-end 30mm (1.18") O-TPTTD (Oversized Taga Pure Titanium Tweeter Dome) is 20% bigger than their Platinum Special Edition series to allow even higher power handling and more accurate, clear, smooth and detailed performance. Ferrofluid cooled and heavy duty 28mm CCAW and silver wiring voice coil as well as 2 magnets help the tweeter to handle high power. It has exceptional precision and works with ultra-extended high-frequency response up to 33 kHz (+/- 3dB).

The E-TPAF (Enlarged TAGA Pure Aluminium Faceplate) and metal grill helps even further dispersion of high-frequencies. The 165mm (6.5") in B-60 TNPPCD (Taga Non-Pressed Paper Cone Driver) woofers are provided with oversized magnets and an aluminium chassis. They are extremely rigid and utilize vibration-free solutions. The heavy duty 4-layer pure copper ribbon voice coil allows high power handling. The TNPPCD drivers offer deep, precise and detailed bass performance. Thanks to a larger surface area to push air – the sound can be played at much louder levels according to TAGA.

Set up was painless and simple so I got on with the listening. If you have a smallish room or larger floor standers aren't your thing, then the B60's are ideal. Being elegant they'll enhance any home and they sound as good as they look. Refined is how I would describe their overall balance. They'll handle all types of music and unlike a lot of smaller speakers that are very popular in the UK (Pro AC tablettes spring to mind) which image superbly and sound fabulous on vocals and acoustic material, their Achilles heel tends to be their bass handling and



output. The B60 certainly is hampered by these constraints. The cabinet and drive units are big enough to cope with higher volume levels and unless you are a bass fiend satisfy most people's needs.

Going down to 36Hz is impressive for a speaker this size and the port design helps here controlling the air flow and cancelling out any turbulence that sounds horrible in poor designs. Many manufacturers have used various port systems and contoured flared ports front or back. Recently companies have gone for ports on the base of the cabinet. The B60 Diamond doesn't suffer any problems here giving good low bass output that can be pushed within reason to loud levels if required. I don't like to push beyond my comfort levels or the

Set up was  
painless and  
simple so I got  
on with the  
listening

A great design which doesn't try to get out of its comfort zone

listening rooms abilities and the B60 could fill a much bigger space if necessary. I love tight clean bass that is precise and deplore overblown boom. The B60 worked very well showing that the bass unit is well thought out and bass players like Marcus Miller and Tony Levin could really groove with their slapped bass style. On albums with real heft such as the Gladiator sound track the orchestra coming in and the tympani were most striking in impact for the speaker's size. Control is the key here. The mid band faired equally on my beloved female vocalists like Alison Krauss, Alison Moyet and Anita Baker. Each singer's tonal characteristics shone through whether it was the lower range or soaring highs. Listening fatigue was never an issue and the treble was sweet and clean with good extension reaching up to 33 kHz. So only dogs and bats might hear that but it does make a difference to the timbre and ambience I feel.

Bob James and Fourplay are popular artists on my regular playlist and their sheer ability as jazz musicians is staggering. I saw them recently in London and was bowled over by their talent and humility as musicians. Here are four guys at the top of their game still performing after 25 years together. Bob James is to me a genius on keyboards along with Nathan East on bass, Harvey Mason on drums and Chuck Loeb on guitar. As funky smooth jazz musicians, they are the real deal. Cinnamon Sugar and Between the sheets are just two tracks that really show their talents. It's the interplay between each musician and the confidence with which they play together like a well-oiled machine. My foot was really tapping along to these tunes on the B60's. My previous comments on the B60's abilities highlighted these musician's skill and the absolute ease and flow was spot on of their timing and interplay with each other.

The B60's may not be the most holographic speakers I have heard but they make a good fist at it. Top to bottom is seamless with good bass down to a reasonable 36Hz. A great design which doesn't try to get out of its comfort zone.

TAGA do it again with maximum value for the money. The B60 will work with equipment at a much higher price level than some might partner them with. You can push the envelope with expensive kit but with a smaller budget they still deliver. In a £5000 system, they shine like a diamond.

## AT A GLANCE

**Build Quality:** Great finish and a luxurious feeling loudspeaker

**Sound Quality:** Open and detailed and seamless integration from highs to lows. Not as three dimensional as the best.

**Value for Money:** Great value for money.

**Pros:**  
Great sound from a beautifully built speaker. Excellent jumper links included.

**Cons:**  
None really but use decent stands. They will show up poor sources and amps so match wisely and use good cables.

**Price:** £1610 at current exchange rates (\$2100)







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Web: [www.kogaudio.com](http://www.kogaudio.com)

# Ophidian Audio Prophet P2 Loudspeakers

By Ian Ringstead

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Ian Ringstead tries out the £3200  
Ophidian Audio Prophet P2  
Loudspeakers.



Readers of Hifi Pig will be aware that I am no stranger to Ophidian Audio loudspeakers having reviewed two previous models in the M series range, the Minimo and Mojo. Gareth James the designer and owner of Ophidian had expressed his desire to create a more upmarket range last year when we had met and earlier this year at the Bristol show he showed the fruits of his labours. The smaller P1, a stand mount model was demoed and showed great promise. Then at the North West Audio show in June I saw and heard the P2 on review here. They sounded great and Gareth promised me the first option to try them out.

If you look on Ophidian's website below is what they say about the philosophy of the design.

"The English word Prophet comes from the Greek Profetes meaning Advocate or Speaker. It was our aim with the PROPHET series to produce a range of loudspeakers based on this principle – to recreate music faithfully without artificially enhancing any aspect."

What sets the Prophet loudspeakers apart is the combination of a cabinet structure built from plywood rather than the more common MDF and a floating front baffle arrangement. I know designers differ on their ideas about what materials to use and the preferences they have, so it is very much down to suck it and see when developing their ideas. In my experience there isn't one correct way and as long as it sounds good that's all that matters.

Plywood is both stronger and lighter than MDF and along with Gareth's unique AEROFLEX technology this allows the P2 to produce a smoothly controlled and extended bass performance.

The thick floating front baffle is mounted to the chassis via a flexible gasket which allows much less of the vibrational force generated by the drive units to transfer directly to the cabinet walls.

Sound waves travel much faster and more easily with solid contact and so by acoustically isolating the drive unit's cabinet, colouration is suggested to be significantly reduced.

The Prophet P2 is a 2.5-way floorstander featuring dual 180mm aluminium midbass drivers and a 28mm silk domed tweeter. The midbass units feature deep rubber surrounds, stiff aluminium diaphragms and solid alloy phase plugs.

The P2 uses an optimised AEROFLEX bass loaded design built directly into the cabinet structure in order to brace and strengthen the cabinet walls.

The 28mm tweeter features a solid aluminium faceplate and lightweight silk diaphragm.

As you can see a lot of clever design work and thought has gone into this model and Gareth's many hours of research and development seem to have paid off. I only had a short time with the P2 so I made the most of my listening sessions and crammed in as many hours as possible. Fortunately, the P2's didn't need any running in as they had been used a fair bit before I got them. My immediate concern was that their low bass output might interact with the room. I needn't have worried. They blended seamlessly into my room and immediately impressed with their top to bottom coverage that was very natural and easy on the ear. This was the quality I had noted from my short listen at the North West show and filled me with confidence. As I work full time my listening time at home is precious and often limited by life's pressures and demands, so I was conscious to give the P2's as much time as possible. This wasn't a chore as I enjoyed them so much that missing tv programmes and other activities was immaterial.

When reviewing products, you often find yourself subconsciously analysing the sound and dissecting it, which is not always helpful. The P2's never once had me trying to analyse the sound, I just sat and immersed myself in musical pleasure. I've had several floorstanders in my listening room over the years and not all have worked successfully for various reasons, but on this occasion it was not an issue as the AEROFLEX technology in the cabinets was really doing its stuff. Gareth said I could place the P2's near to my back wall. I gave them about 18" (45cm). When I placed my hand behind the rear port, playing some loud and bassy music, there was very little air exiting, a testament to the technology.

The design aim for low, accurate bass was certainly achieved and I had forgotten what a good floorstander can bring to the party when music with great bass on it is played. Not only was the sound controlled (I hate loose, boomy bass), the sheer impact of low end notes was brilliant. It wasn't just on test tracks I know work well, albums that I hadn't played for some time suddenly surprised me with the detail and low end content I hadn't noticed or heard before. A favourite album of mine is Joan Armatrading's "Shouting Stage" and apart from the sublime musicianship the

The P2's  
never  
once had  
me trying  
to  
analyse  
the  
sound, I  
just sat  
and  
immersed  
myself in  
musical  
pleasure

# OPHIDIAN AUDIO PROPHET P2 LOUDSPEAKERS

songs really move me, even though it was released in 1988, and I bought it then. Good music never dies. The title track on the album (last one on side 1 for vinyl fans) has Mark Knopfler on guitar and Pino Palladino on bass. There is a marvellous bass line throughout the track and on a good system it just rumbles out of the speakers and creeps across the floor towards the listener. I never

fail to be moved by this track, superb. The P2's didn't let me down here.

The mid and top end were equally as impressive with very clear articulate vocals and instruments and silky highs. The P2's never once offended me or made me think that wasn't very good. Anybody after a speaker that they want to keep for a long time need look no further. I thoroughly enjoyed them and wished I could have kept them. I can't say any more than that. Ophidian now have several dealers, so if you are interested look them up. Well worth auditioning.



