Ayre Acoustics Codex headphone amp / DAC / preamp – a review

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Introduction

Ayre Acoustics is one of those companies in the hi-fi audio world that really needs no introduction yet it seems they've been curiously absent from the head-fi scene. The QB-9 USB-based DAC was a forward-thinking foray into computer-based audio, but since then it's been mostly radio silence on anything headphone-related, that is until their recent collaboration with Neil Young on the Pono. That particular pairing is what brings us to the Codex. This diminutive black box marries Ayre's expertise in full-size audio electronics with their knowledge gained from designing the innards of the Pono to give us a flexible piece of kit that can serve as a headphone amp, DAC, and preamp.

Description

The Codex eschews the audiophile preoccupation with fancy casework, all presumably to keep costs down in order to focus more resources on what matters most – the electronics. At the heart of the Codex is the same fully balanced, zero feedback diamond topology found in Ayre's top-line 'R Series' and the more mainstream '5 series' integrated amp and separates. Volume control is handled in the digital domain without any loss of resolution. The DAC section can handle PCM data up to 24-bit / 384 kHz as well as DSD64 and DSD128. The wizards at Ayre even managed to fit a linear power supply in the chassis. Nice.

The front panel is slightly longer than the rear which gives the entire casing a gentle upward slope. From top to bottom on the front faceplate is a red multi-segmented LED display window, a multi-function knob for volume control and menu navigation, a red LED to indicate balanced mode, two 3.5 mm headphone jacks, and a single 1/4 inch headphone socket at the bottom. The rear has both single-ended and balanced analog output as well as inputs for USB (full size type B) or optical connections. A small power rocker switch turns everything on or off. A USB cable and power cord are included.

A possibly frustrating quirk is that the 3.5 mm output jacks are recessed about 1/8″ from the surface of the front panel within the center of a circle about 1/2″ in diameter. This may cause some plugs with oversized barrels to either not make full contact with the jack or prevent both jacks from being used at the same time.

Use

There are some operational intricacies to be aware of. When both 3.5 mm outputs are connected, the LED display flashes 'Bal' for balanced mode. If the knob is rotated once, then 'Shr' flashes on the display to indicate single-ended shared listening mode. A press of the knob activates the selected mode. If the balanced option was activated, the red LED below the volume knob will light up. However, if a headphone is connected to the 1/4″ output, then balanced operation is not possible, regardless of whether both 3.5 mm outputs are connected. Plugging in headphones into any jack will also automatically enable the volume control, even if the Codex is in standalone DAC mode. Note that the manual contains several reminders to never connect the balanced analog outputs on the rear panel to single-ended equipment or damage to the Codex will result.

Entering into the setup menu requires one to push and hold down the volume knob until the LED display starts flashing. Rotating the knob scrolls through all the menu options while a single short press of the knob selects the current option.

One word of caution – the case gets fairly hot after you've been using it to drive headphones, but curiously not so much when running in DAC mode. It's not like grabbing a cast iron pan off a hot stove without a mitt kind of hot, but it can get uncomfortable if held in the hand for any period of time. (Not sure why you'd want to do that

though.) A plus is that the volume knob doesn't seem to heat up a la *Home Alone* like the Schiit amps I've encountered.

Listening

I first listened to the Codex with my Sennheiser HD 600's wired for balanced drive with SurfCables' robust P-01A (20 AWG version), using my laptop as a source and connected via USB. The sound was incredibly smooth yet detailed, warm, and natural. The Codex seemed to extract more information from Red book standard data than I thought possible. A good example was the final movement from Rachmaninoff's Second Piano Concerto as performed by Earl Wild and the Royal Philharmonic Orchestra (Chesky, CD 2). Piano had no trace of overhang or clanginess. Rather, it possessed a solidity to the sound that came in the form of more tone from the instrument. This wasn't artificial bloom either – it was clean, pure tone that gave each note a lifelike quality. This didn't intrude one iota on microdynamics – the Codex allowed me to easily follow the flurry of inner notes rising and falling with Wild's expressive touch on the keyboard. Massed strings were reproduced with a remarkable ease that reminded me of live performance. Coltrane's sax on "I'm Old Fashioned" from *Blue Train* (Blue Note, 53428) had a lovely, burnished glow that didn't mask the inner detail of the brass nor his subtle tonal inflections. Once again piano sounded delectable – Kenny Drew's solo reproduced with just the right amount of tone and touch. The Codex seemed to just let the music flow from the headphones.

