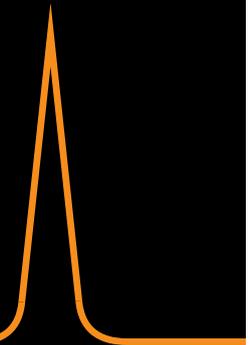


dCS
ONLY THE MUSIC

ONLY
THE
MUSIC



Welcome to *dCS*

At *dCS* we believe that the role of a hi-fi system is to preserve all of the subtle information on a recording through the reproduction chain, and present it to the listener with every last nuance of the emotional content intact.

For example, if melody and harmony are the keys to musical beauty, then keeping the harmonic envelope of a note intact is the first step in musical reproduction. The ability to play several harmonically related notes (a chord) simultaneously and fully preserve all of this information is a feat only the finest music reproduction systems can achieve – something all *dCS* systems do.

The ability to play the right note at precisely the right time is also crucial – in music exact timing is essential for conveying the ‘feel’ of a piece of music. A great hi-fi system needs to communicate this both accurately and precisely because, without it, a recorded performance can sound anything from bland to unfathomable.

Finally, the right note must also be played at the right volume. Very few hi-fi systems achieve a true dynamic range by simultaneously reproducing the sound of both a loud instrument and a quiet one. Only when this is achieved does a system truly reproduce the feeling, the rhythm and the mood of a recording.

We are proud to say that some of the world's most famous and popular albums were recorded using *dCS* equipment. So, even if you don't own a *dCS* system, you can attribute that great recording partly to the work of recording engineers using our equipment. We think music makes the world a better place and that is why we are totally dedicated to making music sound as the artists intended.

Yes, our products are high end – a combination of world class craftsmanship and leading edge technology – but, for the people who invest in *dCS*, our systems offer the chance to experience that unique, spine-tingling moment when the world stops and there is...

ONLY THE MUSIC



David Steven
Managing Director



Our products are high end – a combination of world-class craftsmanship and leading-edge technology.

Our Heritage

Founded in Cambridge, UK, by a group of expert electronics engineers, the company originally designed and manufactured high performance analogue-to-digital (ADCs) and digital-to-analogue (DACs) converters for major telecommunications companies and military agencies, whose major requirement was technology that delivered state-of-the-art precision, linearity and reliability.

Our success in this field meant that *dCS* quickly became known for the performance of our converters and so, recognising in the late 1980s that this technology had a key role in music recording and playback, we decided to concentrate on developing products for the digital recording industry. While our focus had changed, our commitment to producing systems of unrivalled

accuracy had not and, consequently, our products were (and still are) used by some of the world's most successful recording studios and mastering engineers around the world.

As a result of this work *dCS* began to employ some of the smartest and most creative people in the business. The company evolved into producing digital hi-fi systems which allowed music lovers around the world to enjoy stunning sound of unrivalled quality in their own home.

This focus on R&D also resulted in a range of proprietary *dCS* technologies of which the most significant is the legendary *dCS* Ring DAC™. Our products continue to set new performance standards in terms of both objective test measurements and subjective listening experience.

“ In 1996 I mastered the industry's first-known high resolution 24 bit, 88.2 kHz digital recording using *dCS* converters. In 2000, again using *dCS* converters, I mastered the world's first pop DSD surround sound recording for SACD, The Guano Apes 'Don't Give Me Names'. *dCS* was on the cutting edge of the state-of-the-art in 1996 and they still are on the cutting edge today.

Bob Ludwig
GATEWAY MASTERING & DVD, USA



Our 25+ years of innovation include some milestone achievements and emphasise why we now set the standard for digital music reproduction

1988



Converters and Radar Systems for Military Applications



World's first 24 bit Converters for Professional Recording Studios



World's first 24 bit Converters for Consumer Audio



Redefining State-of-the-Art in Digital Audio

2015



Superlative sound from any digital source

Our Design Philosophy

Performance is Everything

At *dCS* we only build audio products that are best in their class. Because of our unique architecture *dCS* products are not constrained by conventional design approaches. As a result we are able to focus on creating innovative technologies and products that transcend the ordinary in terms of both technical performance and subjective listening. The result? A uniquely musical experience of unrivalled emotional clarity and intensity.

People Matter

As a result of our commitment to innovation and leading the field in digital audio, we employ some of the best and brightest talent in the industry. At *dCS* our entire reputation depends on our people and it is these talented engineers, designers and technicians who have helped us to continually redefine the state-of-the-art in digital audio.

Anticipate the Future

At *dCS* we recognise that technology is constantly changing. Our product architecture is completely flexible and modular allowing us to continually improve our products so music lovers can build and expand their *dCS* system over time. This means an investment in *dCS* will provide listeners with a digital playback system that is future proofed, easy to use and delivers stunning sound now.

Test and Test and Test Again

State-of-the-art measured performance is our number one requirement. For this reason we cannot use conventional test hardware and software because *dCS* products exceed the capability of standard test equipment. Every unit we manufacture is rigorously tested using *dCS* converter technology that has been designed, developed and improved throughout our life at the cutting edge of digital audio.

Form Must Follow Function

At *dCS* our ambition is to make world beating, life-enhancing products. Our design approach is to balance world class craftsmanship with leading edge technology. There is a rich history of ground breaking innovation inside every *dCS* unit and we only use materials and components that are of the very highest quality.

