

Go anywhere with AudioQuest's DragonFly Black

October 2015, LAX. I was on my way from somewhere to somewhere else. Destinations remain a long way off mentally and physically when you're between hemispheres; I took a stool up at the only bar I could find still serving drinks at 9pm. The last vestiges of sunlight had only just vanished. As had the microUSB cable required to recharge my Astell&Kern AK120 II. On it sat Brian Eno's *Ambient 1: Music For Airports*, the very album I'd wanted to hear in order to soothe an inbound headache. No mind, my Macbook Air would join a glass of IPA on the bar and I'd get my Eno fix courtesy of the airport's Wifi service and Spotify.

Sealed in behind a pair of Beyerdynamic AK5Tp, I began to relax, to forget the fourteen hour flight ahead of me and Eno's aural wallpaper. Brain pain subsiding, I punched in something a little more engaging – Giant Giant Sand's *Tucson* – when came a tap on the shoulder.

"What's *THAT?*", asked Doug.

Doug was the thirty-something pharmaceutical salesman from Boston who had taken the seat next to mine at the end of the bar. We were one end of a line of ten or so anonymous travellers doing transit time in Los Angeles. His poison? A Macbook, a pair of B&W headphones and a double Johnnie Walker. The difference between Doug's music setup and mine? AudioQuest's DragonFly (the 1.2 version) protruding from the left-hand USB port. The dongle had caught Doug's attention.

"Is that a USB drive?", pressed my new neighbour. I didn't want to get into the technical skinny of the DragonFly v1.2's ESS 9023 DAC or that its analogue volume control was controlled by digital markers sent by the host device. Or that its TI TAS1020B USB receiver chip hosted Gordon Rankin's Streamlength™ code. No – that'd sound like a load of blah-blah-blah to an already sleep-deprived fella. Besides, Doug had another week on the road before heading home to his wife and two kids.



"It looks like one doesn't it? But it's actually a DAC/amplifier that makes your headphones sound waaay better than when plugged directly into your computer's headphone socket". Did Doug wanna try the DragonFly for himself with his own music? You bet he did.

I left him to listen as I slugged it with my Air's own 3.5mm headphone socket. A second beer helped me swallow the Apple device's flatter dynamics and congealed, airless layering for the fifteen minutes or so Doug spent grinning back at me from behind his B&Ws. Occasionally he'd mutter something incomprehensible and nod his head in time with a beat that I couldn't hear.

Doug wasn't just humouring me. He actually did hear an improvement. *"Man, that thing's pretty neat, huh?"*, he said, pulling his headphone back around his neck. *"It makes everything seem...clearer"*, he continued. Damn straight it does, Doug.

My attempt to move the conversation into audiophile territory faltered. *"Do you listen to hi-res music at all? The DragonFly you just tried does all the way up to 24bit/96kHz,"* asked I. *"You mean like Tidal?"*, came the reply.

Doug didn't do downloads and he hadn't purchased a CD since his local Sam Goody closed up ten years ago. *"Dude, I'm into streaming, big time"*. Spotify and Soundcloud were his two go to apps.

I share Doug's enthusiasm for streaming services and their associated apps, especially on portable devices. They are the one reason why, two months later, I benched my Astell&Kern player in favour of a Sony NW-ZX2 Walkman, onto which I installed Tidal, Spotify, Soundcloud, Mixcloud and Pandora apps from the Google Play Store. These would serve as streaming supplements to FLAC files loaded onto a microSD card and inserted into the Sony's behind.



However, the primary reason in moving from South Korean to Japanese DAP was because of a more practical matter: much longer battery life. The Sony pulls in excess of thirty hours from a full charge whilst the AK120 II struggles to tip ten.

Why don't I just use a smartphone on long-haul flights? Why carry a second device? Easy: improved sound quality. The iPhone 6S Plus sounds good but the Sony device sounds better, especially when driving highly sensitive custom IEMs from Noble Audio and Fitear.