## AT A GLANCE

**Build Quality:** Excellent fit and finish in oak or walnut real wood veneers. I had the walnut on trial. Floor spikes are included to aid isolation.

**Sound Quality:** Superb natural sounding design that excels across the whole frequency range with a good deep soundstage.

**Value For Money:** Very good. Although in a competitive price area these speakers really perform and are a serious contender.

### Pros:

Excellent voicing and natural un-forced sound across the whole frequency range. Fabulous controlled bass that works well in many rooms. Elegant classic slim floor stander beautifully made worthy of the asking price.

### Cons:

None really. They sound so good and blend in well to the surroundings.

**Price:** £3200 a pair



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**REDpurl™**



**Variable Geometry**

UK patent pending GB1602578.5

EU Registered Design No. 002544171

## Experience**680**

**Reference Audio Cable**

The **Experience680** from Wire on Wire is a reference-level audio cable. With its REDpurl™ variable geometry (UK patent pending), it uniquely permits the user to alter its wire spacing, allowing the character of the interconnect to be tuned.

### Experience**680**

The Experience**680** uses carefully chosen PTFE-insulated silver-plated copper conductors. Different diameter multi-stranded conductors add dynamic weight and timbre throughout the frequency range, whilst capacitance is kept low, thanks to our REDpurl™ geometry.

Of course, there is no need to do anything with our cable; it performs beautifully straight out of the box. However, if you think you would like to make changes, the REDpurl™ geometry allows you to alter the wire alignments, changing capacitance and inductance at individual nodes along the cable. It is up to the listener to say which they prefer, but being able to make a difference can be profoundly important when it comes to creating an involving personal experience.

**Conductors:** Silver plated copper

**Insulation:** PTFE

**Capacitance:** 69pF/m variable

**Connectors:** WBT 0114 phono plugs

**Geometry:** REDpurl™

For further information contact:

Wire on Wire 01372 800605

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# AUDIO

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# Melco N1A/2 Music Library

By Dan Worth

---

The N1A/2 from Melco is intended to improve on the originals sonic performance, particularly for those using USB DACs. It can store a whole library of your music on its on-board drives and costs £2099 as tested. Dan Worth plugs it into his network and assesses its attributes.

# MELCO N1A/2 MUSIC LIBRARY



**M**elco was originally established in 1973 – Maki Engineering Laboratory Company. Mr Maki – one of the true original audiophiles and founder of Melco still remains Chairman of the company today and at 84 years old is still an avid audiophile. In 1973 Melco were producing high end Japanese hand crafted turntables and valve electronics. Manufacturing and turn over was very successful indeed.

Difficulties with computers in the 70s meant printing boards took a very long time and at this time you could not use a PC for anything else while printing, due to a lack of processing power. Melco created a Print Buffer to fix this problem and sold these on to other companies under the name Buffalo Systems which soon became the largest Japanese IT peripherals manufacturer. To this very day Buffalo Systems is a household name, I myself have had many Buffalo hard drives and NAS solutions over the years and even had one running just a few years ago as my main music library.

Melco/Buffalo have an enormous engineering department and pre-production laboratories, which is where each and every Melco is hand made, utilising renowned

Japanese precision techniques and quality components.

It's hard to believe but Japan has no basic PC awareness, it is very much a closed market and consumers never even had the privilege of owning the famous ZX Spectrum or Commodore 64! Certainly no BBC Micro. So no essentially there was no basic knowledge of PC by any class other than engineers. PC was always function specific hence word processors, SEGA and Nintendo.

So when streaming products started to arrive from Linn, Naim etc. nobody had the ability to set them up. No one had any skills in this area and the high-end audio shows of recent years within Japan were riddled with folk who had to phone through to the UK in order to get step by step instructions on how to link the renderers to a music library.

Chinese peripherals such as Qnap and Synology etc are not easily available in Japan due to the nature of the closed market. Buffalo Systems had the foresight to begin working closely with Linn in order to suitably create modified versions of Buffalo's IT NAS solutions for audio use.

Detailed investigations showed that the basic architecture of an IT NAS was not entirely suitable for high-end audio playback. So a new architecture was proposed. Lots of R&D and testing later, Melco as we know it today was born using the name of its Buffalo forefathers.

The immediate hardware difference was the redundant use of the data switch in the signal path to the Network Player, inclusion of a dedicated 'PLAYER' port and low jitter precisely structured data flow. Along of course with software filtering to keep unwanted data which causes unduly wanted crosstalk away from the renderer for optimum sound quality. A Melco will also restructure data from external sources such as streaming services or even other network NAS drives with the intention of improving sound quality...so TIDAL and Qobuz etc should work far better.

The 'Local Player' on a Melco also allows users to connect to an external DAC and this will be the main content of this review, although I have an Innuos and an Aurelic here which will be attached and their performance compared in relation to playing from an ordinary NAS drive and also from the Innuos' internal SSD library storage.



## Listening to the Melco puts the sound on a whole new level of realism, drama and expression

An external USB CD drive can also be attached to the rear of the N1a/2 for ripping disks as well as having the software ability to move existing libraries across the network via a computer or via a transfer option within the Melco's on screen menu from the front panel via a USB storage device.

The ability to use the Melco without any remote control or app via its front panel to play local files from its internal drive array is also a very welcomed feature, much the same as using a standard CD Player without remote and navigation is very easy. An attached CD drive also allows for the direct playing of discs on the fly with all data reclocked and managed by Melco's proprietary software and hardware to ensure a very pleasing reproduction of media quality. I don't spin many discs preferring the ease of use with an app and also the sound quality of the hard drive based files over CD direct, so I do recommend ripping, but for a quick listen of a new album it's a fantastic feature to have onboard.

### The Physical Unit

A unit from Melco will arrive in a double box and very well packaged internally. The physical unit itself in my case was in silver with a brushed silver aluminium front. The front panel hosts a power button on the left and an OLED screen in the centre, controllable via the four right hand buttons for menu and local music library navigation. The rear of the unit features two Ethernet sockets, one in and one out for an external music player/renderer. No less than four USB 3.0 sockets are available on the N1a/2, one on the front panel for high speed file transfer to the onboard music folder and three at the rear for 'Easy Backup, Easy Expansion, Easy Play and Easy Import'. Along side the three rear USB 3.0 ports is a Neutrik USB 2.0 socket for connection to outboard DACs, utilising USB 2.0 is still a more stable platform for the majority of the DACs available on the market currently and for the foreseeable future, although one of the rear USB 3.0 ports on the backside will support any new USB 3.0 based DACs.

### Differences Within The Mark 2 Product

Over the first incarceration of the N1a, there are many hardware changes which result in a more advanced sonic platform, making the Melco N1a/2 a great all in one server and player. As well as the aforementioned Neutrik USB output for DACs Melco have also added a high-performance capacitor bank and noise suppression unit, better grounding and isolation properties for the internal drives and also the chassis itself to minimise micro-vibrations to the delicate audio signal.

The player will support all popular audio files types and bit rates for PCM and DSD far beyond what is readily available to consumers today, making it future-proof for many many years to come. Along with the 6TB of internal storage configured with two specially selected drives of 3TB a piece, allowing users to use them as a combined amount of the 6TB, split into two mirrored 3TB drives for maximum redundancy in Raid 1, or Raid 0 which maximises latency, giving a full 6TB of usable space leaving the user to add their own form of redundancy with either an attached USB hard drive for backup or the use of a Network Attached Storage device (NAS). These options combined with the ability for USB external backup gives users incredible flexibility in setting up the system to best suit their requirements. Myself, I settled with a Raid 0 configuration, after listening to all three options I felt that the Raid 0 setup had sonic benefits over the other two, now they weren't revolutionary but they were clear to hear and the gains in sonic ability outweigh the fact I would require additional storage for backup. I would however need to have a backup of my music for safety as I am using a Raid 0 configuration, which I have already on a NAS drive in Raid 5 configuration with a drive spare also.

### Installation

Connecting up the N1a/2 is as simple as plugging in an Ethernet cable, USB to DAC or in my case the Hydra Z clock and a power cable. The Hydra Z, DiDiT 212SE DAC and Mytek Brooklyn DACs which I connected were all recognised immediately without any issues and a quick navigation through the onboard software using the front mounted hardware buttons and OLED screen played music files instantly which I copied across using my Mac.

Once I had a complete front end chain and music playing I added around a terabyte of music which I had on an external drive. A simple USB connection to the front panel and some quick on-screen navigation to the import option choosing an external USB drive, quickly copied across the drives contents. Most NAS drives are fairly slow when transferring files, especially when writing but the N1a/2 made short work in comparison to build my music library, which I based on the simple file structure of the Innuos, 'CD Quality', High-res' and 'Compressed'. Once copied I had no issue navigating the front panel to play whatever I wished.

