

audio ideas guide

Bryston BCD-1 CD Player

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Sugg. Retail: US \$2500

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Well folks, here it is, the first digital player from Bryston, a product whose timing and CD-only playback capability speak volumes about the state of high end audio.

If you had suggested to most audiophiles in 2000, about the time that SACD and DVD-Audio were digital newborns, that in late 2007 a Redbook only CD player from Bryston would be introduced, coinciding with the CD's 25th birthday, most would have thought you'd inhaled a little too much solder smoke. Surely by then, format war or not, the CD would be on its deathbed, coughing and sputtering its last 44.1 kHz breaths as we basked in the sonic glory of a more *perfect sounding* format, whether it was *forever* or just a product cycle or two until something even more perfect came down the pike. To release a dedicated, high-end CD player in the year 2007 would only be an act of anachronistic folly.

Well, as it turns out, no it wouldn't.

I believe it was Bob Stuart, the man behind Meridian, and one of the planet's leading digital audio engineers, who, when asked who won the format war between SACD and DVD-A said simply: "MP3". A little glib, perhaps, but absolutely right. While SACD may have ostensibly won the battle against DVD-Audio in the tiny, ghettoized niche that is high-resolution consumer audio formats, it's a hollow victory. The war is lost.

A quick check of www.sa-cd.net shows over 4000 total SACD titles. Sounds pretty promising, right? Well, look a little closer and you'll see that more and half

of these are classical, which is great if you listen to nothing but classical music, but less useful for those with wider ranging tastes. Sort by jazz and then rock/pop and the pickins' get increasingly thin. There are only 500 odd rock/pop discs available, and, as with all the categories, only a fraction of these are ever going to be of interest to any given listener.

By contrast, hundreds of thousands of titles are available on CD, and usually for considerably less money. Even the iTunes Music Store has somewhere in the neighbourhood of 600,000 albums available (over 6 million songs and counting). I've finally had a chance to live with an SACD/DVD Player for awhile (the [NAD M55](#)) and the formats do indeed sound great; a lot like good vinyl without the surface noise. Sadly, the software base has never expanded widely enough to make it either of them much more than an audiophile tease. With the major record companies too preoccupied with selling ringtones and trying to salvage what remains of their newly dysfunctional business model, you can bet that any physical music formats, much less high-res digital formats that only a tiny fraction of their market has any interest in, will only fall further and further down the priority list.

At the moment the top priority is stark and simple: survive. Sadly, as artists like Radiohead begin to self-release their records on their [websites](#), the major record labels seem to think their best hope for the future lies in pernicious and excessive litigation of college students and single moms (as I write this the recording industry just won a \$220,000 settlement against a Minnesota woman who allegedly shared 24 songs online. She was penalized, almost randomly it seems, \$9250 for each song).

So where does this leave us? Within spitting distance of where we were in early 2001 when I wrote about [the threat that MP3 posed](#) to those of us who care about the sound quality of commercially available recorded music. The future will be downloads, and physical media carriers will fade away, but scant progress has been made in increasing the bandwidth of downloadable music. iTunes now offers many files at 192 Kbs rather than the previous standard of 128, which is a lovely gesture and all, and a tacit acknowledgement that 128 Kbs is inadequate, but 192 is a far cry from even CD quality playback, much less anything better. Apple has also made progress in relaxing Digital Rights Management (DRM) requirements from the major record companies, allowing buyers to use downloaded files much the same way they would files ripped from a CD. But getting the white earbud crowd, who have bought 400 million tracks from Apple and counting, interested in the idea of an uncompressed audio format, is beyond a tough sell.

There's simply no significant demand for a better sounding format (and the difference would likely be inaudible on those little white earbuds anyway). The

only real alternative seems to be a service called Music Giants (www.musicgiants.com) which goes one better than iTunes by offering music downloads at CD quality, but the service offers tracks from only around 500 artists and is resolutely Windows only. So much so, in fact, that the only supported browser for the site is Internet Explorer and files are exclusively Windows Media Audio (WMA), most of which are hobbled with DRM. This means, among other hassles, that you can't play them on an iPod. At US \$15.29 for an album it doesn't make a very strong argument against buying the CD and ripping it yourself.

So what's a guy like me to do? Keep on buying CDs and LPs while I still can, I guess. Naturally I'm not the only one out there with an ever growing pile of little silver discs to play. With no concrete hope of a better sounding format on the horizon I have more interest than ever in having all those CDs sound as good as they possibly can. And thus arrives the BCD-1 with just that goal in mind. A little late, perhaps, but most definitely welcome.