Back at the airport. *"Yo, can I use this DragonFly thing with my iPhone?"*. Doug worked out three times a week at his local gym. Tapping his B&W neck brace, *"I don't use these though."* He had some 'killer' IEMs whose make and model escaped him but apparently sounded "amazing". Sadly not.

I tried and failed to get the AudioQuest dongle DAC to play nice with an iPod Touch using a Camera Connection Kit when [I reviewed it some eighteen months ago](#) – no dice. The DragonFly v1.2 demanded more power than the iPod was prepared to give. Connect anything that sucks more than 100mA to ANY Apple iPad/iPod or iPhone and watch it get cut off with a suitably curt error message. The DragonFly v1.2 did work with a Samsung Galaxy S5 smartphone but sucked on its battery with an unacceptable thirst. DragonFly connects with OTG cable, the smartphone would go black after thirty minutes.

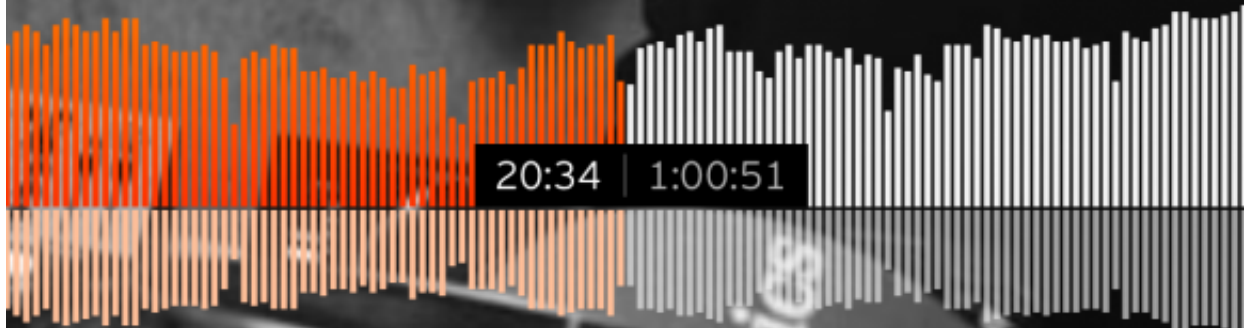
Doug looked a little disappointed at this news. Even more so when I informed him of the DragonFly's street price: US\$149.

"Ouch!" was his one and only response.



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Like many average guys, Doug seemed to have adopted the mindset of tech mags like Gizmodo and Tech Crunch: that a smartphone selling for over a grand was perfectly acceptable. Ditto a TV for the same money. But \$300 for a pair of nice headphones was seriously pushing it. Over US\$100 for something that, to them, offered questionable benefits was downright bonkers. Such is the disconnect between the audiophile niche and the rest of the world.

However, did the DragonFly v1.2's pricing not position it as a crossover product for the more curious mainstreamers living outside of the audiophile bubble? Better sound starts with a headphone upgrade. Headphones are the heart of a portable audio system. But a heart will work more effectively for the rest of the body when properly oxygenated by the lungs. Think of the AudioQuest DragonFly DAC/amp as a triathlon-fit pair of lungs. At least, that's how I tried to sell the DAC/amp concept to Doug. He was a gym go-er.

Alas, Doug appeared unmoved. In his world, the DragonFly's price was too high and, more importantly for this Bostonian, it wouldn't play ball with his iPhone. If it did, he'd enjoy all that the AudioQuest dongle had to offer whilst listening to Churches via Spotify during his MBTA-train ride to work and to deadmau5 via Soundcloud later at the gym as a soundtrack to pumping iron.

For Doug, the DragonFly v1.2 was close but no cigar.

April 2016. Six months later and I've been thinking about Doug again.

Shipping this week, AudioQuest's brand new DragonFly Black takes the template set by the original to the next level. The newbie still looks like a thumb drive, still measures 12mm x 19mm x 62mm, still has a soft-touch finish applied to its zinc alloy shell, still has a protective endcap and still ships with a leatherette carry-pouch.