### Apps

# MELCO N1A/2 MUSIC LIBRARY

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There are many apps recommended for use with the N1a/2 or in fact any of the units Melco offer, for either Android or iOS devices. After trawling through the recommended options and other suggestions made by current users I opted for BubbleUPNP on my Android tablet, being clearly the best for function and usability, allowing me to choose the chosen renderer or player as the N1a/2 with a separate selection for the music source, this can be selected as the Melco's own internal drives, any associated network storage libraries such as a computer or NAS even a tablet that may contain music libraries (note – the tablet has to be the one that you are using as a Melco remote) Tidal and Qobuz are also available when selecting the onscreen library as 'Local and Cloud' opening up the cloud options for the online streaming services. There is no native support for Spotify but in all honesty any hardcore music enthusiast is going to favour the higher quality streaming services over Spotify. Swapping from the N1a/2's internal library to that of a streaming service is incredibly simple and all features such as search, what's new, trending, genres etc are available to the user as a complete desktop version of the software packages.

If I had my choice I would MUCH rather prefer the option of the Squeeze-lite platform installed on the Melco, I would MUCH prefer the use of iPeng, which would also include the use of Spotify for its already established and great music playlists available. iPeng is undoubtedly a far better remote and platform for control of an all in one streamer, such as the Innuos I have, navigation is simpler and the Innuos also builds its library instantly when powering on from a complete shutdown, the Melco takes longer to rebuild the library after shutting down. Another peculiarity that I found was that if I selected any music to play from the hardware buttons, using the internal onboard player direct I couldn't then use an app thereafter, I had to shut down, power up, allow for the libraries to rebuild again and then fire up the app as my first point of control to enable it to work. Yes, the unit will be used only with the app the majority of the time but for any users experiencing the same issue, it just seems like 'that's the way it is' so remember these steps so that you don't begin to think the unit has an issue or that your not networked correctly.

Manufacturers note: a new firmware update is imminent, this will allow the library to rebuild itself instantly in the future.

## The Sound

After conducting the review for Innuos' Zenith MK2 player/server I ended up buying the unit and is a benchmark against the performance of the Melco which functions in a somewhat similar manner. My initial impressions were that the Melco, although easy to use doesn't have the visually impressive interface of Innuos' own InnuOS software, even the apps aren't as pretty and informative as say iPeng which runs off the back of the Squeeze-lite embedded software on the Innuos, which is my preferred software/app configuration even now after many weeks of use. But all that is swiftly put to one side when hearing the sonic performance of the N1a/2 for the first time. I was quite happy with the Innuos but found my modded Mac mini to offer a more natural and dynamic performance, the Mac really is a one of kind with completely passive cooling and is stripped down to its bare bones both hardware and software wise, with the addition of an incredible power supply made by Paul Hynes. Attaching the Mac to the 'Streamer' output of the Innuos also enhances performance due to the direct attached library and linear switch facility.

Listening to the Melco puts the sound on a whole new level of realism, drama and expression. The concern that the drives were mechanical and not solid state soon fell to the side of the road and there are concerns to the way that SSD's retrieve their information in a high-end audio products anyway, which is why Melco/Bufalo create their own proprietary SLC SSD's for their high end N1z and remain confident in specially selected mechanical drives for their other models.

I first played Beth Hart and Joe Bonamassa's album 'Don't Explain', I was presented with a vocal prowess of such distinction and purity that I literally sat up in my seat saying 'that sounds like magic!' All other comparisons with the Innuos soundwise left my mind and the N1a/2 sat clearly in the commanding role in my system. Bonamassa's performance throughout the album conveyed more texture and emotion in his methods and string work pinged into freer space in an almost rejuvenated manner as if he had just gotten over a cold and got his mojo back. A more informative placement of the stage where the two were performing and a fuller picture of delicate intricacies and rhythms made for a more playful interpretation of the same album which I'd grown to love over recent months, delivering more personality and emotion than I had previously heard with either the Innuos or Mac.

I had a similar experience with Damien Rice and Derrin Nuendorf, which I played soon

after, depicting leading edges to strings that I felt were now a little somewhat muted even on the modded Mac in comparison. I've spent quite a lot of effort on the crossovers in my limited edition Ayon loudspeakers and have also made recent modifications to my Gamut power amp which have given me a more tangible richness in texture and tonality, filling out notes with a more robust accuracy. Adding the Melco to this recipe has further enhanced these aspects with more detail within the additional tonal qualities which I've managed to render from the music as a whole, showing the importance of a great source in the chain is still of massive importance. The music for me with the N1a/2 now sounds more complete, accurate in tone, colour, placement and naturalness and overall coherence.

Vocals are so much more beautiful now in my system, yes it has been a combination of the whole, but doing many A/B tests with my other front end sources in my own time and with others who have come over for a listen, the differences are not subtle. One extremely picky friend of mine even went as far as saying 'can I bring the missus over to have a listen, so she can understand why I'm spending all this money to get my system right?' He was of course joking but the Melco really seemed to strike a chord with him and he's usually the type of person to criticise equipment rather than appraise it's plus points first, if you knew him this statement alone would ensure you looked into a Melco product.

As I was saying...vocals, damn the vocals! A wonderfully liquid and exquisite sound is produced from the Melco on vocals. Where the Aurelic Aries has a fluid ultra clean vocal, the N1a/2 has a richer and more sultry presentation with a vocal placement that sits bang on the correct plane, in front of other band members and never forward.

Sinead O'Connors 'I Put A Spell On You' did exactly that, the vocal is projected well from centre stage, having roots in a more recessed position than its projected output feeling almost real. The same powerful tones bellowed from Celine Dion and Andrea Bocelli's 'Prayer' with the masculinity of his power and endless breath combining in real harmony with Celine's own power and control, leaving me with goosebumps at one o'clock in the morning after an eight and a half hour listening session with a bottle of something tasty.

Norah Jones' sultry voice still took me on further into the morning before I gave in for the night, wrapping her wonderful tongue around my brain and just pulling me further into the platform the N1a/2 had constructed



## A wonderfully liquid and exquisite sound is produced from the Melco on vocals

before me in my listening room. All the while tapping my feet to the riffs and rhythms of her accompanying band.

A new day and a new set of goals, I was finding myself wanting listening to music a whole lot more, my system seemed to now have a passion that I sometimes felt it lacked, very minimally and I am being very picky but enough to take the sweetness off the crumble. It felt like it had ripened and matured just enough to please my palette and gave more flavour to the music.

Today however I wanted to explore some other genres I enjoy listening to a little more infrequently than my love for acoustic and maybe take the system out of its comfort zone. I thought to myself at the time and I remark back to myself as I write this, that it only seems like I really want to push the boundaries of a piece of equipment, or my entire system in fact, when a piece of kit comes along that shines so brightly and really put it through its paces, not just being satisfied by the staples of its presentation. My system really isn't geared up for Rock music, I don't have large paper cones and horn tweeters, nor do I have the distance to be able to sit so far back that electric guitar feedback at high levels doesn't make my ears bleed. So on this basis I can't realistically criticise the Melco for not turning my gear into something it's not.

What this test did prove for me was that the level of information the Melco could present was strong, I could clearly ascertain more scope on layers of distortion, vocals, drums and cleaner guitar notes, there was also less smearing between them. Many genres of Rock sounded fantastic such as Soft Rock, Rock n Roll and the Blues and RnB combinations, but the accidentally created distortions pioneered by the likes of Ike Turner in the 50's and explosive narratives of late the 70's through early 90's groups such as Led Zeppelin, Van Halen and Nirvana etc still didn't cut much ice on my system. I did have a great experience with Princes 'Purple Rain' but then who doesn't right?

I have always since a teenager enjoyed Dance music, I grew up in a great era for it and my system has the energy and impact to reproduce it quite well, again it's no PA rig but what it does offer is a level of detail that a lot of high end PA systems don't, that combined with great control, strong soundstaging and enthusiasm goes an awful long way. With the N1a/2 in my system I really could hear right into the recording. Good mastering with this genre has so much inner detail and micro dynamics to be released that for anybody to refute this genre

as not good enough for critical testing of a Hifi is just ignorant. The multitude of layering is wasted on today's modern youth, listening to about 20% of the remaining material after it has been compressed many times and fed through an MP3 player.

The Melco also shone when it came to scale and dynamics, I was able to increase the volumetric display of the system more than usual as control and imaging was better, but on the flip side I ended up using a lower volume than normal due to the rush of structuredestroying transients. Needless to say I was incredibly impressed by the hand the N1a/2 lent to the stability of the systems tolerances as a whole.

It's safe to say that I like this product very much and a quick overview to inform any potential interested party on the likes of Classical and Opera which I don't listen to an awful lot, was emotional. The amount of resolution that the Melco can produce at this price point is few and far between I'd say, around £2000 in terms of CD players wouldn't even begin to cut it unless fishing around the secondhand market for a bargain. The 'Habanera' from act 1 and the 'Toreador Song' from act 2 of Carmen is undoubtedly two of the most well known versus from any Operatic performance and through the N1a/2 over my other sources sounds glorious. Venue acoustics are clearly depicted and harmonics convey all the drama of the performance so convincingly. The dramatic and dynamic impact of the backing to the lead musicians and expressive vocal hits hard with an intensity that remains really very controlled, conveying a mass of vocalists rather than a smeared mess which doesn't resemble the live performance at all and the slight warmth in the upper bass/lower mids of the Melco really allows for great character to come through. The same important factors are reflected in the few classical pieces I listened too, allowing large orchestras to have a contrast of instrumental tone rather than a mass of noise smearing the prominence of foregrounds.

