

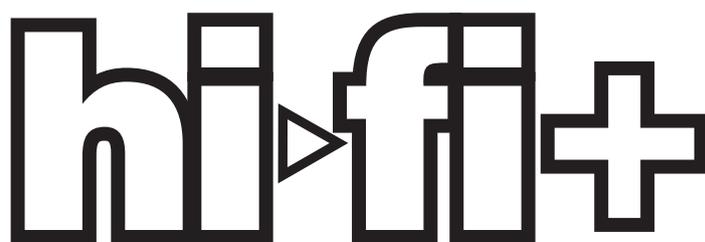
# FIRST LISTEN: CELSUS SOUND COMPANION ONE PORTABLE HEADPHONE AMP/USB & WI-FI DAC

by Chris Martens | Mar 02, 2015

Categories: Headphone amps and amp/DACs

Products: Celsus Sound Companion One

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experimenting with both products, off and on, as time in my Hi-Fi+ schedule permitted (“Time? What is this ‘time’ thing of which you speak?”)



Jason Wei-Min Lim is a veteran developer of high-end product lines and brands, with his most notable creation being NuForce—an electronics company that, in the past year, has been sold to the world-famous projector manufacturer Optoma. However, not being one content to rest upon past his accomplishments, Jason Lim has gone on to found not one, but two, new high-performance audio companies, one of which is Celsus Sound (the other is NuPrime).



***Companion One's leather travel case has room for the amp/DAC plus associated cables***



## ***The Celsus Companion One arrives***

I received my introduction to Celsus Sound at CES 2015 where Jason showed me, and provided demo samples of, the two first Celsus products, which are, respectively, the Celsus Gramo One reference quality ear bud, and the Celsus Companion One portable headphone amplifier/USB & Wi-Fi DAC (€ 649). I've been



***Companion One arrives with four special purpose adapter cables that make it very versatile indeed***

From the outset, several aspects of the Companion One struck me as being distinctive and noteworthy. First, as seems to be standard practice these days, the

Companion One's DAC section, which is based on the well-regarded ESS ES9018K2M DAC device, is capable of decoding virtually all standard and high-res PCM digital audio file formats at up to 32-bit/384kHz data rates and can also handle DXD files as well as DSD64 and DSD 128 files. These qualifications, though desirable, are not what sets the Companion One apart, but what is unusual is the fact that the Companion One ASIO-compatible USB DAC can interface with four—rather than the usual two—classes of devices and operating systems. Specifically, the Companion one can be used in:

**Mac environments,  
PC/Windows environments, and with  
iOS iDevices, and  
Android devices.**

Few other DACs are so versatile. Moreover, the Companion One ships with four adapter cables to facilitate these kinds of connectivity: USB A to USB Micro B (for connecting PC's and Macs to the Companion One and also usable as a power charging cord). Apple Lightning to USB Micro B (for connecting newer generation iDevices to the Companion One), Apple 30-pin connector to USB Micro B (for connecting older generation iDevices to the Companion One), and USB Micro B to USB Micro B (for connecting Android devices to the Companion One). From the above list, eagle-eyed readers will note that the Companion One is one of the first if not the first USB DAC to support direct-from-Lightning to USB connections, without requiring Apple's ubiquitous Camera Adapter cable. Pretty cool stuff, no?



**Companion One arrives with useful accessories and good documentation**

But wait, as the late night television ads often seen in the US might put it; there's more. Not only does the Companion One support USB connections to Window, Mac, iOS, and Android based platforms, but it also supports wireless Wi-Fi (not Bluetooth) connections to those platforms. In Wi-Fi Audio mode, the Companion One supports PCM playback only, at up to 24-bit/192kHz, which is impressive for a Wi-Fi device. In short, the Companion One can serve as a Wi-Fi streamer/DAC/amp. Now that's something you certainly don't see every day, and that I personally have never

seen packaged in a compact portable unit like this one before. My point is that the Companion One takes versatility to a new high point, which is surely a good thing.



**On the heel of the Companion One we find a USB power port (left) and USB data port (right)**

But the Companion One also offers a number of other 'intangibles' that make it even more appealing. For starters, the unit is beautiful, sleek, and very refined both to look at and to hold in one's hands. The unit occupies a footprint almost identical to that of an iPhone 6 (or perhaps 6 Plus), with a metal (perhaps aluminium?) perimeter frame finished in gunmetal grey and that is gently radiused and treated to an elegant, bead-blasted matte finish. The black front and back panels have what appear to be glass cover plates (like an iPhone screen would have), and the one on the front is translucent to allow users to control and status monitoring lights below. All in all, the Companion One feels less like a portable audio product and more like an extra-thick iPhone (or some other ergonomically-pleasing Apple-built device).



**The top of the Companion One sports a headphone jack (left, in this view), an analogue line-out jack (centre), and coaxial/optical S/PDIF jack (right). On the side of the unit we see the Audio Mode switch (nearest the top), the Connect Mode switch (centre), and High/Low Gain switch (right, in this view).**

I/O ports and control buttons are simple and effective, yet surprisingly comprehensive. On the heel of the unit one

finds two Micro USB ports—one for power charging and the other the USB digital audio signals. On the left side of the unit are three buttons:

A High/Low Gain switch (to select between High and Low gain as required for one's transducers of choice),  
An Audio Mode switch (to toggle between Wi-Fi Audio and USB Audio modes), and  
A multifunction Connect Mode switch (when the Companion One is run in Wi-Fi Audio mode, the Connect Mode switch toggles between AP Connect mode and Client mode; when in USB mode, the Connect Mode switch toggles between HS or High Speed—480Mbps—and FS or Full Speed—12Mbps—operation).