Visually separating the v1.2 and the Black is the latter's gold lettering on top, carried over to the back panel that reads "*DragonFly – Black v1.5*". That's also how the Black identifies itself to OS X's sound preferences pane.

Doug might not care to learn that the Black's DAC chip is ESS' newer 32-bit 9010 and that it runs in tandem with a minimum phase filter. Nor that this new version's volume control works in a similar fashion to that of its forerunner: digital markers sent from the host device attenuate the Black's internal analogue control.



CES 2016: AudioQuest's Steve Silberman and Gordon Rankin launch DragonFly Black, Red.

Similarly, Doug might not flinch when he learns of the Black's slightly lower power output: 1.2V — 0.6V lower than the v1.2's output.

It's a change that direct experience tells me matters not a jot to the aforementioned Beyerdynamic over-ears or custom IEMs from Noble Audio. Ditto Fitear's Air CIEM whose exceptional dynamics sound just as arresting as they do with the older model.

Even the harder-to-drive 3rd generation Fostex T50RP don't seem to trouble the new fella's muscle any. With quieter source material, robust SPLs are on a Macbook Air once OS X's volume control tips 80%. That spells headroom a-plenty.

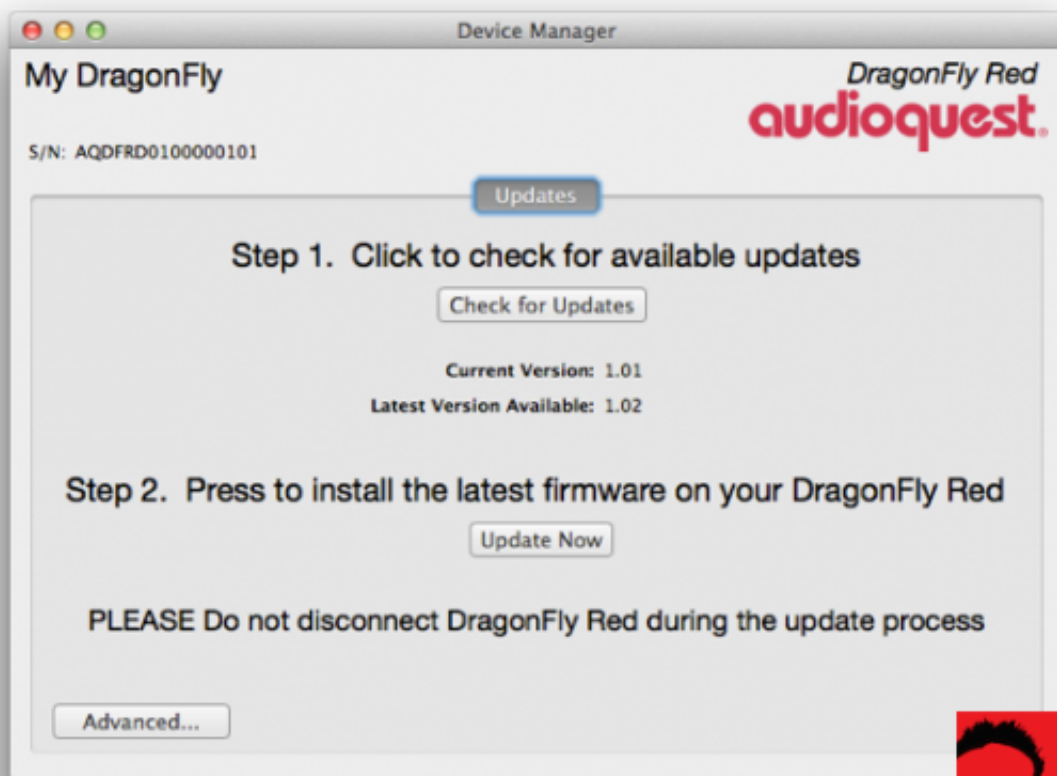
Doug might also shrug his shoulders when told that Gordon Rankin was once again sequestered for his USB Streamlength™ code, completely rewritten for the Microchip controller and netting *"smoother"* sound according to its developer. *"The cool thing is we have 32K of buffer space in those suckers which is 21x that of what we had in the TAS1020B used in DF 1.2,"* Rankin said.