Like the Innuos, the Melco N1a/2 has a 'player' or 'streamer' Ethernet output, where the user can connect an additional streamer such as the Aurelic Aries or the likes of in the same system, or in fact for another room, via a long cat5/6/7 cable. Also like the Innuos, this option gives software and hardware benefits. Any player (audio or video) that requires an Ethernet cable to playback networked libraries and streaming services will benefit quite substantially in sound quality taking the streaming bridge to new levels of performance across the board.

I connected the Aries and also an Amazon Fire TV as I already have a Cat7 cable running through to an adjacent room, allowing me to play uPnP files and attain better sound quality from the AFTV (which also has an aftermarket linear).

The additional performance from Aurelic's Aries was clearly discernible with a quieter background allowing for more intricate details to stand out more. Undertones and decays were especially more palpable and the additional richness in colour to the Aries was very much welcomed in conjunction with its clean presentation, making bass notes a little rounder and fuller. My modded Mac also thrived on the back of the Melco along with allowing me to have a very localised system rather than using the external switches and multiple Ethernet cables, but I still felt that the Melco on its own did a better job in its standalone form, so rest assured the Melco N1a/2 although having the external 'player' feature doesn't require an additional streamer to work at its best, it's simply an additional feature that one may wish to make use of.

## Conclusion

The N1a/2 from technology giants Buffalo Systems, dubbed with the owner's original brand name Melco is an absolute triumph of engineering for its price. The N1a/2 has no off the shelf parts apart from its hard drives which are selected for sonic performance. Everything else is proprietary and specifically for Melco's audio playback devices, which is no doubt why they sound so terrific. Being of Japanese heritage combines attention to detail and sublime engineering which evokes big smiles when the unit is powered up for the first time.

I would like to see a more universal platform software-wise or at least the option to run Squeeze-lite so that iOS users can use iPeng and Android users Orange Squeeze. This would enable Melco to boast Innuos style operating with their own next level of sonic performance. The BubbleUPNP app works best out of the options available and although its menu structure is great, playback is a little less comprehensive attractive at times. So a proprietary app or the integration of iPeng would solve any issues I may have had.

Feature wise the Melco is outstanding and sound wise it's just sublime, a real rich and full sound with fantastic amounts of detail retrieval, it's dynamic and has a very large soundstage that images superbly and most importantly connects the music with the listener.

With the ability to play files locally from the N1a/2's internal storage, from any network attached storage device, USB flash drive, external HDD or USB CD drive, its integration is comprehensive and pragmatic. I feel the Melco N1a/2 is an audio bargain for what you receive and I only speculate for now what the higher spec'd models will offer.

## AT A GLANCE

Build Quality – Nice standard styled good built piece of Hifi

Sound Quality – Excellent, rich, full bodied, highly detailed sound

Value For Money – very good value For Money indeed!

### Pros

6TB possible music library

Exceptional sound per pound

Great feature rich software

Hardware navigation buttons with OLED screen

Plenty of USB's

Ethernet out for clean additional players – audio or video

Clean linear power

Looks like a piece of Hifi

### Cons

More mechanical vibration than I would have liked

Needs better app in my opinion

Price: £2099

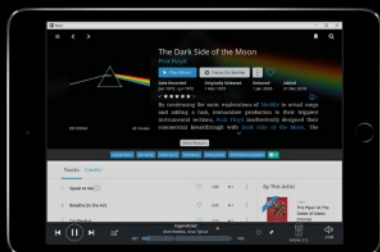
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# Lector 707 CD Player

By Dominic Marsh & Lionel Payne

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The £4100 Lector 707 CD Player, here with the top level power supply, the PSU-7T, is made in Italy, has a valve output stage and a top loading transport. Dominic Marsh and Lionel Payne. put it through its paces.



# LECTOR 707 CD PLAYER

Some say that the Compact Disc medium has had its finest day and streaming is where it's now at. I beg to differ and still prefer the sound (and to me, the consistent reliability) of the silver disc. My fellow reviewer Dan has abandoned CDs entirely and relies solely on the likes of Tidal and such-like for his source material. While I envy the access he has to an immense library of music to call upon, it wasn't pleasant watching the sheer angst on his face when only half of his total playlist was showing on screen and one channel kept dropping out of his system which was traced to a DAC connection apparently.

A good friend of mine also lost his entire music library when his PC took early retirement and the whole music library became totally inaccessible, so 7 months on from that and he is still rebuilding it. Sooner him than me, although I may grumble about getting off my fat posterior to swap CDs over, but that is infinitely more preferable to me than night after night of rebuilding an entire digital music storage system from scratch again.

And, despite the extraordinary levels of high resolution definitions and formats available over the streaming networks, the 44.1kHz bitrate off a silver disc still has a very strong pulse and is far away from drawing its very last breath.

With that kind of background driving my thought processes, it was so refreshing to be asked to review the Lector 707 CD player for Hifi Pig Magazine, instead of being tasked to evaluate yet another streaming device. Not that I really object you understand, but my favourite gripe is relying on battery power with mobile phones and tablets, while communicating with the PC which has constant mains power, is low on the list of priorities with streamers via WIFI. Enter then the Lector 707 valve output CD player, designed and hand built in Albuzanno, Italy.

## Construction

Surprisingly, this is a two box built affair, one box containing the transport, DAC and audio output sections, while there is a choice of two power supplies, the PSU3-T which tips the scales at 3kg, or the

uprated PSU7-T which is a heavy full width box which contains a sophisticated and complex power supply section with an LED indicator panel, both cases being finished in high gloss black with optional gloss black or real Cherry wood side cheeks.

The player section has a top loading transport, with a slide open "drawer" which reveals the drive spindle and puck, which is small in size but contains 3 small neodymium magnets to clamp the disc to the spindle. By virtue of that top loading mechanism, there has to be plenty of room to insert and remove CDs to and from this player, so I can foresee this machine not residing inside a rack because of that, unless there is plenty of free space above for these actions. I housed this pair on the top shelf of my rack. The DAC section comprises of two PCM-1704 R2R digital to analogue converters with, digital filter selectable for 4 x or 8 x oversampling via the remote control, while the audio output is handled by 2 x 12AT7/ECC-81 valves.

The larger and much heavier PSU7-T power supply was supplied with the review sample. I am still not convinced about the blue LED display and switches on the front panel of the power supply, as when I switched any one of them to the OFF position the sound ceased. The manual isn't very clear in that respect either, save stating that if the LED is lit, the relevant supply rail is working. No kidding! Price at time of review: £4,100 with the PSU-7T option.

## Sound Quality

No matter what genre of music I threw at this player, it never once became wrong footed or confused, it just played it like it is with a rock solid steady and consistent power which wasn't brutish or overpowering by any means. In fact, you could listen for hour after hour and never be fatigued by the sound and some might interpret that by thinking it was dull, boring and perhaps a shade lacklustre, but not so, there was more than enough excitement to keep you enthralled and before you realised it the clock had advanced way past your regular bed time. I have owned players whose forte is to deliver an endless

stream of explicit details which soon fatigues and you soon yearn for some warmth and musicality to relieve that constant barrage of dynamics and details, which in the short term is invigorating and energising, but let me say the Lector 707 is not guilty of, because it does have power and energy which never overcomes or overwhelms. It is always a very fine line to tread and the Lector followed it unwaveringly.

The sound just opened up and flowed with absolute ease from the speakers, fine details had acquired a polished refinement, presented in an endless stream of new found details, so it was no effort at all to hear all of the tiny nuances in the recording without having to strain to hear them. Bass too acquired a palpable firmness and solidity without any trace of boom or overhang at all. Drums and bass were immense in scale, yet under perfect control at all times. Of particular note however was the sound stage and imaging which really was holographic in every sense of the word and it was effortless in placing musicians and instruments into fixed points in space with a solid yet ethereal quality to them.

Bass timing was absolutely on the button, power and depth impressive, but with complete control and authority I have seldom heard from a CD player. The top end impressed in a similar vein and that was evidenced when I connected up my 'horror' speakers that show any deficiencies in that region very clearly indeed. The Mordaunt Short MS20 Pearl Edition speakers I have are armed with metal dome tweeters that are totally ruthless and unforgiving when it comes to high treble energy and it takes very little to provoke them into harshness and brightness, so I have a private shudder to myself whenever I introduce them into an evaluation session. Once again the Lector player showed that the top end treble can be expressive, sophisticated and under complete control.

My resident CD player sounds dry and almost analytic by comparison and even though it is equipped with a fistful of selectable digital filters, I could not find a suitable one to match the Lector despite

cycling through all of them, that had the rich



No matter what genre of music I threw at this player, it never once became wrong footed or confused

creamy warmth overlaid onto the music like the Lector player delivered with such sophistication and pure ease.

The acid test for me is how well this player stood up to my intimate knowledge of Fink's "Wheels Beneath My Feet" live album. The intro strikes on the Ride cymbal the drummer plays on track one called "Biscuits For Breakfast" is so convincing and just so realistic, as is the pounding kick drum that features throughout the entire album. Interestingly enough, the benchmark for true high fidelity for me personally is how almost tangible and very much lifelike how the rim shots sound on the Snare drum. There must not be any colouration at all from this instrument, a defined precisely voiced "tock" with each strike coupled with hearing the shell of the drum and finally the reverberation around the venue. This CD has been recorded in different venues throughout Europe during one of Fink's many tours so the venue ambience is different for each location and the Lector 707 CD player homes in on this like a laser guided missile and missing none of it, with each and every venue being easily differentiated. No "shooshing" sounds like bacon frying in a pan during the audience's applause, each audience member is an individual, clapping, whistling, cheering and cat calling enthusiastically all around you.