***On the right side of the Companion One (facing the camera in this view) we see the On/Off switch (left, in this view), the Up/Down Volume controls (right, in this view), and the tiny recessed Gain indicator lamp nestled between the Volume buttons.***



***The Companion One plays music from a current-generation iPad Air 2. Note the direct Apple Lightning-to-USB connection.***

On the right side of the unit are three more buttons:  
An On/Off switch that can, when pressed very briefly, serve double-duty as a battery status check switch, and  
A pair of Volume Up/Down switches.

In between the Volume switches is a tiny pilot light that indicates when High gain mode is enabled.

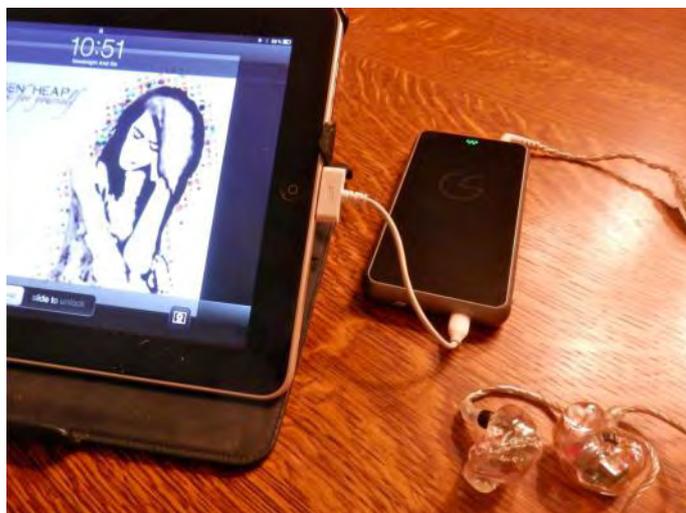
Finally, up top we find three more of the Companion One's I/O ports:

A Optical/Coaxial S/PDIF Output,  
An analogue Line Output, and  
A 3.5mm Headphone Output.

Last but not least, the Companion One's glass top plate partially illuminates from the rear when the unit is switched on, with a row of four blue LEDs serving as both a pilot light and as battery status indicators, and a multicolour LED Signal Symbol that indicates the chosen playback status mode.

What's difficult to convey in words is the polished and refined look and feel of the Companion One (it really is so well designed that it seems as if it's missing an Apple logo), not to mention the reassuring heft of the unit in hand, which provides a constant tactile reminder that this is a serious piece of kit and not a mere toy.

***The Companion One plays music directly from a***



***first-generation iPad. Note the Apple 30-pin-to-USB adapter cable.***

Happily, the sound of the unit for the most part fully keeps pace with its outward appearance. Frequency response is quoted at 20Hz – 20kHz, +0.05dB/-0.5dB, with a signal to noise ratio of -115dB and rated distortion plus noise of <0.001%. Specifications, of course, rarely tell the whole story, though for some listeners it will be reassuring to know the Celsus claims to measure very well.

I'll save most of my sonic comments for a possible later review in Hi-Fi+, but I will share some first impressions.

First, I found that the Celsus, more so than many devices I have heard based on the same ESS DAC, has a pleasingly naturally and one might almost say 'organic' sound. By this I mean that transient sounds and low level details are rendered clearly and with excellent purity, but without any unnatural spotlighted, artificial layers of 'crispness' (which should probably be spelt 'crisssssspnessss'), or apparent overshoot or

exaggeration. Mids are quite open sounding with a



***The Companion One plays digital audio files directly from an Android device (the author's Samsung Galaxy S5), via a Micro USB-to-Micro USB adapter cable.***

relaxed and effortless character that never lapses into an overly soft or diffuse sounding presentation. Finally, bass is astonishingly powerful, deep, and beautifully weighted—something that cannot always be said of many otherwise excellent portable units.



***The Companion One shown playing a DSD file from the author's Lenovo/Windows/JRiver-based music server.***

On paper, the Companion One is only moderately powerful (producing 160mW @ 32 Ohms or 28mW @ 300 Ohms), yet in practice it does a fine job with headphones of medium to high sensitivity (e.g., the HiFiMAN HE-400i) and even does a fairly respectable job of driving the decidedly power-hungry HiFiMAN HE-560. The Companion One is also, with its Low gain setting engaged, more than quiet enough to use with very high-sensitivity CIEMs (e.g., the JH Audio Roxanne).



***The Companion One shown playing a very high-res DXD music file from the author's Lenovo-based music server.***

Celsus Sound's Companion One strikes me as being an auspicious debut product for Jason Wei-Min Lim's new company—one that I hope will find acceptance in the North America, Europe, the UK, and beyond. As of the last time I spoke with Mr. Lim, Celsus had not yet arranged UK distribution, but with any luck that situation will shortly be put right so that UK listeners can hear this little gem for themselves.

Happy Listening!