dCS Rossini 2.0 Digital Playback System

". . . among the very best audio products I've reviewed, regardless of cost, but this time ownership is within reach."

by Marc Mickelson | October 18, 2019

Two and half years ago seems both long ago and like yesterday. That's when I listened to and wrote about dCS's Vivaldi digital system -- DAC, Transport, Master Clock and Upsampler -- digital playback for the audio ages. The "Vivaldi stack," as we came to identify it, a massive pile of advanced circuitry and elegantly machined aluminum, proved to be the sonic equal of its pedigree and price. It exalted every digital disc I played, and it put digital sound, via high-resolution streaming and file playback, on an equal plane with the best analog -- not so much something equal to or better than spinning LPs, but rather a medium of its own, with its own distinct virtues and sense of musical realism. I ended that review by saying that I had no expectations that the Vivaldi 2.0 system would be equaled anytime soon, and since that time, I've schemed how I could somehow afford it, such was

its complete mastery of digital media and its preeminence in my aural memory. I know this will seem like hyperbole, but I will state it anyway: The Vivaldi 2.0 system is one of those products that has to be heard to be believed.

But audio reproduction moves on -- not from Vivaldi 2.0, which is still my personal pinnacle for digital performance here and now, but for dCS, which has continued to create products down the price line from Vivaldi. Perhaps as an answer to people like me, who covet Vivaldi but can't afford it, dCS has revised its next-in-line Rossini system, expanding its functionality and performance with the dedicated Rossini Transport and also upgrading its operating system to 2.0 status, making use of the work done for Vivaldi 2.0 and, moreover, improving Rossini's musical performance. At slightly under $60,000, the Rossini stack -- DAC, Transport and Master Clock -- comes in at half the cost of Vivaldi 2.0, making it an attractive option if it retains much of its bigger brother's sonic splendor, along with dCS's established skill at getting the most from digital music -- discs and files.

When you see any of the Rossini products, even right next to the Vivaldi, it's difficult to discern what inevitable corners had to be cut in their creation. They have the same handsome, rigid and heavy chassis, which is where so much of the cost of audio products is derived; manufacturers are able to design and build electronics, but chassis part have to come from outside suppliers. dCS does say that Rossini's chassis are "simpler" than Vivaldi's, but it's hard to see in what ways this is true, given that both lines look identical, down to the tight-fitting joints of the machined-aluminum panels used for the top, sides, front and back. "Simpler," therefore, must refer to the internal structure of each chassis. Having seen the Vivaldi DAC without its top plate, I can attest to the fact that the internal layout of the various circuit boards and components is not achieved without careful attention. It looks like the high-precision piece of equipment that it is.

Both systems are built around dCS's Ring DAC and DSP platform, which use field-programmable gate arrays (FPGAs) -- user-configurable integrated circuits -- in place of monolithic hardware and off-the-shelf chipsets. The Rossini's fifth-generation implementation of the Ring DAC was redesigned to improve jitter rejection and dynamic performance, and the DSP platform operates at a higher speed than earlier versions. It runs proprietary code that dCS has written, making Rossini 2.0 unlike any digital system in the world, other than Vivaldi 2.0, that is.

While the Rossini DAC and Master Clock have been available for a while, the Rossini Transport is new, adding SACD playback to the system (the existing Rossini player handled CDs only). For the Vivaldi Transport, dCS chose Esoteric's VRDS-NEO, an advanced and overbuilt drive mechanism that costs thousands of dollars on its own. For the Rossini Transport, dCS settled on a new Denon mechanism that handles both CD and SACD playback and presumably costs considerably less. Throughout much of digital audio's rise to prominence, separate transports were common, but that's not the case anymore. Adding a dedicated transport, and one that plays CDs and SACDs, to the Rossini system was an attractive move to people like me, who have large collections of physical media, including hundreds of SACDs.

