

Budget  
esoterica

STREAMER/DAC/PREAMP

Streamer/DAC/preamplifier  
Made by: Linkplay Technology Inc., Newark, CA, USA  
Supplied by: Henley Audio Ltd, UK  
Telephone: 01235 511166  
Web: www.wiimhome.com; www.henleyaudio.co.uk  
Price: £219

AUDIO  
FILE

hi-finews  
OUTSTANDING  
PRODUCT

# WiiM Pro Plus

This unassuming little black box packs as much streaming technology and features as the biggest players in the audio biz – plus support for Google/Alexa voice control...

Review: **Andrew Everard** Lab: **Paul Miller**

Every once in a while, the hi-fi industry encounters a disrupter – a brand or a product able to create waves and challenge established ways of doing things. Think the original NAD 3020 integrated amplifier [HFN Jan '80], which entered an arena full of feature-heavy products, and became a best-seller thanks to its combination of price, simplicity and sheer performance.

Of late, the pace of these would-be disruptive products has accelerated, helped no end by the boom in streaming audio and the rise of companies from the Far East transitioning from making products for established names to developing into brands in their own right. Regular readers will be familiar with the likes of Korea's HiFi Rose [HFN Apr '24] and China's Eversolo [HFN May '24], leveraging their engineering and manufacturing clout to make products with advanced technology without the plutocrat price tags. Now we have a brand able to disrupt the disrupters, in the form of US-headquartered, Chinese-manufacturing Linkplay, with its WiiM lineup of streaming-based products.

## BARGAIN HUNT

At the time of writing, the Pro Plus is the priciest of its network players, at just £219, with the WiiM Amp, complete with onboard 60W-rated amplifier, selling for just £100 more, and the little puck-like entry-level WiiM Mini player at just £90. Later this year these will be joined by the WiiM Ultra, an upmarket(!) network player complete with 3.5in colour touchscreen, selling for around £349. Moreover, despite the very low prices, these products are – spoiler alert – exceptionally good, and not just for the money, but on any terms.

Formed ten years ago by a team with backgrounds including Broadcom, Google and Harman, Linkplay describes

**RIGHT: Top PCB [flipped back] carries the main processing architecture including BT/Wi-Fi module [right] and Amllogic A113X SOC with 'far field voice support'. The lower audio PCB has a PCM1861 ADC and AKM AK4493SEQ DAC**

itself as 'developing cutting-edge wireless technology, software, hardware and more for a variety of voice and smart products around the globe'. This includes the implementation of voice control systems, such as Amazon's Alexa, in a wide range of third-party products. All this is reflected in the WiiM Pro Plus, an enhanced version (different DAC, uprated audio circuitry, plus voice remote) of its standard £149 Pro model.

It may be a relatively anonymous little grey box, a bit smaller than a Mac mini at just 14cm square and 4.5cm tall, and weighing a mere 400g, but the Pro Plus is packed with just about every streaming option anyone could ever need. Not to mention a whole load of options you never knew you needed, but might just come in handy when you start to dig deep into the set-up and operation menus.

What are the basics? The WiiM Pro Plus offers wide-ranging network audio

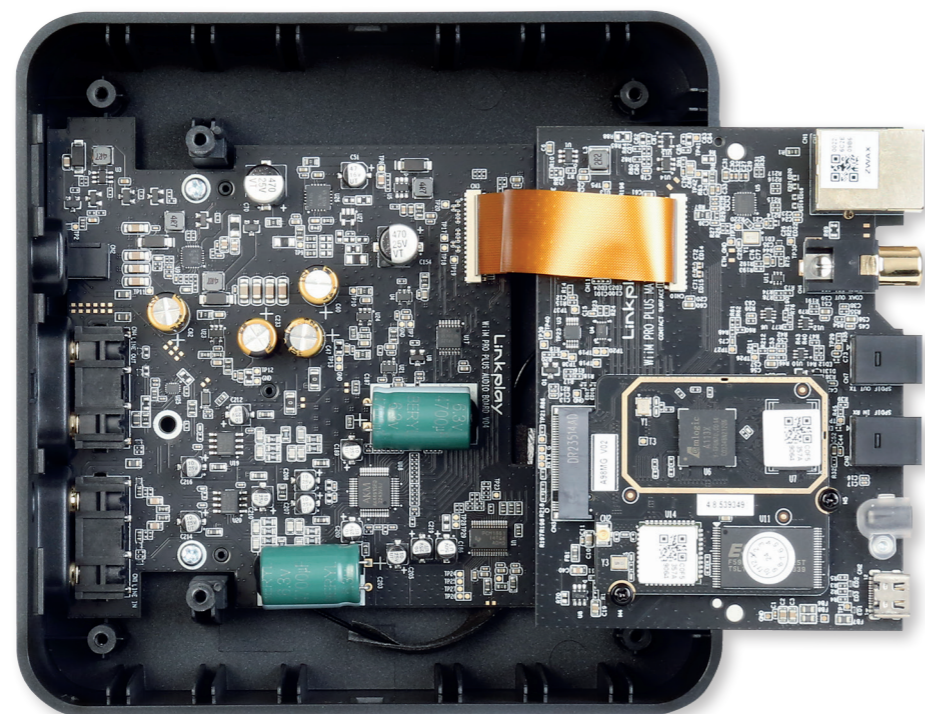
capabilities via Wi-Fi or Ethernet, including Amazon Music, Qobuz, Spotify and Tidal, plus TuneIn and vTuner Internet radio, and will also play music from your local network music stores via DLNA and Roon.