You can actually hear each individual string of the guitar playing during chords and riffs, you can even tell what the string is made from and what it was plucked with (Plectrum or fingers) from Fink's acoustic guitar playing and it felt rather smug to say "metal" and "plectrum" while the music was playing. When we talk about this level of fine detail, it might be crossing your mind reading this review that this amplifier is a bit explicit or somehow spot lit in its treble and midrange resolution, but be assured it isn't, as you can listen for hour after hour and it never fatigues despite the high quantity of fine details and nuances it is feeding you. If it did, I would have no hesitation at all in saying so. Of course if the track "Sort of Revolution" hasn't got my toe tapping or in extreme cases joining in with the audience in clapping in time with the kick drum, then perhaps something is amiss, because it has that enthusiastic compelling energy inherent in the recording that gets me going, no matter how often I listen to this album.

#### Conclusion

If like me you are still unable to let go of the silver disc format and are looking for a CD player that is totally effortless and true to the sound recorded into the disc without

shredding your ears, then this should be the CD player you should audition.

All very well singing the praises of it, but the question you must be thinking is; "Would this Dominic chap own one himself?". If I could afford it, then undoubtedly yes. It made my top end Sony player sound rather dry and soul-less by comparison and I dearly miss that ability to scour out the last drop of detail from my CDs with that rich vibrant overlay and without shrieking or squawking at me as some other high-end players have done. It isn't either the fact that valves are used in the audio output stage, as I have owned that type of player before, maybe it's the innate quality of the separate power supply, or perhaps that Lector have included the magical "Ingredient X" into the design, but whatever factor(s) are responsible for that final sweet sound, it certainly works and for me at least the sum was indeed greater than it's parts, which in an oblique way of saying it gets a very high recommendation from me, so I pass the Lector 707 over to Lionel Payne.

## AT A GLANCE

**Build Quality:** Fit and finish is excellent on both the player and power supply. The switches and LED display on the power supply is more ornamental than necessary or factual.

**Sound Quality:** Very difficult to fault, in fact I couldn't find fault and it can stand being listened to for many hours without fatigue although dull sounding it isn't by any means.

**Value For Money:** With a price of £4,100.00 this pair isn't cheap, but I reckon you will be in no hurry to upgrade to anything supposedly "better". They are hand built and this also has an element in the pricing.

**Pros:**  
Quality build and peerless sound.

**Cons:**  
None.

**Price:** £4100

Dominic Marsh in his review above has given a high recommendation for the Lector 707 CD player, so it has been handed over to a second reviewer, in this instance Lionel Payne, for a further evaluation and a possible "Outstanding Product Award" nomination.

**AND NOW LIONEL PAYNE TAKES A LISTEN**



# LECTOR 707 CD PLAYER



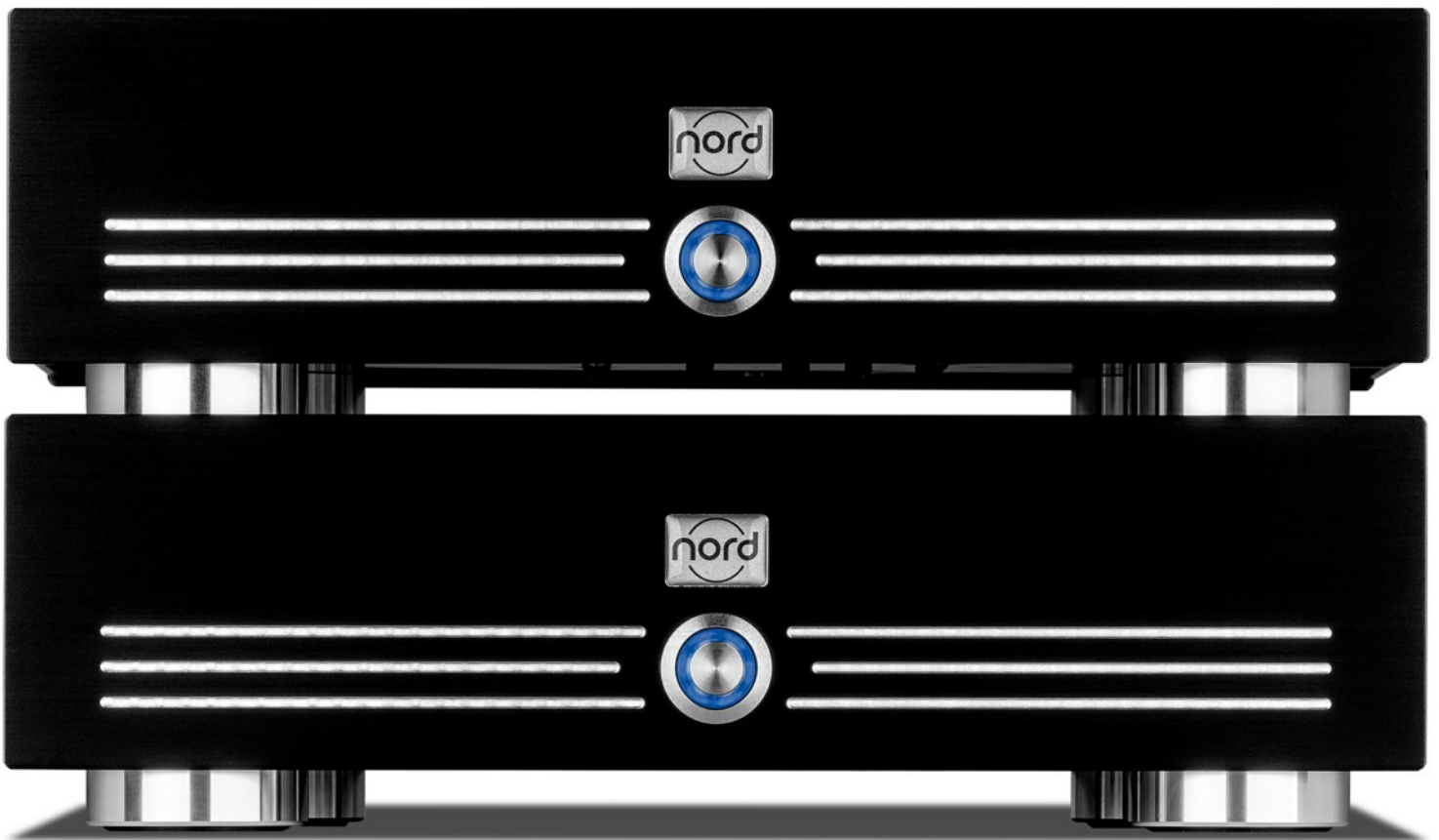
These days there seems to be a lot of people who are too ready to write them off, but I feel that there is a long life ahead for our circular 5 inch friends. It doesn't seem that long ago that everyone was telling us to sell our turntables and vinyl as the medium was dead, and we all know how that worked out. Personally, I have a vast collection of them and I don't plan on giving them up any time soon. It's a long time since I counted my collection and I would estimate it would be around 2,500 in number. If you take a conservative view of average cost per compact disc at, say £5, this would suggest I have paid a total well in excess of 10 grand for my collection. It then leads on to me asking myself how much could I justify spending on a CD player? Hmm! £4100 is a lot of money for a Compact Disc player but the Lector CDP 707 accompanied by the PSU7T power supply is an extremely good player and worth every penny. Within half an hour of listening to the first CD I had handy I was left staggered by the extra enjoyment this player could provide. I was also left to consider how I could possibly raise the purchase price of £4100! Sadly unless my lottery numbers all come up I think it is a bit too high priced for me but selling a kidney did momentarily cross my mind.

The first CD in question was New Model Army's *Between Dog And Wolf* and from the opening bars I was mesmerised. The sheer weight and attack of the drums in the opening track (*Horsemen*) had me pinned to my seat. However as the track developed there was no loss of detail further up the scale with the lead singer's vocals perfectly

clear and intelligible at front and centre while the backing singers floated in space deeper and left of centre. Guitars and other instruments all had their own space and place within the mix and everything came together to give a wondrous presentation. Wanting to move away from my favoured indie rock I loaded the wonderful Fink Meets The Royal Concertgebouw Orchestra CD in this top-loading machine, replaced the magnetic puck, shut the top-loading drawer and sat back. This hybrid/classical CD is often my reference disc to check soundstaging abilities and I wasn't left wanting. The CDP707 has the wonderful ability to create wide and deep soundscapes without losing the rhythm and drive of a track. It is said by many detractors of CD sound quality that it is cold, clinical and too sharp-edged. I would suggest to those same detractors that they take a listen to the Lector CDP707 as it would more than likely blow their minds. This player has a wonderfully warm and natural nature to its presentation. I would go as far as saying that the Lector CDP707 is the most analogue sounding CD player that I have ever heard. I'd love to have one!

The  
Lector  
CDP707 is  
the most  
analogue  
sounding  
CD player  
that I have  
ever heard

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Many of our sales are coming from customers "downgrading?" from large traditional Class A and A/B powerhouses from McIntosh, Copland, Accuphase not to mention modern players like Devialet and the NAD Masters M22 etc. with very positive feedback, slightly embarrassing! In other words seasoned wealthy Audiophiles who have been playing the game for 30 odd years!