Cabling for a dCS digital system is always an important consideration, because of the sheer number of connections that must be made. For Vivaldi, you will need over a dozen different cables, including multiple power cords, AES/EBU cables and BNC-terminated S/PDIF cables, aside from any cables necessary for connection to a home network. This is cut to eight for Rossini: three power cords, three BNC cables for connection to the Master Clock and two AES/EBU cables for AES2 connection between the DAC and Transport. (I also used an RCA-terminated S/PDIF cable for analog playback -- see sidebar.) Initially, I used a full complement of Nordost Valhalla 2 cables, but my curiosity got the better of me, and I began to experiment with other BNC and AES/EBU cables. Over the years, I've used and recommended DH Labs digital cables, and they worked very well with the Rossini 2.0 system. Each was designed to maintain strict adherence to established electrical specifications -- 75 ohms for the D-750 BNC cables ($155 per meter length), 110 ohms for the D-110 AES/EBU ($99 per meter length) -- and I was able to purchase the five digital cables needed for far less than the cost of any one of the cables from Nordost. There are sonic reasons to choose Valhalla 2 digital cables, including a sense of meaty presence, but after a few days of listening with the DH Labs cables, I decided to use them for the rest of my evaluation. Even if you plan to go with Nordost or some other expensive brand of digital cables for connecting a dCS system, I would recommend buying the same complement from DH Labs, just for the sake of comparison. Each has its sonic virtues, but the DH Labs cables cost far less.

As with Vivaldi, the Rossini system requires some forethought and up-front configuration. The DAC has multiple digital filters and mappers that affect the sound of the system. These are not a gimmick but rather a nod to allowing owners to get the most from their purchases (both systems also have a number of user-defined features as well). In my review of the Vivaldi system, I likened the mappers to the recipe for a cake and the filters to the frosting smeared on that cake. In reality, the mappers determine the pattern of the code that's applied to the Ring DAC's 48 current sources per channel. The differences in the mappers' math produce a different balance of second- and third-order harmonic distortion, which subtly changes the sound. The custom-developed filters range from bandwidth-limiting filters for DSD, to traditional linear-phase and minimum-phase filters for PCM, and each also subtly affects the sound. Subtle on top of subtle can produce easily audible, and subjectively dramatic, differences in sound. While I certainly valued the choice of mappers (three total) and filters (six for PCM, five for DSD), I ended up listening with the same couple of combinations of the two.

Just as he did for my review of the Vivaldi 2.0 system, John Quick of dCS Americas set up the Rossini system, this time bringing along two of his colleagues, Jesse Luna and Andrew Papanikolas. Together they did all of the grunt work and got the Rossini system talking to my home network, which seemed pretty easy. They introduced me to the dCS app and Roon, both of which make using the Rossini system like using a smart phone: scroll, slide,

push and listen. After a few weeks, I had to shut everything down for a few days, and afterward I couldn't get the DAC to communicate with my router. The problem was that I wasn't powering up the dCS separates, the NUC that runs Roon, and the digital switch for the DAC in the correct sequence. Powering off and powering back on correctly did the trick. Even though I am a former IT manager, I honestly hate having to know networking in order to listen to my audio system. dCS seems to anticipate this, making their hardware as truly plug 'n' play as is possible, given the myriad different configurations it's likely to encounter.

Even though it is less complex than Vivaldi, Rossini 2.0 remains a true system of digital components, and disc playback only scratches the surface of its capabilities. It can spin CDs and SACDs, decode files from USB or NAS drives, play music from thumb drives and streaming services, even take the place of an analog preamp in an all-digital system. Its remote control, with integral volume knob, is a beautifully ergonomic piece of hardware, but its iOS Mosaic app is even more elegant and user-friendly, allowing complete control of the DAC and all of its features, via an attractive graphical interface. Rossini supports Spotify, Tidal, Deezer and Qobuz; it integrates with Roon (which is seriously addicting); and it has full support for highest-resolution PCM and DSD as well as MQA. Accommodating hardware, software and firmware updates is part of its design, so it's future-proof to a degree that few, if any, digital systems can match. You get more than high audiophile performance from the Rossini 2.0 system; you also get the support of a company with a long and unimpeachable track record in both the consumer and professional realms.