Inside and Outside the Box

No surprises here. The BCD-1 is classic Bryston. Clean, simple, functional and built to last through several more format wars. On the rear, balanced and unbalanced analog outputs using well spaced, high quality connectors and three digital outs: AES/EBU, Toslink and SPDIF (coax). On the front, a very small but brightly lit display, a row of buttons with all the basic controls, and the (fast moving and quick to respond) disc drawer at middle. The remote, like other Bryston remotes, is a beautifully machined, satisfyingly hefty hunk of aluminum. This one, however, is a full function unit with all the controls you could wish for, which will also control volume and mute functions on other Bryston gear. Those prone to fumbling around in the dark for remotes will be pleased to know it lights up at even the slightest touch.



No revolutions inside either, for the most part. Tried and true digital bits carefully and sensibly implemented. The BCD-1 takes advantage of its single-box design to reduce digital jitter to what the company claims is a "negligible" level, below what they can measure with their test equipment. The trick, they say, is synchronizing the CD drive and master clock. "If the clock signal of the drive is not synchronized with the clock signal from the DAC," opines Bryston's product literature, "then jitter develops. In external DACs the digital input must be re-

clocked in order to reduce the jitter... With the Bryston CD player the master clock and the drive are synchronized perfectly to eliminate any possibility of jitter affecting the sound quality of the player."

The DAC in question is the Crystal CS4398, an updated version of the 192 kHz, 24 bit DAC found in the [BP-25DA I reviewed two years ago](#). It's a "hybrid multi-bit delta-sigma DAC" which "uses a process to over-sample the digital input 128 times. Over-sampling is when the samples are re-read (2x, 4x, 8x, etc.) to create a new sampling frequency. The new samples are then run through an interpolation filter to create a more analog-like waveform." Since this is a single box player with no digital input, Bryston felt no need for upsampling, which would be helpful for a DAC confronted with a variety of possible input sampling rates. With only 44.1 kHz coming off the CDs in this case, the DAC could be optimized for nothing but a 44.1 kHz source. It should come as no surprise that, being a bunch of power-amp guys, Bryston has taken great care with the BCD-1's power supplies. Digital and analog power supplies are completely separate and both are closely regulated and filtered. "Careful trace routing eliminates [noise] problems and provides the extra dB's of noise and distortion reduction which separates good from outstanding equipment." While Bryston claims the careful power supply implementation is one of the major factors in its sound, it's arguable that the BCD-1's analog output stage is really what sets it apart from so many other CD players. "Once the signal leaves the DAC it is buffered and increased in strength by operational amplifiers. In the Bryston BCD-1 CD Player these are constructed from discrete devices (individual transistors, resistors, and capacitors) instead of the commonly used integrated circuits... The use of integrated circuits always involves compromises since they are designed as general purpose devices." Bryston has earned an enviable reputation over the past twenty odd years for power amps and preamps featuring vanishingly low levels of distortion. All the knowledge gleaned during that time has been poured into the layout and design of the power supplies, digital circuit layout, and analog output stage of the BCD-1. The player is then hand assembled using high end parts (1% metal-film resistors, polystyrene capacitors, hand selected and matched transistors etc.) in Bryston's Peterborough, Ontario factory. Even without considering the final sonic results, this is "high end" through and through, and goes a long way in justifying the BCD-1's not insignificant price tag. **No Alarms and no Surprises** What will really justify that price tag, of course, is the sound, and there are no surprises here either. I was not shocked to find that the BCD-1 sounds very much like what I



heard out of the BP-25DA, and well it should. The DAC in both products is almost the same and so are the analog circuits that get the signal out of the box and the power supplies that make the whole thing run. If you look back to my review of the [BP-25DA](#) you'll find that I was very impressed with its clarity, dynamics and general musicality. The same applies to the BCD-1, and then some. If I had to use just one word to describe the sound of the BCD-1 I think it would have to be robust. There is a solidity, a sense of dynamic fortitude, of vast power meted out with great precision that I haven't heard from other digital front ends. The BCD-1, for lack of a more gracious term, has *balls*. Transients, for example, leap out of sonic blackness with goosebump inducing speed and tactility. Sounds disappear with equal vigor and naturalness, especially in the lower registers. With bass transients there is zero overhang. This is the kind of front end that paints your amp and speakers in the most flattering possible light. Or, to look at it in a different, probably more accurate way, gives them less rope to hang themselves with.

