

# dCS ROSSINI

CD PLAYER & CLOCK

Reviewer Edgar Kramer

In these heady days of overwhelmingly-abundant music, is it enough for a music lover to have *just* a CD player? Especially now we can surpass CD quality with the growing accumulation of the world's music catalogue available in high-resolution, or choose from a variety of streaming services in quite listenable mid-resolution and some at CD quality, should a passionate music lover not be seeking access to it all?

"Affirmative!" is our resounding reply. A digital component today should feature the latest technology for file playback, while also catering for legacy formats based on the silver disc.

It should provide access to the vast music vaults of online streaming services while also communicating with personal networked drives that, with their increasing affordability and ever-growing capacities, are capable of storing many thousands of tracks even at very high resolution.

That seems like a description of many high quality DACs but, of course, those devices can't spin your discs can they? Unless you dedicate a transport to that task, the modern DAC is primarily a conduit for computer-based audio, while some may also add streaming capabilities. On the other hand many CD players today features a digital input or two – usually a





single USB and S/PDIF – streaming features and the ability to handle networked files are absent.

On all those counts, the Rossini Player from dCS has it covered. And it adds deep proprietary wisdom, with the company's own DAC technology, the well-documented Ring DAC (the latest iteration being used in Rossini) and FPGA Digital Platform.

The Rossini holds yet another ace up its sleeve. The company has designed a dedicated clock – imaginatively called Rossini Clock – which serves as an upgrade to the main unit itself. Having a dedicated clock with its own substantial power supply, higher-powered DSP and more developed supporting circuitry promises worthwhile gains in performance, mainly by way of significant jitter reduction among other subtleties, over a standard built-in clock.

So here we look at the combination of Rossini Player and Clock... and evaluate the Player *sans* – and *avec* the latter. Those who have already abandoned physical media entirely may like to note that a third Rossini option is available in the 'DAC', identical to the Player but without the disc transport.

#### EQUIPMENT

The Rossini components reflect the new direction of dCS in design and styling, as first seen in the Vivaldi stack. Both Player and Clock chassis are built from heavy gauge aluminium all round (available in natural silver or black) while the quality of the machining – most notably in the sculpted fascia of the Player – is first class. The Player's chassis has been further reinforced and tuned against

mechanical vibration and magnetic interference via damping panels within. The aluminium extends to the CD tray, which is part of the high quality Stream Unlimited JPL-2800 SilverStrike laser mechanism adopted after Esoteric withdrew from production dCS's previous preferred mech.

Rear-panel connectivity is comprehensive. You are presented with a number of options for getting digital signals to the Player, with two AES/EBU XLR inputs, three S/PDIF inputs (RCA, BNC and Toslink) and USB Type-B. A USB Type-A connector allows hard drive connectivity while an Ethernet in/out loop presents the Player to your local network. A 15-pin D-SUB connector is there for control/programming options. Analogue outputs are by way of both single-ended RCA and balanced XLR. And then of course there are the two inputs and one BNC output for the Clock connectivity. An IEC socket with fuse rounds out the socketry.

The range of format support is extensive too, catering for all lossless PCM up to 24 bits and 384kHz, plus DSD in DoP format and native DSD up to DSD128. Also available is DXD upsampling, which is PCM at 352.8kHz or 384kHz. A variety of filters are available and, although not within the scope of this review in terms of exhaustive – and exhausting – comparisons, my recommendation would be for you to experiment at your leisure.

The review sample was provided without the optional \$450 remote control. However, full functionality is provided via a comprehensive and smart dCS-designed free remote app, available for both iOS and Android (local Wi-Fi and network hook-up is needed). The app controls disc actions as well as every other aspect of the player – and this is not a trivial matter because the number of functions and set-up options are substantial.



Let's get straight to the point – this is an example of the best all-round performance a digital player can muster right now.

INSIGHTS FROM  
RAVEEN BAWA

EXPORT SALES MANAGER dCS



**Audio Esoterica:** Rossini has now adopted the new dCS Digital Processing Platform. What are the philosophies and also the practical aspects of this technology?

**Raveen Bawa:** Our experience as a company is across the entire signal path, and both analogue-to-digital in recording, and digital-to-analogue in digital playback – as well as designing and optimising all the supporting technology such as master clocks and digital-to-digital converters in-between. From our early days we have designed our converter technology from the ground up, and at the core of our products is the dCS digital processing platform. This hardware platform is based around Field Programmable Gate Array (FPGA) chips, Digital Signal Processing (DSP) chips and a microcontroller system. All of these components run software code developed and maintained by dCS software engineers.