The Codex's pure midrange also served it well on more modern fare. Vocals in particular were rendered with clarity and realism. On "1234" from the album *The Reminder*, Feist's voice sounded corporeal and immediate. Snare drums had good body as well as impact. Even hand claps sounded more realistic – I could distinctly hear the tone of two fleshy palms being suddenly slapped together instead of just a sharp transient. The Codex also brought this level of realism to The National's performance on "Bloodbuzz Ohio" from *High Violet* (4AD, CAD 3X49 CD). The bass line had fine texture and weight. Berninger's voice projected out over the mix, full-bodied and communicating abject forlorn. Cymbals had a brassy sheen to them instead of a tizzy sizzle. I was intrigued to find out how it would handle Florence + the Machine. I love the music, but I find most of her albums bright sounding which on poor systems results in an aural sensation not unlike that of fingernails being dragged across a chalkboard. The Codex sailed through with flying colors. It portrayed Florence Welch's vocals on "Ship to Wreck" from *How Big, How Blue, How Beautiful* (Republic, B0023122-02) with such composure and grace that I couldn't help but smile. Pipe organ on "Shake It Out" from *Ceremonials* (Republic, B0016297-02) was steeped in sonorous harmonic texture. Each performer seemed to be delicately layered within the track.

The Codex was no slouch in single-ended mode either. Listening with the HD 600 in its stock form and the Etymotic ER-4S in-ear monitors still yielded an exceptionally emotionally engaging, organic presentation. There remained a distinct sense that real, live human beings were performing instead of reasonable facsimiles. Perhaps there was a slight loss in clarity, but I wouldn't run too far with that statement.

Ayre vs. Ayre

Since the Codex can also function as a standalone DAC, I was curious how it would stack up against a more specialized machine – in this case Ayre's own (discontinued) C-5xeMP universal stereo disc player. I disconnected the balanced interconnects from the C-5xeMP and snapped it into the rear of the Codex. I played a few tracks from the laptop to make sure everything was working properly. Then I cued up "I'm Old Fashioned" for a little cage match. In terms of tonality, the Codex didn't disappoint – it remained warm, relaxed, and wholly inviting. However, next to the C-5xeMP's more vibrant personality, I felt the Codex gave up just a smidge in the resolution department. It also didn't throw as wide or deep a soundstage as the disc spinner. My only caveat here is that my time with the Codex at this point was nearing the end, so I didn't get to explore this facet of performance as completely as I wanted to. I'd say it's a good excuse to get some more time with the Codex in my system.

Unfortunately, my system setup also precluded me from experimenting with the preamp function. (My current integrated amp doesn't have a separate power amp input section.)

Ayre vs. Schiit

(Note, this section was added after the original review was published to add some more perspective. Plus, I like to use the word 'Schiit'.)

I don't personally own any gear from Schiit, but I have heard their products several times at Head-Fi meets. Although a direct comparison against a competitively priced Schiit stack (Mjolnir 2 + Gungnir Multibit) is currently out of the question, I will, somewhat hesitantly, offer up some general impressions of how I think the Codex fares. My most recent encounter with Schiit was a few days ago from the time of this writing at a Head-Fi meet with two separate systems – HE1000 + Ragnarok + Yggdrasil and HD 600 + Valhalla 2 + Bifrost Multibit. I found the Schiit house sound to be quite neutral and revealing, which reminded me of how Bryston voices their products. Though I can certainly appreciate this sort of presentation, I find it somewhat emotionally distant. The Codex, by contrast uses a warmer tonal palette. I also found the Codex to have a unique quality about its midrange that imparted an uncanny realism to performances that captured my attention completely. To use an audiophile cliche, there was more *there* there. Though I know great debates rage on about circuit topologies and DAC architectures, I find that the proof is in the listening. In my mind, I think the Codex can compete quite favorably, even with Schiit's top of the line.

Conclusions

The Codex may not be the most flashy piece of gear to grace a desktop, but it truly delivers the goods where it counts. It's almost as if they shrunk an AX-5 Twenty to power headphones. That's a phenomenal sonic and technical achievement and all the more impressive since its siblings tend to cost at least an order of magnitude more. In a world where some hi-fi components do an excellent job at reproducing sound, I feel that the Ayre Codex is built to *make music* and deserves a place at the top of anyone's shortlist. Very highly recommended.

Associated Equipment

Headphones – Etymotic ER-4S, NAD Viso HP50, Sennheiser HD 600

Loudspeakers – Vandersteen 3A Signature

Amplification – Ayre AX-5 Twenty, Meridian Explorer 2

Sources – Ayre C-5xeMP, Meridian Explorer 2

Cabling – Analysis Plus – Solo Crystal Oval 8 speaker cables; Pro Oval Studio balanced and Copper Oval-In single-ended interconnects; Pro Power Oval, Power Oval 2, and Power Oval 10 power cords, SurfCables – P-01A balanced cables for Pono (20 AWG)

Power – Bryston BIT-15, AudioQuest JitterBug