

Press release

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Press contact: Tim Bower

020 8954 8945

07854 966071

tim@hashstar.co.uk

www.ifi-audio.com

Armour Home

T: 01279 501111



iFi hip-dac 2: just the tonic for headphone fans

With a sound as flavoursome and richly detailed as a delicious single malt Scotch, the hip-dac 2 portable USB DAC/headphone amp delivers the perfect pick-me-up for any music lover on-the-go

Southport, England – The hip-dac is one of iFi’s most popular USB DAC/headphone amps, beloved for its affordable price, extensive hi-res specification, distinctive design reminiscent of a hip flask and fittingly intoxicating sound. Now, some 21 months after the original hip-dac launched, iFi has updated its design with internal enhancements and a brand-new colour. Ladies and gentlemen, meet the hip-dac 2!

The new model’s obvious distinguishing feature is the Sunset Orange anodised finish applied to its aluminium enclosure, replacing the original’s Petrol Blue. Under the hood, a collection of carefully considered and painstakingly implemented circuit changes elevate the hip-dac 2’s performance to an even higher level.

The 8-core XMOS chip, which processes the data received over USB, has been replaced by a new-generation 16-core XMOS processor, delivering double the clock speed and four times the memory. This chip was initially introduced to iFi’s latest DACs at higher price points, such as the NEO and Diablo models, and is now trickling down to iFi’s entry-level devices, including the hip-dac 2.

This new chip’s enhanced processing power improves overall performance, as well enabling the hip-dac 2 to deliver *full* MQA decoding. This means that the complete ‘three unfold’ decoding process is performed internally, as opposed to just the final unfold in the manner of an MQA ‘renderer’ – which

accounts for the vast majority of MQA-supporting DAC/headphone amps anywhere near the hip-dac 2's price point, including the original hip-dac. This makes the hip-dac 2 an excellent device for anyone who subscribes to Tidal's Masters tier, which uses the MQA codec for hi-res streaming.

There are other circuit improvements too, including a new version of iFi's GMT (Global Master Timing) circuitry, featuring a new crystal clock. This results in even lower jitter performance, contributing to purer, crisper sound.

Other than these changes, the hip-dac 2 retains all the features that made the original such a popular portable USB DAC/headphone amp – further details below.



Shooting from the hip

Boldly dressed in racy Sunset Orange, the go-anywhere hip-dac 2 is designed to slip discretely into a pocket or bag. It replaces the inferior DAC and amp circuitry in smartphones, tablets, PCs and Macs to vastly improve headphone sound. Its design and performance set it apart from other DAC/headphone amps in its class – connect your playback device via USB, plug in your favourite corded headphones or in-ear monitors and the hip-dac 2 delivers a sound brimming with bold dynamism and fluid refinement, effortlessly engaging the listener with all manner of music. In the home, in the office, on a train or plane, the hip-dac 2 is the music lover's inseparable friend.

DAC's the way to do it

The DAC section is based around a Burr-Brown DAC chip that iFi uses extensively in its products, selected for its fluid, natural musicality and True Native architecture. This, combined with custom iFi circuitry, enables the hip-dac 2 to deliver excellent sound quality across all manner of digital audio formats, including bit-perfect PCM and native DSD, as well as MQA.

Hi-res PCM and DXD audio data is supported at sampling rates up to 384kHz, alongside DSD from 2.8MHz to 12.4MHz (DSD64, 128 and 256). Thanks to the Burr-Brown chip's True Native design, PCM and DSD take separate pathways – this enables both PCM and DSD to remain 'bit-perfect' in their native form right through to analogue conversion, which is not the case with most other portable DAC/headphone amps. Either side of the rotary volume control reside a pair of LEDs that change colour to indicate the format and sampling rate of the digital audio being played.

Extensive clock-locking eradicates jitter (digital distortion), using iFi's GMT femto-precision clocking system – upgraded in the hip-dac 2 – to maintain the integrity of the digital signal until conversion to analogue. Bespoke customisation of the 16-core XMOS chip via iFi's in-house programming team further enhances sound quality, with proprietary digital processing technology making a major contribution to the hip-dac 2's class-leading sound quality. Firmware updates to elements like digital filtering help to keep iFi devices, including the hip-dac 2, fully up to date as technology progresses, as well as allowing for a degree of user-customisation.



