

## DAC Reviews

**Device Type:** USB Digital to Analog Converter

**Input:** USB

**Output:** Single-Ended RCA, Balanced XLR

**Dimensions (W x H x D):** 8-½" x 11-½" x 3"

**Weight:** 5 pounds

**Availability:** through Authorized Dealers

**Price:** \$3,250.00

**Website:** [www.ayre.com](http://www.ayre.com)



### The QB-9 Upgrade

Ayre's original 24/96-capable QB-9 DAC caused quite a stir when it hit the market back in 2009 winning Stereophile's Product of the Year award. Wes Phillips of Stereophile sang its praises (see [review](#)) then, and Art Dudley followed up by adding his own thoughts to the upgraded 24/192 version in 2011 (see [review](#)). While that upgrade did not merit a name change, the new QB-9 DSD did with the addition of single rate DSD play back (DSD 128 capability and 24/384 are in the works). As is Ayre's way, owners of older 24/192-capable QB-9s can have theirs upgraded to DSD status for \$500. But that's not the entire story. During the upgrade re-engineering phase, Charles Hansen, Ayre's founder and Designer, also made some changes to the QB-9 DSD that affects the sound of PCM playback and I sure am happy he did.

I asked Charlie Hansen to provide some details on the changes that went into the QB-9 DSD:

1. *Changing the DAC chip from the Burr-Brown DSD1796 to the ES9016S.*
2. *Replacing the audio master clocks with low-phase-noise modules running at twice the frequency of the previous ones, which allow the ESS DAC chip to perform at a higher level.*
3. *Changes to the analog audio circuitry and its power supply that improve the audio performance.*
4. *Addition of an AC line powered supply for the USB circuitry. This provides for uniformly superior performance, regardless of the quality of the USB Vbus power supplied by the computer.*
5. *The ability of the USB Audio input to accept and decode native DSD files from computer sources.*

*The US retail price for the QB-9 DSD will increase by \$500, from \$2,750 to \$3,250. Units equipped with the 192 kHz USB input PCB will be upgraded for the price difference between the old and new versions (\$500) in the US. Older units will be updated for \$750 (in the US). Due to the various taxes, duties, VAT's, labor costs, et cetera, individual importers set the price for the upgrades in their own countries.*

Like the earlier versions, the QB-9 DSD utilizes Gordon Rankin's Streamlength Asynchronous USB technology which puts the QB-9 in control of the flow of data from the computer which, in theory and according to John Atkinson's measurements of the QB-9 (see [Measurements](#)), also does a good job of reducing system induced jitter. D to A conversion is now handled by the ESS 9016S DAC which was chosen in part because it allowed Ayre to implement their own FPGA-based minimum phase digital filter (see Ayre's [White Paper](#) for more info). The QB-9 also employs single-pass 16x oversampling for PCM data.



There are two AyreLink ports for connecting and controlling multiple Ayre devices with one remote but for audio input, USB is your only option. On the output side, there are both single ended RCA and balanced XLR pairs and finishing off the rear panel we have the IEC inlet for the included power cord and an opening in the Ayre's aluminum chassis to provide access to a series of toggle switches. Traveling from left to right we have one set labeled "Listen" and "Measure". According to Ayre, "The digital filter of the Ayre QB-9 DSD features two user-selectable algorithms. A selector switch is located on the rear panel. One algorithm produces greater accuracy in the time domain and is labeled 'Listen'. The other algorithm produces greater accuracy in the frequency domain and is labeled 'Measure'".



Next is "Power" "A" and "B" where the QB-9 DSD will turn on if the connected computer is on, or it will turn on when your music player app plays music. There is no on/off switch on the QB-9 DSD. The "Display" toggle turns the front panel display on or off, and finally the "Rsrv" A/B switch is for manually setting the USB mode to either 1.1 or 2.0. The new DSD models will auto-detect your USB connection type. The QB-9 DSD's spartan front panel sports the Ayre logo and a blue LED display that shows the incoming sample rate. I appreciate the Ayre's smooth and simple understated good looks.