Then there's Apple AirPlay 2, Chromecast and two-way Bluetooth – in from a music source, out to wireless headphones or speakers – as well as voice control using the Alexa, Google and Siri platforms. It can also work in a multiroom system using other WiiM units, and combine with Alexa, Nest and HomePod devices.

## LITTLE EXTRAS

That should be enough for most needs, but the Pro Plus goes so much further. As well as the network connections, it has a line input – digitised internally – and optical digital inputs, plus line/preamp outputs (with fixed or variable level), and optical and coaxial digital. A-to-D (192kHz/24-bit)

'The stellar roster is given space and resolution'



**RIGHT: Four icons on the Pro Plus's front face are capacitive touch switches for play/pause, volume up/down and access to Preset 1**

and D-to-A (768kHz/32-bit) is supported, the latter using the superior AKM 4493SEQ chip in place of the standard Pro's TI PCM5121.

The WiiM Pro Plus also makes use of the capabilities of its quad-core A53 processor to offer separate trims and EQ for each of the inputs; select a choice of digital filters; and even a nifty routine, using a little microphone in the rear panel, to measure the latency of the system in which it's used. This allows multiple set-ups to be sync'd in multiroom configurations.

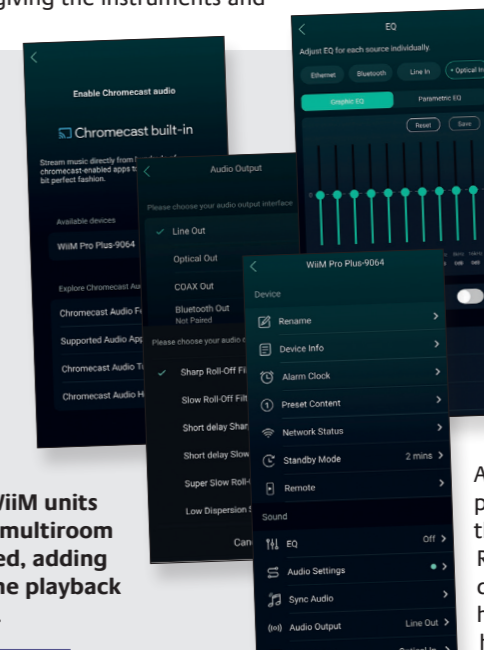
All these niceties are accessed via the WiiM Home app [see boxout, below], running on Android and iOS. Not only does this find and connect devices in moments, it's also at the heart of using a WiiM system, from quick and easy location of content and services to the detailed adjustments deep in its menu system.

## HOUSE MUSIC

I've made full use of those options during an extended period with the Pro Plus, using it both in my main system and in my desktop set-up, and pairing it with both the WiiM Mini and WiiM Amp in other systems

## WIIM HOME APP

Linkplay, the company behind the WiiM brand, has built its success on integrated systems from audio playback to home control, so it's no surprise that the WiiM range comes complete with a very comprehensive, and canny, control app – WiiM Home. It's quite possibly the most intuitive control system we've seen in the network audio arena, and of course entirely integrated within the operating system of the WiiM players. It finds the products quickly and easily, allowing a wide range of set-up options – drill down through the menu to select digital filters, set up equalisers if required, and adjust the way the DAC works with incoming digital signals. You can also set presets across the range of functionality – radio stations, playlists and so on – and integrate multiple WiiM units and third-party smart speakers to form a whole-house multiroom audio system. Regular software updates can be installed, adding and refining functionality, and the app integrates all the playback options available into simple, easily-navigated screens.



around the house, testing its multiroom capabilities. And I have to say this is one of the simplest network players to set up, and among the most stable. Furthermore, the WiiM Home app is a delight to use.