Balance of power

The hip-dac 2's analogue amplification stage benefits from a balanced (differential) circuit design – unusual in a DAC/headphone amp anywhere near this price point. This topology helps to reduce signal distortion, which in turn leads to purer, more engaging sound.

The circuitry incorporates a range of high-quality components selected for their performance in an audio context, including a custom iFi OV op-amp, TDK C0G class 1 ceramic capacitors, a precision low-noise power supply IC from Texas Instruments and a high-quality analogue volume pot. (Many portable DAC/headphone amps use digital volume controls, which can be detrimental to sound quality.)

The amp stage can deliver 400mW into a 32-ohm headphone load, ensuring compatibility with a wide range of headphone and earphone types with power to spare. Even high-impedance headphones are handled with ease thanks to output voltage of 6.3V into 600 ohms (from the balanced output).

To further tailor the output to suit the connected headphones, the amp stage features switchable gain – a feature called PowerMatch. This matches the level of drive to the headphone load, adjusting input sensitivity and thereby signal strength. With high-sensitivity in-ear monitors, for example, leave PowerMatch at its lower setting to ensure a silent, hiss-free background. But if your headphones benefit from a higher level of drive – such as many on- and over-ear types – press the PowerMatch button to increase gain.

XBass is another user-selectable feature – a sophisticated form of 'bass boost' that enhances low frequencies without muddying the midrange, particularly useful with earphones and open-back

headphones that may lack deep bass. It operates entirely in the analogue domain rather than messing with the digital signal via DSP and may be switched in or out of the signal path.



Get connected

The hip-dac 2's USB input handles audio data up to 32-bit/384kHz and supports the 'SuperSpeed' USB 3.0 standard, as well as USB 2.0. It is asynchronous, meaning that the data rate is regulated solely by the hip-dac 2's specialised audio clock circuitry for accurate, jitter-free data transfer from the source device.

There are two USB ports – Type A for audio data and USB-C for charging. Unusually, the Type A input features a 'male' connector, rather than a typical 'female' port. This arrangement provides greater mechanical integrity than the USB and Micro USB ports commonly found on DAC/headphone amps from other manufacturers. It also offers an advantage to users of iPhones and iPads with Lightning ports, because it accepts Apple's Lightning to USB Camera Adapter directly without requiring an additional female-to-male USB adaptor.

Two outputs are provided: a 3.5mm socket for headphones with a single-ended cable/connector, and a 4.4mm Pentaconn output enabling headphones equipped with balanced connectivity to take full advantage of the hip-dac 2's differential amp design. In addition, the 3.5mm output benefits from iFi's proprietary S-Balanced circuitry, cutting crosstalk and related distortion in half when used with regular, single-ended headphone connections – this is especially beneficial with high-sensitivity in-ear monitors.

The hip-dac 2's 2200mAh battery lasts for around 8-12 hours of playing time, depending on volume level and how power-hungry the connected headphones are. It comes bundled with three USB cables: a USB-C OTG (On-The-Go) cable, ideal for connecting Android devices and PCs/Macs with USB-C ports; a USB-A cable; and a USB-A to USB-C charging cable. (The Apple Lightning to USB adapter required to connect iOS devices is purchased separately.)



Protect the one you love

Both the original hip-dac and the new hip-dac 2 sport a 102x70x14mm extruded aluminium enclosure, sufficiently robust to be ported around without fear of breakage. However, some may wish to add further protection for the beautifully anodised metallic finish, whilst giving their beloved DAC/headphone amp a softer, suede-like feel – for them, the new hip-case is ideal. Made from vegan-friendly 'faux suede' in cool Dove Grey, with stitch detail and an embroidered iFi badge, the hip-case fits both the hip-dac and hip-dac 2 like a glove.



Hip-hip-hooray!

- The hip-dac 2 is available in Sunset Orange at an RRP of £189, from 1st October.
- The hip-case is available in Dove Grey at an RRP of £29, from 1st October.
- The original hip-dac remains available in Petrol Blue at an RRP of £169, while stocks last.



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

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For more information, hi-res images and sample requests, please contact Tim Bown
T: 020 8654 8945 M: 07854 966071 E: tim@hashstar.co.uk