The sound is full-bodied and chunky when called for, as solid as the player's machined aluminum remote, and always crisply defined. This is a CD player that "gets" vinyl; its speed, smoothness and visceral rhythmic drive, its body and three-dimensionality (most turntables would kill for bass like this though). No, it doesn't make me want to mothball my turntable, but it makes a very plausible case for itself in that regard. It's probably the most analog sounding digital box I've heard. It communicates both the tiny ebb and flow of quiet passages and the epic sweep of big ones in a realistic way, one that reminds me of listening to LPs. Is there a higher compliment that can be paid a CD player?

A CD I've been spending quite a bit of time with lately is *Andorra*, the latest from Canadian electronic artist Caribou (formerly known as Manitoba - his real name is Dan Snaith). It's a record full of decadently rich and satisfyingly thick sonic textures more reminiscent of prog rock than most contemporary electronica. It's a beautiful bit of production as well, with a startlingly broad dynamic palette spanning Dan Snaith's intimate and fragile vocals all the way to his vast, epic soundscapes. The BCD-1 did the micro and macro dynamics of this record justice, communicating both its minutiae and grandeur with equal aplomb. Perhaps even more important, especially with material like this, is that it made the distinction between high frequency noise, and musical events, clearer than I'm used to. The high-hat, for instance, on Jim O'Rourke's *Insignificance* can sound like bursts of white noise in the hands of lesser digital systems, but on the BCD-1 it sounded convincingly like two cymbals being smashed together.

Another disc that has become a regular when evaluating gear is Sufjan Stevens' *Illinoise*. Stevens can be a little precious, but there is no mistaking the talent behind this record. The ornately constructed arrangements and sugary melodies are often astoundingly beautiful and the production is about as good as any

pop/rock record I've come across. I've never heard the disc sound better than through the BCD-1. It wasn't just pretty, or musical, it was gorgeous. Crystalline and open mids, naturalness of speed and rhythm, clear delineation of the busiest passages, superbly controlled bottom end, and sweet, smooth and extended top end. As I found with the BP-25DA, the BCD-1 got out of the way and let the music through. The sound didn't quite have the silky, super-high resolution of SACD or great vinyl, but there was very little else to fault.

My time with the BCD-1 was, sadly, very short at only about a week (so far demand for the first run of players is far outstripping supply and my review sample had other engagements). As such I didn't have much time to spin very many classical or jazz CDs. Of course, all sonic comments above apply to any CD in pretty much equal measure, the BCD-1's clean, authoritative, and unfailingly articulate sound not favouring one genre over another. If you're looking for something that sounds laid back, however, or with a perspective near the back of the hall, so to speak, you should look elsewhere. Aside from that, I can think of no other sonic caveat.

Compared to my own digital front end the BCD-1 had the edge in terms of the visceral feel and body described above. It also won out in terms of bass performance, inner detail and high frequency clarity and smoothness. To help put this in perspective, for the last while I've been using an Audio Alchemy DDS pro transport feeding a [Perpetual Technologies P1A](#) (D to D processor/upsampler/interpolator) via a Camelot Technology I2s cable feeding a Musical Fidelity A324 DAC. Add up the retail prices of that chain of gear when new and you come up with a four digit number that begins with a four, even before getting into cables. To put the system together now, buying all the pieces used (as I did, save for the Musical Fidelity), would, of course, be much, much cheaper, but not necessarily less than a BCD-1. That certainly says something about the value the BCD-1 represents at \$2500. When comparing DACs and other digital front ends I've often found the sonic differences to be quite subtle, but the BCD-1 really has a fundamentally different character, and I'm not talking about character as a euphemism for eccentric or euphonic here. It sounds consistently and resoundingly "right" – as in uncolored and neutral, vigorous and dynamic. That it does so more than what I'm used to hearing I think is less a testament to the the BCD-1's DAC, which is not an uncommon chip, and much more about the discreet, class-A output stage and power supplies. In other words, the things that Bryston knows best.



The BCD-1 didn't embarrass my digital front end, but it did demonstrate that good old Redbook digital is still evolving after 25 years. What's even more encouraging is that you can get bleeding edge sound from a BCD-1 without the bleeding edge price. There may be better sounding players available, but I suspect the cost of doing any better than this will cut very deep indeed. *Aaron Marshall*