This is all very good, and perhaps no more than one might expect given the provenance of the Pro Plus. However, this player goes further than the appeal of its user experience by sounding entirely convincing and way beyond what one might expect of a unit several times its price, let alone one with a £219 tag. Whether playing low data-rate podcasts or music at 192kHz/24-bit, the Pro Plus sounds open, fast, detailed and surprisingly weighty, requiring no allowances to be made for its bargain price.

Playing the impeccable recording of Herbie Hancock's *Gershwin's World* album [Verve 557 797-2], the WiiM Pro Plus delivered excellent insight into the soundstage, giving the instruments and

voices full measure with delicious timbral detail. The tracks swung along with crisp percussion and a tight, extended bass. Guest appearances by Joni Mitchell, Stevie Wonder and Kathleen Battle were vibrant and full of character, while the stellar roster of instrumentalists was given space and resolution to be heard at its best.

## ROYAL APPROVAL

The Pro Plus digs deep, too. With *Lovecop* [Odyssey Music Network OMN24067], the latest album from Swedish rockers Royal Republic, it drove the pop/dance/rap that opens 'My House', then dropped back into the lush arrangement of 'Lazerlove' while still maintaining the solid bass and drums underpinning the band's songwriting.

The focus here was never in doubt, even with really busy and/or frenetic tracks, and there was no sense that the sound was

being pepped up to make it more exciting. Yes, you can play all you like with the Pro Plus's graphic EQ options to get an even more upfront or 'bassier' sound, but in general the neutral settings will do more than nicely.

This player certainly never sounds flat or uninteresting, and the levels of detail it can deliver were readily apparent with Guy Braunstein's *Abbey Road Concerto* [Alpha Classics

ALPHA 869], beautifully played by the composer and the Orchestre Philharmonique Royal de Liège under Alondra de la Parra. The work draws heavily on sympathetically handled elements from the



## STREAMER/DAC/PREAMP



**ABOVE:** Powered via a 5V USB-C connection and with BT and Wi-Fi antennas inside the (plastic) box, the Pro Plus offers a wired Ethernet port, optical (192kHz/24-bit) and line inputs, coaxial and optical digital and analogue line outputs

Beatles catalogue, while generous extras here include Vaughan Williams' 'The Lark Ascending', the whole enterprise being treated to a richly detailed recording made in Liège's Salle Philharmonique. The Pro Plus did a fine job with both the romantic scale and the inner detail of the scoring and performances, sounding both mature and entirely satisfying in hi-fi terms.

### KNAPP HAND

The player's focused sound worked well with *e.s.t. 30* [ACT 9987-1], the Magnus Öström/Dan Berglund album marking 30 years since the release of the Esbjörn Svensson Trio's *When Everyone Has Gone*. Drummer Öström and bassist Berglund were the rhythm section of the original E.S.T., and here are joined by guest musicians to revisit some of that group's thoughtful, lyrical pieces in a recording bursting with superb musicianship – and ideally suited to



the crisp, clean and rich sound of the little Wiim streamer.

Those levels of detail illuminate Lisa Knapp's *Till April Is Dead – A Garland Of May* [Ear to the Ground Records, ETTGM003; Bandcamp download], combining folk

**LEFT:** Wiim's Bluetooth remote covers off the essential 'preamp' functions including input, volume, track skip/play and preset

tunes celebrating the coming of summer with elements of dance, samples and vivid use of the stereo soundstage. There's a spine-tingling close focus on Knapp's voice, and I challenge you not to jump when the clock movement whirrs into action as the first track segues into the second, or get swept up in the atmosphere of Padstow's May Day celebrations at the album's close.

### A STAR IS BORN

This set is charming, playful and ever-so-English, and sounded superb when played via the over-achieving Wiim Pro Plus, thanks to its blend of warm, controlled bass and free-breathing spaciousness. And while the sonic ability here can do little to lift much of the sappier material on Paul Weller's *66* [Polydor 5888429], with the punchier, driving 'Soul Wandering' its speed and weight was deployed to good effect, riffs motoring along nicely and Weller's voice distinctive in the mix. Does all that make Wiim's little budget streamer/DAC a hi-fi star? You bet!