The use of FPGAs has been key to our design philosophy as it allows our engineers to impart their knowledge into a dCS box at an almost atomic level, at the same time as making dCS products future-proofed. In fact the entire digital signal path in dCS is done through a combination of FPGA and DSP,

both of which can be reconfigured through software updates in the field. This has been our design philosophy since the beginning as we try to anticipate where the market is heading and how to ensure our platform remains state of the art. Recent examples of software updates to the digital processing platform were the addition of x2 DSD support, Roon Ready endpoint support and other features the market demanded.

**AE:** How is PCM and DSD handled?

**RB:** The oversampling and filtering scheme built into all dCS DACs and Players depends on the data rate that is received. We use one control board clock frequency for incoming sample rates that are a multiple of 44.1kS/s (kilo samples per second) and a different one for rates that are a multiple of 48kS/s. For each source sample rate, there are either four or six PCM filters – currently identical to those on our Vivaldi range. The selected PCM filter will appear on the front panel of the Rossini.

The situation with DSD data is completely different as there are 4 DSD filters available and the DSD filter setting is displayed. After oversampling and digital filtering, the audio is re-encoded as five bits of noise-shaped data and passed to the Ring DAC Board. Here the 5-bit binary data is mapped onto the array of 48 latches and precision resistors which are at the heart of the Ring DAC topology.

The mapping algorithm is carefully designed to avoid any mismatches between the latches or resistors appearing as errors correlated with the signal, ensuring excellent linearity, even at low signal level. The latch outputs drive balanced currents through their associated precision resistors which are combined by a balanced mix amplifier/filter stage. The filter removes any unwanted images and switching artefacts, leaving balanced, high-quality analogue signals.



△ NO STONE LEFT UNTURNED IN TERMS OF CONNECTIVITY. MULTIPLE DIGITAL INPUTS CATERING TO ALL TYPES OF DELIVERY, NETWORK PROVISION, WORD CLOCK IN/OUT AND ANALOGUE OUTPUTS (BOTH XLR AND RCA) FOR DIRECT HOOK-UP TO AN INTEGRATED OR POWER AMPLIFIER.

Page count does not permit a full description of the menu structure but, as part-summation, you're able to control things such as 2V/6V output, phase switching, resolution/format selection, filter options, playback options, display customisation and streamer functionality among many other things. Briefly on the last point, the streamer functionality, the Rossini recognised our home network immediately so we were excitedly running Spotify within mere minutes. Of course, being capable of online connectivity allows easy and automatic (if so desired) firmware upgrades to be downloaded while the unit can also be upgraded via USB or CD.

I also used the USB input for connectivity to my MacBook via BitPerfect playback software using AIFF music files.

## PERFORMANCE

Let's get straight to the point – this is an example of the best all-round performance a digital player can muster right now. Its resolving power leaves no stone unturned. Hearing your favourite music via the Rossini provides the confidence that whatever information was captured at the time of the recording – mastering precision permitting – will be unaltered and faithfully served up to the electronics down the signal path.

And it's a revelation when layers of textures and instrumental subtleties are exposed for your consumption while retaining the holistic integrity of the musical performance. Attacking the system with heavy orchestral tracks such as *The Gladiator* soundtrack or other challenging recordings like Curandero's *Aras*, with their densely complex oscillations ranging from quietly subtle to ragingly manic, proved Rossini's outstanding unravelling powers in delivering overall clarity and independently distinct instrumental lines.

It's a remarkable achievement, too, that there's such significant resolving power on offer while maintaining both a neutral overall balance and superb tonal accuracy. Many players – and indeed many components – can present abundant levels of detail and scalpel-like incisiveness, tipping the balance, in varying degrees, towards a bright-ish presentation. Only the very best gear walks the narrow line without falling on either side of the precipice. But of course, the rest of your kit has to be of equal excellence (not meaning equal value here, as true

excellence is available at many price points). If your kit strays from neutrality (and you just may be accustomed to that balance) you could quite likely point the finger of blame to the Player. What an error of judgement this would be...

Of course, having such resolving prowess opens up benefits in other areas of performance. Play a well-recorded live piano piece and the decay of hammer against string is extraordinary. As is the transient attack of the individual notes. It's that sense of... speed and rhythmic integrity that prompts the toe-tapping reflex.

And it's the ultra-quiet background that further enhances the above-mentioned traits while also allowing micro-detail and all manner of musical minutiae to be clearly appreciable.