Once you've connected your QB-9 DSD to your server with your favorite USB cable and plugged it in, if you use a Mac you are pretty much good to go with Pure Music or Audirvana + as your music player. Just select the Ayre DAC and make sure DoP is selected, or in Audirvana's case auto-detection works as well. PC users need to download and install the Ayre Windows drivers and setup your music player software accordingly. I mainly used the QB-9 DSD with my MacBook Pro and the Light Harmonic Lightspeed USB cable on one end while the other was connected to my Pass INT-30A via Kimber Kable Select KS 1126 Balanced XLRs. I listened in "Listen" mode.

### **The Sound of One Ayre Clapping**

Some products that come through AudioStream central almost feel like they come with a review pre-written. What I mean is, you connect them up, power them on, hit Play and you are presented with sonic characteristics which are so clearly and easily heard, the hardest part of your job becomes adequately conveying what you are hearing in words. The Ayre QB-9 DSD presents as solid and stable a musical image as I've heard. This holds for PCM and DSD playback and this is a rare occurrence in my experience. DSD has an almost uncanny ability to present a dimensional sound image that PCM rarely matches. This dimensional quality translates into a natural sense of the space of the recording within your room as compared to a flatter, less lifelike musical cutout.

In my experience, very few DACs convey this same sense of sonic roundness with PCM data. The Chord DACs do to some extent, the totaldac did, as well as a few others all costing considerably more than the Ayre QB-9 DSD. While this obviously isn't the only thing to talk about with the QB-9 DSD, it is to my ears what truly sets it apart. Sounds ring out true from a distinct place and they stay put making it very easy to feel the physical presence of the performers, in situ. In freakin' room.

The Ayre also conveys a very rich and natural sense of tone colors. Attack and decay are portrayed in a natural way as well. If we compare the Ayre to the Auralic Vega (see [review](#)), there are many sonic similarities and the differences between them are subtle. While the Vega offers up an appealing and brightly polished sound image, the Ayre is a bit more physical, its sound has more apparent body. The Vega adds more air and sparkle. With DSD, the Vega sounds a bit more more lit up, its nearly technicolor whereas the Ayre paints both PCM and DSD in a similar light which is to say solid, stable, weighty, and very well formed. In terms of preference, I could really go either way. The Vega's higher cost buys you additional digital inputs and preamp functionality so this may be more of a differentiating factor than their respective sound.



### **Ayre v Ayre**

Ayre was kind enough to send me a QB-9 for comparison purposes and I'm certain most if not all QB-9 owners are curious about the differences between it and the DSD-version beyond the DSD bit. The most striking difference between to two Ayre's gets me back to where I started which is the QB-9 DSD's solid and stable sound image. Compared to the older QB-9, everything comes into clearer and more distinct focus while also sounding more fully formed. In a word the QB-9 DSD sounds more natural. I would say that the QB-9 DSD also sounds richer in comparison as if the music is more fleshed out. By comparison, the older QB-9 sounds a tad flatter and aggressive at times whereas the QB-9 DSD has smoothed things out and filled them in. These differences are not subtle to my ears and I easily preferred the QB-9 DSD to the older QB-9 in every respect. I had to force myself to go back to the QB-9, which is itself a very fine-sounding DAC, as the QB-9 DSD was more enjoyable, more engaging.



### The QB-9 DSD

What about DSD? Isn't that *the* story here [[footnote 1](#)]? Yes and no. While DSD sounded just lovely through the QB-9 DSD, so does PCM with the gap between the two varying more depending on the recording rather than the file format. I think the real story with the QB-9 DSD is how Ayre has taken an already very good sounding DAC, added more weight, body, and color along with what I'll call DSD's dimensional quality to come up with one musically satisfying DAC no matter what you play through it. Now that's what I call an upgrade.

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Footnote 1. Ayre's Charles Hansen has been fairly outspoken about his feelings towards DSD which are safe to summarize as being not only not too hot, but cold. For more, see [Ayre's DSD and PCM Comparison](#).

### Associated Equipment

Also on hand and in use during the Ayre QB-9 DSD review; Ayre QB-9, Auralic Vega