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# LG 34UC79G ultrawide curved monitor



At a time I was literally knee-deep in tech a rather large box from LG arrived. Inside sat their LG 34UC79G curved gaming monitor. Thankfully, a kind colleague offered to review it for me.

So, without further ado, here is what my friend, colleague and keen gamer, Mohammed Islam, thought of the LG monitor.

## LG 34UC79G design

It's HUGE!

Monitor specs:

- 34-inch Curved Ultrawide
- 2560×1080
- IPS Panel
- 1ms response time
- 144Hz refresh rate

This is not a monitor for small desks. Not only is the display itself wide, but the stand is quite large too.

The base is matte black plastic with red accents. That striking

colour-scheme continues along the back of the stand.

It has a mostly bezel-less design other than the bottom lip.

Build quality is good and feels safe even though there's a lot of it.

Gamers will find the 120mm of height adjustment and options for tilting back and forward useful. The screen is also compatible with 100mm VESA mounts.

However, the screen can't be swivelled, which is usual for curved widescreens. I don't think I have the space for it to swivel anyhow.

The 34UC79G offers two HDMI 2.0 ports and a DisplayPort 1.2 connection alongside two USB 3 ports and an audio jack. There are no onboard speakers, which is fine as most gamers will have their own.

Saying that, my speakers did cover the edges of this beast.

## LG 34UC79G performance

Coming from a 27-inch 2560×1440 there was a noticeable difference in pixel density.

Navigating through the LG's menus was made effortless thanks to the neat joystick under the screen.

The screen's curvature was very noticeable when standing to one side, but not at all sitting directly in front. This is a good thing).

The mouse glided through the picture thanks to the 144Hz refresh rate.

Colour reproduction was really good with deep blacks. The high contrast ratio also makes the colours really pop.

Thin bezel edges is a welcome addition to this monitor.

When watching movies the bezels are unnoticeable.

# LG 34UC79G ultrawide curved monitor

Unfortunately, due to most content being catered to 16:9 aspect ratio the screen has large black pillars on either side.

To be honest this is something I got used to after a few days of use. Due to the monitor having unnoticeable bezels you forget about the extra screen real estate that's not in use.

## Gaming

Gaming was a whole different ball game. The majority of early access titles had the pillar issue, but this was mostly only during the menu screen. Thankfully, these made full use of the screen once you got passed the intro. A lot of the AAA titles didn't have this issue.

The 144Hz made gaming incredibly pleasing.

Having the extra screen space was an added bonus in FPS games where being able to see that little bit more of your surroundings made a big difference.

## LG 34UC79G review conclusion

After using the monitor for a few weeks I had fallen in love with it. I had also completely forgotten that the monitor is 1080p and not the 1440p that I thought it would be. I really found it difficult to pull myself away from.



Gaming on this monitor was extremely pleasing and watching movies was pretty good too.

When coming to terms with having to send the monitor back. I felt gutted. It was like parting from your child and settling for a cat.

Going back to my old monitor it felt small, uninteresting and boring. I also missed the aggressive design language of the LG, as well as that neat joystick to traverse through my on screen menu.

The 60Hz display was very noticeable. It felt like my brain slowed down.

The only gripe I had with the LG monitor was the fact that it lacked

G-sync and its maximum res being 1080p.

The monitor does, however, have AMD's free sync technology but this was useless to me as I own an Nvidia GPU.

Having 1440p and G-sync would be a no-brainer. But, for those in the market looking for an inexpensive ultra-wide with a whole wealth of perks from a reputable brand, this is a must have.





# Eclipse TD508MK3 speakers

The Eclipse TD508MK3 continues the company's egg-shaped design of the desk-mounted TD-M1 we had in to review almost 2 years ago. As the latter speakers are being discontinued, we thought we'd better check out their larger siblings.

As soon as you see the TD508MK3 you know you've got something from the Eclipse stable.

The jet-engine crossed with a Pixar lamp looks and single driver are unmistakably Eclipse. They certainly stand out amongst a world of rectangular boxes – no matter how clever those boxes are, or how good they sound.

## Eclipse TD508MK3 design

The Eclipse TD508MK3's cabinet, like others from the company, is ovoid for rigidity and to avoid any reflective edges, which can spoil the stereo imaging.

I have covered the principles of the design Eclipse uses in my earlier review of the TD-M1 desktop system. The TD508MK3 is larger than the TD-M1 but works on exactly the same principle.

Here you have an 8cm fibreglass driver which is utilised to produce every frequency you are going to hear.

Each speaker weighs in at 3.5kg, no doubt much of which is down to the mass anchor and diffusion stay – more on that later.

The speakers measure 180 x 289 x 268 (WxHxD) and so are quite compact.

The ones I have been sent are white. The finish is actually slightly pearlescent. If you get them in the right light there does appear to be



fine metal flakes in the casement. Nice touch.

They do come with little protective grilles but, as I have no kids or pets, I prefer them off.

### Stand

Even the stand design of the TD508MK3 has been carefully considered.

It is what Eclipse calls an 'all point' contact design. This is achieved by using three steel legs mounted in the top of the stand arm combined with a specially machined locking ring.

This design eliminates undesirable vibrations, ensures tighter lower frequency performance and allows for angle adjustments. The latter point is quite an unusual option for high-end speakers.

Adjustment of -10 to 30 degrees of the head angle offers a wide range of flexibility in the installation to

suit the individual listening environment.

Because of the clever stand the speakers can also be mounted on the ceiling or wall. Nice.

## Eclipse TD508MK3 performance

o, you have a single driver in each speaker being pushed to frequencies that are well beyond any normal driver of the same size. It goes without saying that these are custom jobs, and also extremely light.

The driver is bolted to a heavy metal mass anchor. This ensures that all of its movements are converted to sound rather than wasted through resonance.

The enclosure is supported by the anchor, but decoupled from it to reduce any mechanical energy transfer. This way cabinet vibration is minimal, and so it contrib-

## Eclipse TD508MK3 speakers

utes far less to the overall sound than would usually be the case.

The whole enclosure is dampened and tweaked to help that single driver produce the required extension.

This all enables that little bit of fibreglass to extend down to 60Hz (Eclipse claims an absolute roll off of 52Hz).

Why put a single driver through all of this? Well, it means that there are no integration issues for a start. Furthermore there is no need to add a crossover circuit that could introduce distortion and/or sap detail.

Another benefit is that it also removes any phase issues that are common with many two-way de-

signs, which can suffer from lack of coherence between the drivers.

Finally, smaller drivers are usually selected for the higher ranges because they move faster. This is partly the reason why, in my life as a bassist, I choose bass cabs with 10-inch drivers in rather the 12- and 15-inchers that I have used previously. They might not move the same amount of air but the speed and clarity is much better. Ever wonder why Ampeg's 8×10 bass cabinet, AKA the fridge, is still at the top of many bass players' want list?

### Sound quality

Well, I reckon that they look great. But, how does the TD508MK3 sound?

Where I have been previously impressed by Eclipse speakers is their 'speed' and accuracy. Thankfully, the same can be said of the TD508MK3.

These speakers really do have the knack of picking out subtleties and reveal nuances others might miss.

What I did find with the TD508MK3 is that a little more care is required during set up. This might be because I had them simply sat atop of my usual Atacama stands, rather than the sleek Eclipse poles though. Whatever the reason, it took some time to get their toe-in just right for my room. Having the ability to angle them upwards slightly helped greatly.

Once done, however, I was rewarded with an intricately layered sound-stage.

Their punch and immediacy is truly amazing. This is generally the stuff of studio-grade active monitors.

### Music

Accuracy is nothing without musicality though. Thankfully, the Eclipse's rhythmic ability is also noteworthy.

They are able to grab the initial bite of a plectrum or bow against a string, as well as the tail-end of a decaying note.

More importantly, they are able to achieve this whilst maintaining context.

Tempo and mood changes are clean and unclouded, this is great news for Jazz, Fusion and Prog fans.

They handle complex pieces really well. Orchestral performances are remarkable for their clarity and placement with the TD508MK3's not crossing instrumental streams.





# Eclipse TD508MK3 speakers

The only time I would have liked more from the Eclipses is where bass needs to be given more prominence. This is most evident when playing movie sound-tracks or some electronic music.

Here the bass lacks some depth, warmth and presence. It is still punchy, accurate and stated, however. It just fails to fill the room and envelope me in the way I would like.

Alternatively, the higher frequencies sound open without any harshness. It would be great to compare these with speakers sporting good tweeters, such as the Dali Rubicon 5 though.

That said, the TD508 MK3 have proved their ability to present Jazz, Fusion, Classical, Punk, Pop and Metal with equally enjoyable results. If, like me, you find yourself wanting more trouser-shaking lows, Eclipse do have a mighty fine range of subs on offer.

However, if you listen mostly to acoustic / singer-songwriter, Jazz or the kind of music that has that 80s-like production then these speakers will leave you smiling.

Similarly, if your penchant is for texture, detail and accuracy then you could do a lot worse at this price point.