## ENTER ROSSINI CLOCK

The Clock component reflects the external excellence of the Player itself. Just a simple BNC cable (provided) connects Clock and Player, and that's pretty much all there is to the set-up story aside from powering via the IEC socket. The Clock does, however, provide two additional BNC clock outputs and two D-type RS232 control ports. The front panel sports switchable 'Dither 1' and 'Dither 2' options for sound tuning to taste.

The simplest way to describe the Clock's sonic influence is... 'More'. It takes the considerable strengths of its Player partner and

elevates them to a higher plane, a better, more complete whole.

The first impression was an immediate recognition of a wider soundfield with more 'air' around instruments, a more open sound which brings a sense of ease to the music – not that this was something the Player alone lacked, but it became notable once the Clock was in circuit. Again... 'more'. And of course sadly notable by its reduction once you take the Clock away...

The separation of micro-detail from the higher level information around it is another ability the Clock bestows on the listener. It's as if the information – which, as mentioned above, was always appreciable via the Player *sans* Clock – becomes easier to discern, allowing the brain to relax into the music rather than actively processing data in order to decode this subtle musical information.

But what really surprised – and I had to go back and forth replaying excerpts multiple times to confirm – was the improvement in mid-bass punch and detail. You might expect the spatial and low-level detail that can be gained by the Clock's removal of jitter and other digital artefacts, but the improvements to the power and dynamic transients of bass guitars and kick drum had me relishing Red Hot Chili Peppers' *Blood Sugar Sex Magic*, Sone Temple Pilots' *Purple* and many others that have been recorded with generous but oh-so-fun kick-drum pyrotechnics. In my opinion the stand-alone Rossini Player is a tad light in this department, but bringing in the Clock fills this out and the combo becomes a more complete music-playing machine.

## CONCLUSION

The Rossini Player and Clock combo represents a significant outlay at close to \$50k for the combo, even though this is the relative entry point of dCS's state-of-the-art digital product line. But for your investment you get a playback system built to the highest standards, with proprietary circuit and DAC technology, capable of spinning your legacy discs while opening the chocolate box of streaming delights and high-resolution file capabilities, including DSD. Of course, you have the option of purchasing the Player first and upgrading with the Clock at a later stage when funds allow. Note also the Player's ability to connect to your power amp directly, so potentially saving the cost of preamplifier, if you are able to have the dCS solution as your sole system source.

Weigh those with the cachet of owning a product from one of the most respected names in high-end digital playback, and the whole shebang starts looking a wise buy for those lucky enough to afford its wonders. ■

▽ THE dCS APP IS BEAUTIFULLY DESIGNED. IT PROVIDES FULL CONTROL OVER THE ROSSINI PLAYER'S MANY FEATURES WHILE ALSO DISPLAYING ARTWORK, ETC.



## SPECIFICATIONS

## dCS ROSSINI PLAYER

**TYPE:** Upsampling CD/network player

**CONVERTER:** dCS proprietary Ring DACTM topology

**DIGITAL INPUTS:** Network RJ45 interface, S/PDIF on BNC and RCA, 2 × AES/EBU, USB, Optical, 2 × Word Clock on BNC, USB for NAS drive

**ANALOGUE OUTPUTS:**

1 × RCA single-ended,  
1 × XLR balanced

**OTHER:** Word Clock output, Ethernet RJ45 output

**FORMATS:** 24-bit PCM up to 384kS, DSD/64, DSD/128 in DFF/DSF format, all major lossless formats including FLAC, WAV & AIFF at up to 24-bit 384kS/s native sample rate and WMA, ALAC, MP3, AAC & OGG, accepts data streamed from an iPod, iPhone or iPad via Apple AirPlay, 44.1 or 48kS/s only (consult manual for input resolutions)

**DIMENSIONS (WDH):**

444 × 435 × 151 mm

**WEIGHT:** 17.4kg

**WARRANTY:** Five years

**PRICE:** \$37,495

## ROSSINI CLOCK

**TYPE:** Class 1 Master Clock

**CLOCK FREQUENCIES:**

44.1kHz or 48kHz

**CLOCK ACCURACY:** Better than ±1ppm when shipped, over an ambient temperature range of 10°C to 30°C.

Typically ±0.1ppm when shipped and stabilised

**DIMENSIONS (WDH):**

444 × 435 × 64 mm

**WEIGHT:** 8.3kg

**WARRANTY:** Five years

**PRICE:** \$10,395

**CONTACT:** Advance Audio Australia on 02 9561 0799  
www.advanceaudio.com.au