'Those suckers'? Rankin is talking about DragonFly Black's all-new USB receiver chip. The MX270 from Microchip features linear (and not switching) on-board power supplies. According to DragonFly co-developer Steve Silberman, this translates to a low, sample-rate independent noise profile. You can watch Silberman explain this (and more), in layman's terms, to a Japanese audience [here](#). Alternatively, watch Rankin and Silberman launch DragonFly Black (and Red) at CES 2016 [here](#).

With the MX270 being a *"full-speed isochronous USB audio solution"*, DragonFly Black

can still decode PCM all the way up to 24bit/96kHz, just like the v1.2. The Black isn't for those whom 24bit/192kHz and DSD remains a major concern but it's more than enough for our friend from Boston whose everyday listening centres on streaming services.

It's also more than enough for this audiophile. Restricted by a comparatively skinnier library of hi-res material, my daily bread and butter remains resolutely Redbook – CD rips and Tidal – with only the very occasional toe dipped into 24bit/96kHz waters. 24bit/192kHz? Once in a blue moon, mate.



Of greater interest to Doug might be a feature new to DragonFly Black (and Red). Its firmware is upgradeable. Download the OS X or Windows app from AudioQuest's website and apply updates as and when they become available. The new fella is future-proofed in a way that that v1.2 isn't. Neat.

Then comes one of two sucker punches. The first, a price drop of fifty sheets. DragonFly Black goes on sale for US\$99.

Doug – are you getting this, man?

Talking of which: the Black sounds noticeably better than the v1.2. When AudioQuest claim Black delivers "more music texture and detail" they are aren't lying. The new model is more tonally satisfying too.

In this reviewer's experience, the most rewarding digital front ends connote a greater sense of effortlessness. They don't put you on the edge of your seat but instead allow you to sink back into the chair. And that's precisely how I would describe DragonFly Black as compared to its predecessor. It's less forthright sounding, preferring a more softly-softly approach in making itself heard.

In other words, you, me and Doug get more and for less.

I could lift the parking brake on this review right here and still feel satisfied that the AudioQuest DragonFly Black had justified DAR-KO Award status. It's a knockout already.



Keeping us from getting up from the mat any time soon is the final bell ring: iPhone and Android phone compatibility.

As well as being low noise, the Microchip USB receiver chip draws minimal power. How minimal? According to Gordon Rankin, the host device is asked to supply 4-5mA when driving a pair of AudioQuest's own NightHawk headphones. At a mere one twentieth of iOS's 100mA current draw limit one can run the Black, coupled to an iPhone with Apple's CCK, all day and all night and not run out of go juice.

This chimes with my own daily experiences since being handed the review unit. The

Black barely dents the longevity of an iPhone 6S Plus' battery. We don't get something for nothing – obviously – but the Apple smartphone seems to carry on as if the AudioQuest dongle is but a pin prick to the ankle.

The iPhone 6S Plus is certainly no slouch on audio performance but it's bested when ones and zeroes are converted – and the resulting analogue signal amplified – by the Black. Superior layer separation, greater transparency and, once again, a more relaxed vibe.

The pay-off is better sound quality for Tidal, Pandora, Spotify and Soundcloud, at the gym or on the train but...and this is important...without the need to accommodate a strap-on brick. The DragonFly behaves more like an inline solution; it can be dangled outside of one's pocket. Think DIY Audeze Cipher cable but for a much broader range of headphones.

Hello Doug. Come in, Doug.