he 1990s are often considered a low point for audiophiles, and good sound in general, due to the rise of the CD as the dominant replay medium. Having come of audiophile age during that decade, I have a rather different take from the prevailing opinion, perhaps because at that time I was digital-only -- I sold my meager collection of LPs and less-than-meager Michell Gyrodec turntable to raise money for better digital gear. As the CD rose in prominence, so did the hardware to get the best sound from those little silver devils. The CD player was reduced to its constituent parts -- DAC and transport -- a boutique digital cable was used to connect them, and a new kind of audio component, the jitter attenuator, was born. Some of the hardware from that era sounded very good, and still sounds that way today. I have and use regularly a CEC TL1 CD transport, a Timbre TT-1 DAC, and a Conrad-Johnson Premier 9 DAC. I also have a collection of jitter-reduction devices, including a Genesis Digital Lens, Audio Alchemy DTI Pro 32 and Meridian 518. All of this gear still delivers sound from CDs that challenges, or betters, what I've heard from many

of the better USB-equipped DACs, and I still derive great joy from listening to my thousands of CDs with it.

You can draw two conclusions from this preamble: first, I am still wedded to physical formats; second, given my equipment, I prefer a more forgiving, analog-like sound from CDs over a forward, analytical and, I would argue, aggressive sound. All of this brings me back to the Rossini 2.0 system, because like the Vivaldi 2.0, the most significant and endearing quality of this playback system is that, with it, I don't have to choose "a sound" at all, one that mitigates digital's flaws at the expense of sheer resolution, because no matter the disc (or file) I play, I hear it in all its direct and naked glory. Rossini 2.0 does forgiving and analog-like, dynamic and analytical, and as many stops in between as your digital media offers. The Rossini system is a digital shape-shifter, changing its character to suit the software and, in the process, bringing out the recording's intrinsic sound in all its unadulterated beauty. And that, as they say, is what high-end audio is all about.

So when I played Parker's Mood from the Roy Hargrove / Christian McBride / Stephen Scott Trio [Verve 314 527 907-2], the Rossini system's ability to capture the realistically aggressive, nearly percussive trumpet didn't overwhelm the plush presence and serenity of the next rack, the sumptuous "Laura." The Rossini's ultra-revealing yet lyrical nature was further displayed with Roseanne Cash's Ten Song Demo [Capitol 112364]. I've used a few of the cuts from this CD as demo material, but "List of Burdens" is a favorite, the lyrics telling the story of a complex, adult love relationship. These two very different-sounding CDs ended up sounding -- no surprise -- very different, but the Rossini system's expert way with one didn't diminish the reproduction of the other. Musical detail and character stayed separate and distinct, as they should, and both recordings were portrayed with utter honesty and an intensely satisfying realism. This was a different kind of resolving power, one whose own signature didn't bleed into the recording. Instead, the Rossini system presented a heightened sense of what the recording was about, no matter what that is. It's digital sound in its most elemental sense.

What this truthfulness emphatically does not mean, however, is that nothing stands out in Rossini 2.0's intrinsic sound. It displays impressive speed, bass depth and power, midrange color and heft, and an inherently natural way with tone and transients. It's more transparent, and less obtrusive, than any collection of digital electronics I've heard, other than the Vivaldi 2.0, that is. It's just that, on the one hand, it revels in the fireworks of Keith Richards' Main Offender [Virgin V2-86499] as readily as the gentle, lilting instruments lines of Thelonious Monk's Plays Duke Ellington, so nailing it down to a base signature is difficult, if not impossible. Yet, the resolution is so high that discerning the differences between the JVC K2 remaster of the Monk album [Riverside RCD-201-2] and the earlier regular issue [Riverside OJCCD-024-2] is a cinch, with the remaster displaying meatier individual notes -- a virtue with Monk's playing -- and a more up-front and vivid presentation.