### HI-FI NEWS VERDICT

Even at ten times the price this unassuming but sleek-looking little plastic box would have earned a high score. By any standards this is a remarkable network player, both in its flexibility and specification, as well as its sound quality and the sheer pleasure of operating it via its dedicated app. Cue some makers of far pricier network audio hardware looking very nervously over their shoulders...

Sound Quality: 90%

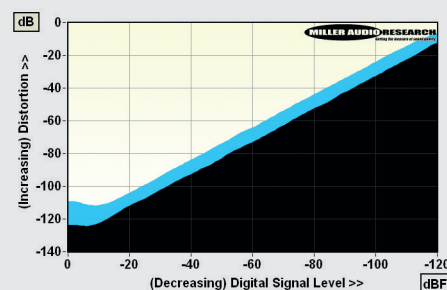


## LAB REPORT

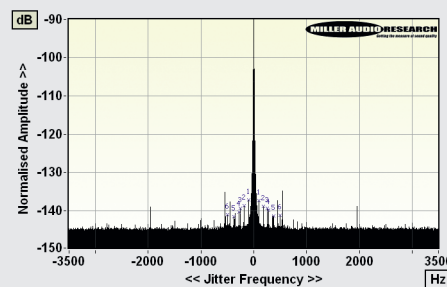
### WIIM PRO PLUS

Tested in its fixed, maximum line output guise, the Pro Plus offers a standard 2V from a usefully low, cable-agnostic 10ohm source impedance. The A-wtd S/N ratio is a deeply impressive 109dB via all digital inputs while low-level resolution is true to within  $\pm 0.1$ dB over a massive 110dB dynamic range. These are figures more commonly associated with superior outboard DACs at 10x the price (and then some) while distortion is as low as we've seen from any digital device at any price – 0.00005-0.0006% at peak (0dBfs) output from 20Hz-20kHz. Vector-averaging reveals the lowest distortion of 0.00003-0.0003% is achieved at  $-10$ dBfs, far lower than Wiim's own conservative specification and requiring an adjusted 0 to  $-140$ dB scale on Graph 1, below. This is testament not only to the performance of the AK4493SEQ DAC but also Wiim's own analogue output stage which maintains a  $>130$ dB channel separation through the midrange. Arguably, these figures are of academic interest only (but still interesting!). Only the jitter spectrum [see Graph 2] reveals a slight chink in the Pro Plus's armour for while correlated sidebands amount to a mere  $<20$ psec (all sample rates with 24-bit data), the slight broadening of the signal peak suggests the presence of a very low-level uncorrelated jitter/phase noise.

AKM's AK4493SEQ DAC includes six optional digital filters with the 'Sharp' linear and minimum phase choices offering the best (69dB) stopband rejection and flattest  $-0.01$ dB/20kHz,  $-0.7$ dB/45kHz and  $-2.5$ dB/90kHz responses with 48kHz, 96kHz and 192kHz media, respectively. The remaining filters have a poorer stopband rejection and a greater HF roll-off, all traded for reduced time domain distortion. 'Super Slow/NOS' – essentially no filter at all – is best suited to higher sample rate media. PM



**ABOVE:** THD vs. 48kHz/24-bit digital signal level over a 120dB dynamic range (1kHz, black; 20kHz, blue)



**ABOVE:** High resolution 48kHz/24-bit jitter spectrum with markers. Some low-rate phase noise evident

### HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	1.97Vrms (fixed) / 10ohm
A-wtd S/N ratio (S/PDIF / Network)	109.2dB / 109.1dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00005% / 0.00025%
Distortion & Noise (20kHz, 0dBfs/-30dBfs)	0.0006% / 0.00065%
Freq. resp. (20Hz-20kHz/40kHz/90kHz)	+0.0 to +0.0dB/-0.7dB/-2.5dB
Digital jitter (48kHz / 96kHz / 192kHz)	20psec / 15psec / 10psec
Resolution (re. $-100$ dBfs / $-110$ dBfs)	$\pm 0.1$ dB / $\pm 0.1$ dB
Power consumption	4W (2W idle)
Dimensions (WHD) / Weight	140x42x140mm / 400g