## Eclipse TD508MK3 review conclusion

The Eclipse TD508MK3 are excellent all-rounders. Not only are they enjoyable to listen to, they look unlike any other speakers beyond the brand. Put a pair of these in your living-room and be prepared for remarks from friends and family. For added interior design plus points, opt for the Eclipse stands too.



I did find bass depth lacking in parts but that little driver does perform admirably. Musical transitions in complex pieces are handled with precision and accuracy – and there's the pay off.

As I mentioned, if you need those low lows, check out the company's additional subs. They too are quite remarkable in their own right.

Furthermore, if you are looking for 'loud' speakers, then you should look elsewhere. The TD508MK3 are refined and major in detail rather than outright power.

Add in their flexibility regarding placement and their integral stand being able to be used for

wall/ceiling fixing, and it also makes them an ideal choice for home-theatre systems as well as Hi-Fi systems that need to complement interior design.

## Price and availability

You can get the Eclipse TD508MK3 from Richer Sounds for £960.

If you fancy adding those rather sweet stands, they'll cost you another £516.

# Acer Nitro 5 gaming laptop

**You may have seen my Acer Nitro 5 hands-on video that I took whilst being taken on a rickshaw tour of London. Well, I took that laptop home and have been using since. It is now review time.**

As with any product, it is easy to get the specs if money is no object. £1200 iPhone? No problem.

£200,000 turntable? Sure.

£9000 gaming laptop? Sold.

However, it's the mid-range where the truly interesting things happen. How much can a company offer when working to a tight budget? That is where the real skill is.

We all realise that there will be compromises to be made on the way, but then it is the choices that the brands make that will win or lose our money.

The Acer Nitro 5 series starts under £900.

Whilst that might not be impulse buy territory, it still undercuts many other portable gamers.

The one left with me packs an Nvidia GTX 1050 graphics chip, an Intel Core i7 processor and 8GB of RAM. Not only that, it sports looks that will work for gamers as well as coffee shop surfers.

## Acer Nitro 5 design

The black and red looks already tip a wink to its gaming potential. However, everything is much more subtle than the Predator range.

The lid is finished in brushed metal, and the hinges are treated to a



good-looking shade of dark red.

The gamer red continues to the keyboard and trackpad too.

The Nitro is also lighter than the Predator we had in not so long ago. • This laptop tips the scales at 2.7kg and its 27mm thick from top to bottom.

You get 2 USB 2.0 and a headphone port on the right.

Whilst, over on the left, is a USB 3.0 and a USB 3.1 Type-C port. There is also HDMI and Ethernet, along with a card reader.

A couple of small panels on the base can be used to access the hard disk and memory slots. Unfortunately, if you wanted to upgrade the SSD (solid state drive), that's a more involved task.

It is a good looking lappy. It's light enough to be taken everywhere too, which is something that the Predator and other full gamers have to compromise on.

## Acer Nitro 5 performance

The model I have been allowed to live with for a while is the 515-51-771SG, to give it its full title.

This is loaded with the Intel Core i7 which has four Hyper-Threaded cores and a 2.8GHz speed. It's very nice.

Mated to this is 8GB of DDR4 RAM. Also nice.

Images are pushed through the Nvidia

GeForce GTX 1050 mobile core that's buddied with 4GB of dedicated memory.

Rounding things up is a 128GB SSD boot drive and 1TB of Serial ATA storage.

As you can see, this ain't too shabby for what was handed to me as a "casual gamer".



# Acer Nitro 5 gaming laptop

## Keyboard and trackpad

The Nitro 5 has a decent keyboard for its primary purpose.

The tile style keys have quite a soft finish and medium travel. This means that rattling off reviews, emails and social updates are comfortable, even over long periods.

However, those that are more familiar with a mechanical board on your PC might find the Nitro's slightly dissatisfying. Again, this is supposed to be more of a casual gamer and work tool, rather than an out-and-out fragging machine.

The good news here though is that the keys are very quiet. This not only means no glares from people sat in a quiet cafe but, also, you don't have to leave the living room when you suddenly get the urge to kill zombies while your other half watches *Naked Attraction*.

### Lights

The Nitro 5 keyboard is backlit in red, continuing the theme.



The WASD keys are further highlighted in red around the edges. These do not feel to be reinforced in any way, however.

If you tend to use the cursor buttons in-game then be warned. The ones here are quite narrow.

Also, the Enter button, at first glance looks like the full deal. Then you realise that it shares space with the Hash key. The same goes for the left-shift button that bunks up with the left-slash key.

Just things to be aware of in case you accidentally hit the wrong key mid-game.

### Trackpad

Again, the trackpad is in that tricky halfway house. For a business or student user, all is great. It is responsive and the in-built buttons are soft.

It has the same overall feel as the rest of the board. At least most gamers will utilise a mouse so the friendly trackpad won't cause them much grief.

## Display

The Nitro 5 boasts a 1080p 15.6-inch IPS panel.

That is impressive for a range in this price bracket.

However, don't be expecting G-Sync to be linked with the Nvidia graphics.

As I trundled along in the rickshaw, I thought it was the strong sunlight (ah, the memories) that were washing out the colours, but the same can be said when indoors.

The colours and contrast aren't hideous, far from it. It is just that





# Acer Nitro 5 gaming laptop

they're not as vivid as I would expect from an IPS panel.

Once more, using the Nitro for work-based tasks and for socials, the screen is plenty good enough. Additionally, thanks to what Acer calls ComfyView, working on that presentation til the small hours won't wreck your eyes that much.

It is just when gaming or trying to edit photos, you might notice a lack of warmth, especially in skin tones. This didn't affect my taking out terrorists, zombies or cars, but more something I need to report on. It is my duty, after all.

## Gaming

Casual or not, it wouldn't be right if I didn't put the Nitro 5 through a bit of gaming action.

The Nvidia GTX 1050 will happily play most Triple-A games at high or even very high graphics settings on the Nitro's 1080p screen.

:GO ran really well without any noticeable lag. Mouse response was translated to the screen accurately and I didn't find much issue with the keyboard. I just prefer a more mechanical feel.

Doom is much more taxing and, in order to keep things sprinting along, I had to dial down a couple of things. Still an enjoyably fluid experience, mind.

## Keeping cool

I was impressed by at how quiet and cool the Nitro 5 stayed, even when gaming.

Furthermore, this goes for the internals as well as the exterior.

## Battery life

The Acer Nitro 5's 4-cell Li-Polymer battery is a 3220 mAh number. The spec sheet says that this has legs for a maximum of 7 hours.



From my experience, during mixed use including gaming, I was averaging around 4 hours. Decent stamina and this is obviously an area where Acer went for keeping the weight down rather than giving it a hefty battery.

## Speakers

After hearing the Predator I was expecting something along those lines. This was not to be.

The Nitro 5's audio output is fairly standard laptop fair. Bass is quite light and the mids slightly flat. However, if you're using the quiet keys to sneak in some gaming, you'll most likely be wearing headphones anyhow.

## Acer Nitro 5 review conclusion

The Acer has enough pace to handle games, Office work and most other general tasks you choose to throw at it.

If you are looking for a wholly performance package, then there is room for improvement.

That said, the graphics card and RAM really help things along. The Nitro 5 remained composed through gaming sessions.

It is also nice to work on. I happily caught up on emails and drafted reviews on the Nitro. Sometimes the serious gaming machines can feel a bit cumbersome when tackling

more mundane tasks.

And that's where the Nitro 5 has its strength. If you approach it as a good-looking, general purpose laptop with gaming skills, then this little Acer is an Ace.

## Acer Nitro 5 price and availability

You can buy the Nitro 5 right now. Prices start at £849.99 for a model fitted with a Core i5 2.50 GHz chip, 8GB RAM, 1TB storage and a GeForce GTX 1050.

The model with the same spec as reviewed comes in at £999.99. If you want the one packing 1050 Ti graphics, that will cost you £1099.99.

# Suunto Spartan Trainer smartwatch

**I first heard about Suunto when they released their Ambit. More recently they let me know about their Spartan Trainer Wrist HR. I just had to take a look.**

The Suunto Spartan Trainer is a smartwatch designed for a wide range of sports. So, whether you run, swim, cycle, ski or all the above, the Spartan Trainer will suit.

Even triathletes are catered for!

Let's run in to this review – well, perhaps a steady jog. I can't risk

such a shock to my system

## Suunto Spartan Trainer design

The Spartan Trainer isn't as chunky as I was expecting it to be. It's not wafer-thin, but also not oversized. This can sometimes be the case with my skinny wrists.

The Trainer Wrist HR measures in at 14.9mm thick and weighs 66g. You also have a selection of models to choose from. There's the gold and steel, which feature metal bezels while the blue, black and ocean coloured versions feature Polyamide (plastic) bezels. As you can see, it's the black version I was sent to review.

The range all shares the same 218 x 218 resolution display. Around that display are five function buttons, two on one side, and three on the other. This is not a touchscreen

watch, but that kind of makes sense.

The watch is waterproof to 50 metres so decent for most swimmers.

At the back of the watch you'll find the sensors, including the



highly rated optical heart rate monitor supplied by Valencell and used in the Sport Wrist HR.

## Suunto Spartan Trainer performance

This watch is not short on specific sports modes. It is also sporting GPS so that you can track your routes or simply find your way back home.

In fact, it can store up to 20 different Sports Modes customised from the Suunto Movescount website. Each sports profile can be further customised by adding a 'Custom' mode. This enables you to set up which specific training metrics are displayed and how much data is shown on each training page.