I do wonder, however, if this quality, the ability to be all things to all recordings, of the Rossini system boils down to the difference in how it was designed and manufactured. In the 1990s, most products used the same few off-the-shelf parts, especially digital-to-analog-converter and input-receiver chips, so the differences among DACs especially often boiled down to the design of the power supply and the ability to reject jitter, not the processing or circuit design. In contrast, dCS equipment, built around those FPGAs and dCS's DSP platform and Ring DAC, is unlike any other product on the market today, with huge differences coming from the company's proprietary digital code. If older digital gear was Windows 3, the dCS Rossini 2.0 is iOS 12, an advanced operating system that simply outperforms any distant antecedent.
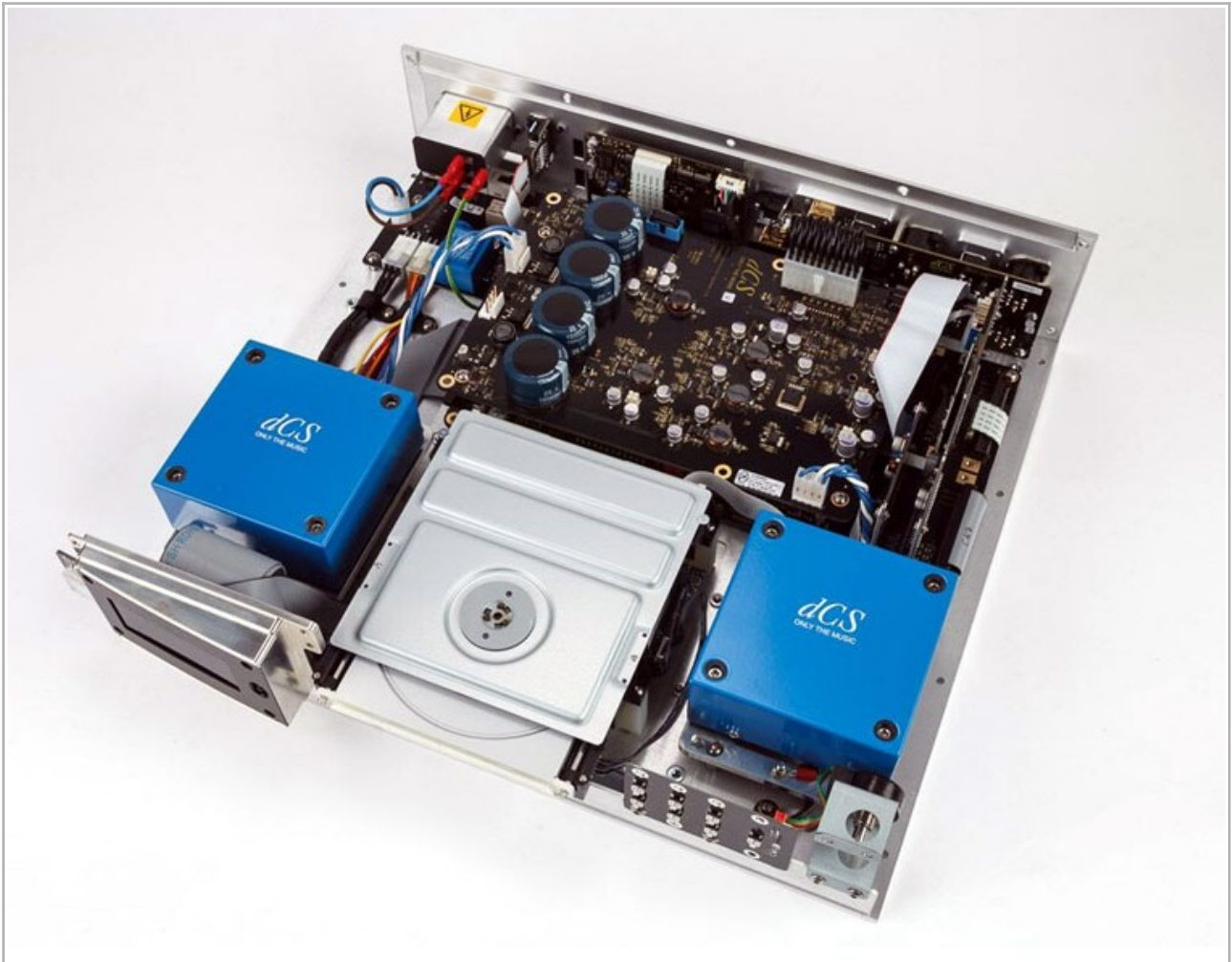
For the bulk of my listening, I spun CDs and SACDs with the Rossini 2.0 system, because that's what I have, in abundance, but it's clear that it was built with file replay in mind -- perhaps as its primary function. And just as with the Vivaldi system, the Rossini made file playback something more than an alternative to spinning discs. It was an experience all its own, with its own set of strengths, chief among them the staggering amount of musical detail resolved in an unforced, natural way. In the past I've carped about how file playback homogenizes recordings, causing them to sound more alike than they should. This is not the case with the Rossini system turning the bits into music. Each recording was just as well-differentiated as when the data are read from spinning discs, and with exceptional high-resolution files, the results are nothing short of singular -- the sound of a format that, at the very least, stands on its own and in some cases betters anything else. Long ago someone gave me Aimee Mann's Lost in Space as a set of DSD files, and the Rossini