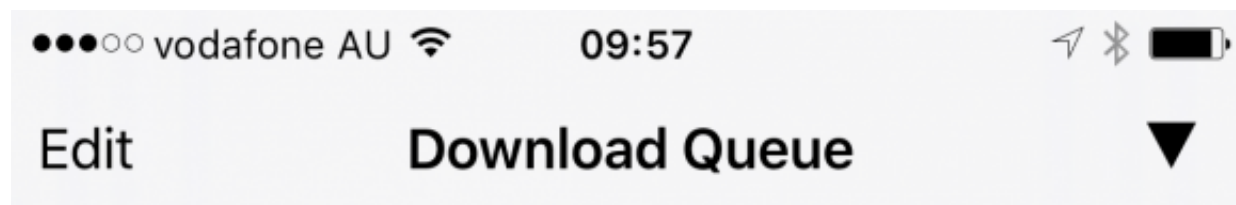
Bringing it back to where we came in, an AudioQuest Black + iPhone easily outplays the battery life of Astell&Kern's AK120 II (US\$1699), aces it on streaming service integration and – get this – outclasses it on clarity and spatial ambience with lossless Redbook material. The AK120 II has the warmer, thicker bass but some listeners might prefer AudioQuest's greater refinement and overall transparency.

For the sake of argument, let's close the AK120 II vs DragonFly Black as too close to call; a matter of personal taste. Now consider this: a 16Gb iPod Touch sells for US\$199. Add CCK (US\$29) and DragonFly Black (US\$99) and you've a proper portable solution that rivals the Astell&Kern but for US\$328 – one fifth of the South Korean unit's asking.

With the iPhone/iPod + DragonFly Black confirmed as genuine DAP rival, low-impedance custom IEM users should pay strict attention to the DragonFly's output impedance of 0.065 Ohms. Compare that with the AK120 II's higher 2 Ohm rating. Its 2.5mm balanced socket is rated at 1 Ohm.

Does Doug run balanced headphones? Nope.

Want hi-res compatibility? On the A&K, a microSD card socket makes content loading easier than Apple's app-based workarounds. The iPhone demands use of Onkyo's HF Player for anything above 16bit/48kHz. And if you're not willing to convert your FLAC to ALAC, you'll need FLAC Player, which has come a long way recently and now permits file loading over Wifi.



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Downloads

Android users have it far easier here. Many models come with microSD card slots as part of their feature set. Failing that, drag and drop file loading over USB is a cinch,

even for FLAC files, hi-res or Redbook.

However, 'Droiders should confirm the USB audio compatibility of their device before plonking down their cash on a Black. In my experience, Samsung Galaxys are happy to dispatch audio binary over USB but the Google Nexus 5 doesn't without CynaogenMod intervention. (Google is your helper here). Alternatively, [USB Audio Player PRO](#) will ensure USB audio flows on almost ANY Android device.

Connecting DragonFly Black to an Android phone is an OTG cable. Buy one from eBay or wait for AudioQuest's own, reportedly "coming soon".

Audiofolk looking to maximise SQ on the go are accustomed to the need for a second device. AudioQuest's DragonFly Black seriously undermines the status quo.

What need for Astell&Kern (or similar) when a smartphone appended with DragonFly Black sounds just as good AND throws compatibility with each and every streaming service into the bargain AND has the superior UI?

Android-based DAPs that offer access to the Google Play Store redress the UI/app balance somewhat but they're priced considerably higher than a DragonFly Black DAC and they're still a second device.

AudioQuest seem fully cognisant of the truth that looms beyond audiophile walls: that a portable audio solution built around one's smartphone is sure to win over more mainstreamers than a second, fully formed brick. So profound are the implications here that it's easy to forget that the Black operates as a standard USB DAC for Mac or PC.

At US\$99 the DragonFly Black is quite possibly the sharpest high street audio bargain available right now. It's the quintessential everyman hifi product.

If you see Doug, tell him.

Hold on to your headphones though – DragonFly Red coverage ~~comes next~~ hits your eyeballs from [here](#).



Further information: [AudioQuest](#)