### Watch use

As I said earlier, not being touchscreen might appear a bit old-hat but, to me, it makes sense.

The Spartan Trainer has modes for swimmers and skiers, while those might not appear linked, they are. Kind of. Wet digits don't always play well with touchscreens, and the same can be said of gloved

hands. Having the function buttons means that it works for everyone.

Flicking through the menus is intuitive and responsive. The watch offers some choices of face design, but without the flexibility of Android Wear or Apple Watch

OS. Thankfully, what is on offer does look good and rather classy.

The display is clear but, when in direct sunlight, sometimes is not bright enough.

I just happened to be on the English south coast at the weekend where everywhere appeared to be holding triathlons. No, I was not in the slightest bit tempted. However, it did strike me just how many people do this kind of thing. For. Fun!

This makes the Spartan Trainer's Triathlon Mode not only handy for those sports people, but surely fairly unique amongst sports watches.

### Update

Being gadgety, the first thing I checked out was if the software was up-to-date. It wasn't.



# Suunto Spartan Trainer smartwatch

The good thing was that it prompted me to download the Suunto sync software as well as Movescount.

Both pieces of software worked faultlessly and were simple to use.

Whilst I had the watch plugged in to my computer via the charging and sync cable, I discovered that you could sort out the notifications and more.

Having texts, emails, Whatsapp messages appear on the Spartan Trainer's screen was more useful than I have given credit being. I am actually warming to perhaps buying a smartwatch because of this.

## Step counter

Not being particularly sporty, I didn't really get out and push the various sports modes. I did, however, wear the watch for the week I had it to review.

My lifestyle of being basically stuck behind a desk and computer was about to be publically shamed. However, I was surprised to see that, on occasions, I actually do cover some ground.

I feel that I must add that on Saturday I was at a function and so was wearing one of my vintage Rados instead of the smartwatch. The Spartan Trainer didn't really fit the theme of 1920s-1940s styled outfits.

## GPS

I really liked having the GPS functionality on a piece of wristwear. I believe that the module is under the hard bump below the watch bezel and forms part of the strap.

You can create routes on the Movescount software as well as using the Spartan Trainer to plot where you have been.

You are also able to save points of interest (POI) as well as tag them – Base camp, home, hotel, etc.

I used this for the more pedestrian functionality of being able to find my way back to the car when I parked in an unfamiliar city.

As you can see in the picture above, you are given the current time, and distance away from the saved POI. The big blue arrow is really clear, as is the target sights.

## Sleep tracking

I might not be much of a sportsman but I can sleep. In fact, I am Olympic standard, when given chance.

Although, the Spartan Trainer wasn't impressed by my average 5ish hours per night of not very restful kip over the testing period. Still, this function is still a handy one to have.

## Battery Life

I have been impressed by the battery life of the Spartan Trainer. In normal watch/step counter use it will see most people easily through a week.

However, hammer something a little more strenuous, such as GPS, and you'll see that stamina drop to around 10 hours.

Naturally, most people looking to invest in such as smartwatch will be using the mapping, monitoring and analytics more than I. I still reckon that battery life is pretty darned good.

## Suunto Spartan Trainer review conclusion

I have been impressed by the feature set of the Suunto Spartan Trainer Wrist HR.



Not only is it a good looking watch, it appears to offer everything that fitness freaks will be looking for. There is enough modes to cover anyone's specialty. This watch doesn't simply have a swimming mode, oh no. You can actually select open water or pool. There are similar specialties when you drill down in the the running or skiing modes.

Furthermore, the heart rate monitor and GPS both proved to be very accurate.

The Suunto Spartan Trainer Wrist HR is brilliant and offers excellent value for money.

## Suunto Spartan Trainer price and availability

You can buy the Suunto Spartan Trainer Wrist HR right now from £219 direct from Suunto.

# LightwaveRF On/Off smart plug kit

**Walking in to your home and telling it to turn on the lights. How cool is that? LightwaveRF has a number of easy-to-fit options to make it possible. I've been playing with the smart plugs.**

Automated homes, or smart homes, are becoming less a futuristic thing day-by-day. I have tried a variety of app-connected plugs but their main sticking point is that they don't integrate with anything else.

This is becoming more of an annoyance. For instance, because I have four different brands of IP camera in my home, I have to have four different apps.

If only there was a way of drawing your IoT together. That also works by voice command...

Thankfully Alexa is here (other voice-controlled smart assistants are available).

LightwaveRF is a smart-home solution that offers not only lighting but devices for controlling your heating and power.

Its products can be remotely controlled via a mobile app, PC, re-

mote control or even via Alexa or similar.

As I am in rented accommodation I daren't start installing smart dimmer switches or plug points so I opted for the smart plug pack.

## LightwaveRF design

What I have here in front of me is the LightwaveRF On/Off Socket Kit and the LightwaveRF hub.

The On/Off kit comprises of three smart plugs and a little remote control.

These plugs are quite slender, which is a far cry from the first smart plug I got a few years ago.

They each have a small blue button on their side. This switches the plug on and off and, with a long press, enables syncing with the hub.

The LightwaveRF Link hub is also quite slender. It is an attractive bit of kit. It has a status light that runs around its midrift.

On top is a sync button whilst, around the rear, is the Ethernet and power ports.

The hub measures 101 x 30 x 101mm and weighs 218g. This makes it extremely easy to place.

## LightwaveRF performance

The kit looks modern and uncomplicated, but looks can be deceiving. Hopefully, not in this instance.

## Set up

First thing's first, and that was plugging in the Link hub in to my Sense router and getting power to it.

I ensured that the hub had a clear line of sight. I am grateful that this thing is only small and isn't ugly.

## App

Once that was done I downloaded the LightwaveRF app on to my phone.

I registered to the app and then proceeded to follow the simple instructions. I set up all three and had a reading lamp and two other lights plugged in to them.

The app allows you to control the On/Off plugs individually. The great thing is that you can turn them all of at once. Unfortunately, you can't switch them all on in the same way.

## Pairing

To pair the switches to the link you simultaneously press and hold the on and off buttons until the LEDs alternately flash blue and amber. Within the app you can then give that light switch an appropriate name.

Once configured, the app is very straightforward to use. The main screen shows the rooms hooked up to Lightwave, and you tap on any of these to select them.

You are then given the option to turn off all lights, or below this to turn the light switch on or off. If you have the dimmer version of the plug or a dimmer switch in-





# LightwaveRF On/Off smart plug kit

stalled, a slider bar allows you to dim the lights as required.

## Events

Other tabs in the mobile app allow you to set up Events – presets for when you are home or away that can be applied at the tab of a button when required.

The next tab lets you set timers. You'll also find a tab for controlling your heating if you have the necessary equipment installed.

## Naming

You can name the various plugs to indicate what they're powering.

If you intend to use Alexa to switch things on and off, it is best to name your devices with words that can be spoken clearly and not misunderstood.

## Alexa

Alexa has become part of my daily ritual each morning. She lets me know if there's some significant anniversary or occasion linked to the day, keeps me updated with the news and tells me just how messed up public transport is.

LightwaveRF can also be linked to her. Simply download the Amazon Alexa Skill and you are good to go.

Ask Alexa to "...Switch on..." and that plug will turn on. "Alexa, turn off..." and off it goes.

I found that "Alexa, switch on" works better than "Alexa, turn on". This has worked without hitch since renaming my devices. Initially Alexa was looking for a video player and all kinds of other things.

## Remote

The little remote is powered by a watch-type battery.

It simply has four rows of numbered buttons. Each row you sync to the device you want it to control. The buttons are on and off.

If you think that control for four devices is limited well, there's also a four-way switch marked a-d.

This means that you can assign each bank to a device type, e.g. Lights. Alternatively, 'a' could be for the living-room, 'b' the kitchen, etc.

## Web app

Just in case there wasn't enough ways to control your home tech, Lightwave also has a web app.

This uses the same login details as the mobile app. First you are presented with a list of rooms.

After selecting your room, you can then control the devices.

I like the clear layout that is similar to the mobile app. This is a handy option if you have eyesight issues or simply would like another option.

## Control

These smart switches are really great. on your plug sockets that allow you to turn on and off power when required. You might want to turn on the coffee maker 10 minutes before you get home, for example, or turn off power to the TV between certain times when you want the kids in bed.

They enable you to turn power on and off remotely when required. You can even set timers so that your coffee maker switches on 10 minutes before you get home. You could even set them to switch the kid's telly off at a certain time.

Going away? Set the timers to switch on different appliances and lights throughout the day to give



the appearance of people still being in your home.

Looking further in to things, I reckon I could get the system working with IFTTT. I just ran out of time to play with that before I wanted to post this review.

## LightwaveRF review conclusion

This is a great system. Even though I have only got the On/Off kit I have a feeling that this will be expanding very soon. I will check with my landlady if it's OK for me to add dimmer light switches and mains outlets.

Once you have the LightwaveRF Link hub, you can simply add options when you want, or can afford to.

Not only does LightwaveRF work, it looks good doing it.

## LightwaveRF price and availability

The Lightwave Link is available from Lightwave for £89.99. Once you've bought this hub device you can hook up any other Lightwave devices you require.

The On/Off kit with remote is £46.99. This comes with three smart plugs.