system simply revealed more about the music and the recording itself than I had previously experienced. Mann's voice sounded more flinty, which gave her brainy compositions a sharper edge. As with the Vivaldi, the Rossini system has turned me into a file-playback believer.

But let me give you a good reason to continue spinning discs. More than a decade ago, before the continuing vinyl renaissance began, it was easy to find great LPs at thrift stores and garage sales, often in bulk, as people were getting rid of their large, unwieldy vinyl in order to replace it with smaller and more convenient CDs. Well, now those same people are getting rid of physical media completely, so while finding used LPs on the cheap is much more difficult, finding used CDs is easy. I have expanded my collection of digital discs -- CDs mostly, but some DVD-As and even SACDs -- just as others have eliminated their collections. I've found great music, including a number of comprehensive sets, for less than a dollar. There is so much digital music available at my local thrift stores that I often don't have the patience to look through it all (it's almost never displayed for easy identification). And with every disc I find, I am even more eager to rush home and play it on the Rossini system, knowing I'm going to hear the music dancing around in its bones.

Near the end of my unusually generous time with the Rossini 2.0 system, another reviewer needed the DAC, so John Quick replaced it with the Vivaldi ($35,999). This caused me to wonder if John sent the Vivaldi DAC to remind me of the hierarchy in dCS's product lineup. More likely, he just wanted to keep the music flowing in my house while I wrote this review, so I took this opportunity to do some head-to-head comparison and reacquaint myself with the Vivaldi sound.

Or what I thought would be reacquaintance -- so much of what I heard from Rossini was there in Vivaldi, and vice versa. This included the wide-ranging ability to get the most from any recording, honoring its intrinsic personality, a performance that was at once engaging and then powerfully real. But differences were just as apparent, including a more authoritative sound from the Vivaldi DAC, not only in the bass but throughout the musical spectrum. This made for a different and greater kind of presence, an enhanced image solidity and specificity in the soundstage, which was also bigger and more immediately impressive. Bass was more taut and powerful, but "taut and powerful" are words I would also use to describe the Rossini DAC's bass. With high-resolution files, the Vivaldi DAC inched a little further ahead of the Rossini, especially in its spatial definition, which was less confined, more varied from recording to recording.

In the end, there was just more of what made the Rossini DAC musically significant with the Vivaldi, along with the knowledge that the extra cost of the Vivaldi would be money well spent.

ack when I wrote about the Vivaldi system, I was impressed by its sound, to say the least, but also dismayed by the fact that in no way would I be able to afford it. "When you write audio reviews, it's never easy to remove great equipment from your system," I wrote, "but the feeling is diminished by the realization that a product of equal excellence will eventually replace it. I don't have that feeling with the Vivaldi 2.0." I won't presume that dCS heard my laments, but the Rossini system soothes the ache Vivaldi created, not so much equaling the performance of its more expensive brother in every way, but delivering its own impressive level of sonic splendor. Its highly resolving character brings with it ample naturalness and grace, putting into proper proportion all of the instrumental and spatial information from any recording. But just as important in these modern digital times

is that Rossini handles physical media, streamed content and computer files with equal assurance, making it the true centerpiece of a 21st-century high-end system.

While Rossini 2.0 still isn't exactly inexpensive, it brings dCS technology and performance down to a point where more audiophiles can afford them. And in this, it achieves what so many Wilson Audio speakers do: establish itself as separate and unique from other of the company's products, not a scaled-down this or upgraded that but a singular entity. Like Vivaldi, it's among the very best audio products I've reviewed, regardless of cost, but this time ownership is within reach.

Analog for digiphiles

One of the features of the dCS Rossini 2.0 system (and the Vivaldi too) is that it obviates the need for an analog preamp. The DAC has its own high-quality volume control and multiple inputs, although you can only connect digital sources to it. But what if you have an analog source? What if you want to play LPs, as so many of us do? You can do that with the Rossini DAC, but you'll need an analog-to-digital converter whose digital output you will connect to one of the Rossini DAC's unused digital inputs. dCS made perhaps the best A-to-D converter, for audiophile and pro use, the mighty 904, which cost around $9000 new. But that unit has long been discontinued, and if you can find one used, you'll be bidding on it with plenty of recording engineers who also want it. Ayre's QA-9 has also been discontinued. It's hard to find on the used market and pricey. Finally, there's the Wadia 17, but that unit was discontinued decades ago, and I've seen only a couple for sale over the years.

Meridian to the rescue. Back in the late 1990s, as part of its home-theater suite, Meridian offered the 562V ($1550 when still available) and nearly identical 562 (I'm unsure of the list price, but it's probably less than $1550), which they called "multimedia controllers." What those units are, in fact, is analog-to-digital converters built around 16-bit/44.1kHz Delta-Sigma processing. The difference between them is that the much more common 562V includes composite and SVHS video switching, which is now completely obsolete in the age of HDMI. In either guise, the unit can accept multiple analog inputs (RCA connectors only) and convert them to digital, outputting the data via S/PDIF RCA or TosLink. There is also an option (the 517 DAC module) that turns the 562/562V into an analog-to-digital-to-analog preamp. Other options include moving-magnet (516) and moving-coil (515) phono modules. These are difficult to find, mostly because they are buried within the units in which they are installed and show no outward signs of being there (a phono input and ground lug are standard on each 562 and 562V, even if no phono module exists).

I found an audio-only 562 on eBay, but I've not seen another one since. A 562V (there are three different versions, the latter two denoted by v2 and v3) will cost around $250 used and may include Meridian's SRC remote in the price. No matter the unit's vintage, the 562V is highly configurable, and you'll want to study the manual, which you can find online, to understand the somewhat convoluted but very flexible user interface.

I have my 562 configured as a standalone analog-to-digital phono stage, with all of its unused analog and digital inputs turned off. I've also used it with an external phono stage. In both of these cases, its sonic signature is almost undetectable, which is another way of saying that the 562 is transparent, faithfully handling its A-to-D duties with a minimum of sonic addition or subtraction. Of course, this is very much a matter of speculation, because

I am not comparing apples to apples -- I can't connect a phono stage with line-level outputs directly to the Rossini DAC for comparison.

At no time did I feel like using the 562 was a compromise to anything but my audiophile sensibilities -- it just seemed wrong to be digitizing LPs and then converting them back to analog. However, converting analog to digital doesn't have the stigma it once did, because the lacquers for so many modern LP reissues are cut from high-resolution digital files, not analog tapes. Another potential issue boils down to the hardware itself. If the best equipment is no equipment at all, adding an analog-to-digital converter to play LPs doesn't seem to qualify. But then, in another sense, it does qualify, because by using the Rossini DAC as the system preamp, I removed an analog preamp, and one piece of equipment, from the playback chain. It boils down to a matter of perception, I guess.

Even with my success with the Meridian 562, I will still keep my eyes open for other high-quality analog-to-digital converters to use in the future -- and hope to stumble over a dCS 904 at someone's garage sale.

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