Made in the UK

A typical *dCS* product is assembled by hand with a total build time of around one week. From the original concept to the point of shipping, we are proud to say that everything is designed, tested and manufactured in our Cambridge, UK, factory.



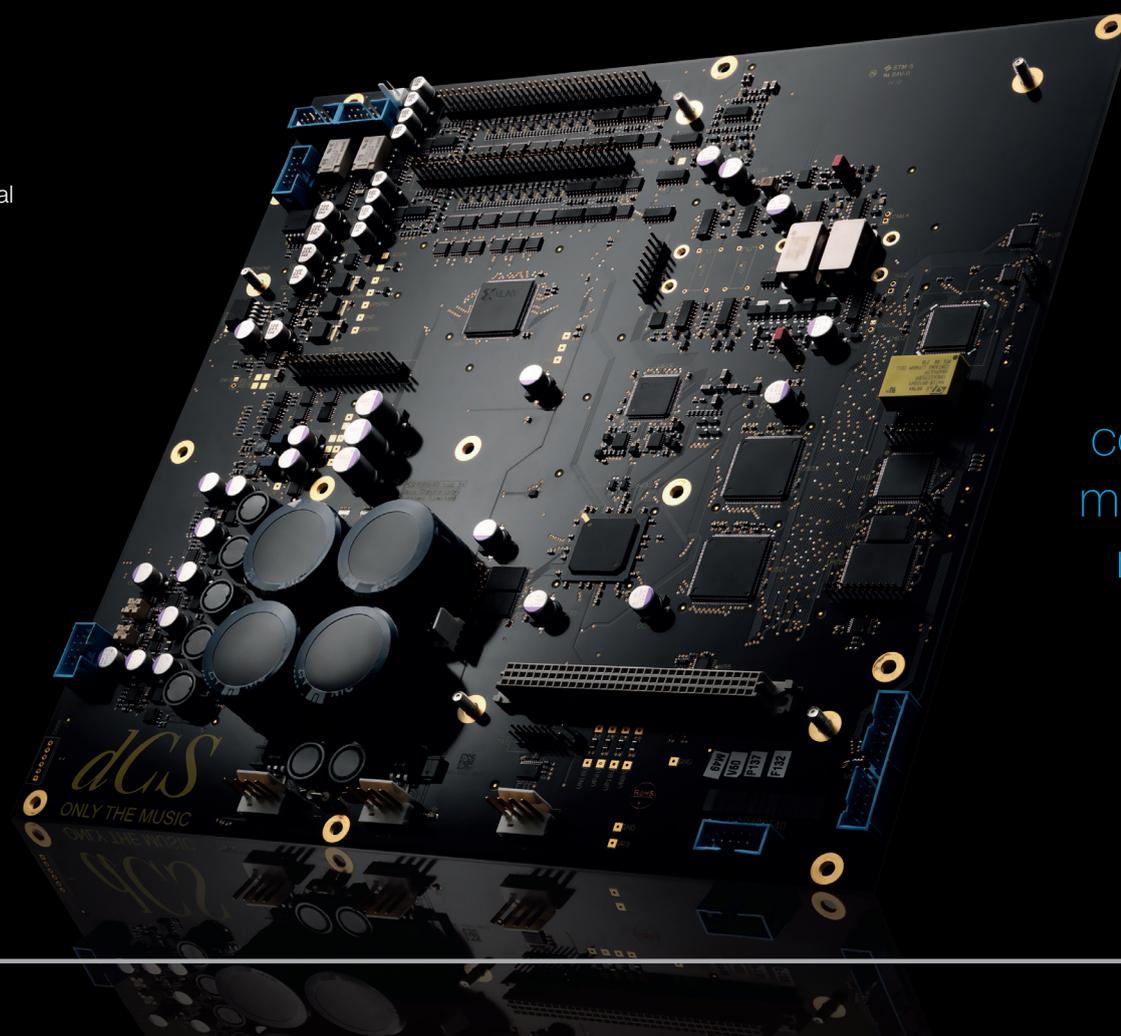
Digital Audio Excellence

Perhaps the most important part of the music playback process is the digital-to-analogue conversion: at this point, the digital data on a CD or computer file is converted into an analogue signal – the music we hear through speakers.

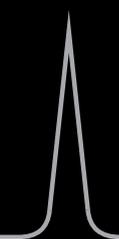
It is this process that *dCS* has been refining for over 25 years and, by making the world's most advanced digital-to-analogue converters (DACs), master clocks and digital-to-digital converters (D2D), we can make the data on a CD or computer file sound more like the original recording than any other hi-fi system.

Over the years we have demonstrated to music lovers worldwide that, by separating the key functions of the digital playback chain, you can achieve huge sonic benefits and extraordinary musicality. For that reason a typical *dCS* reference system will comprise up to four separate units: Upsampling CD/SACD Transport, Digital-to-Digital Converter, Digital-to-Analogue Converter and Master Clock. The positive contribution that each makes to the overall musical performance can easily be heard.

All *dCS* products express the same values of musical and technical excellence and, by utilising the same key technologies across the ranges, we can be sure that, whatever the source, the musical performance is guaranteed.



We can make the data on a CD or computer file sound more like the original recording than any other hi-fi system.



Key Technologies

dCS have been at the forefront of digital audio development for over 25 years. Upsampling, Oversampling, Clocking, PCM-to-DSD conversion are all areas in which *dCS* have taken a revolutionary path.

Our latest generation of products feature a number of technologies unique to *dCS*

Clock Precision

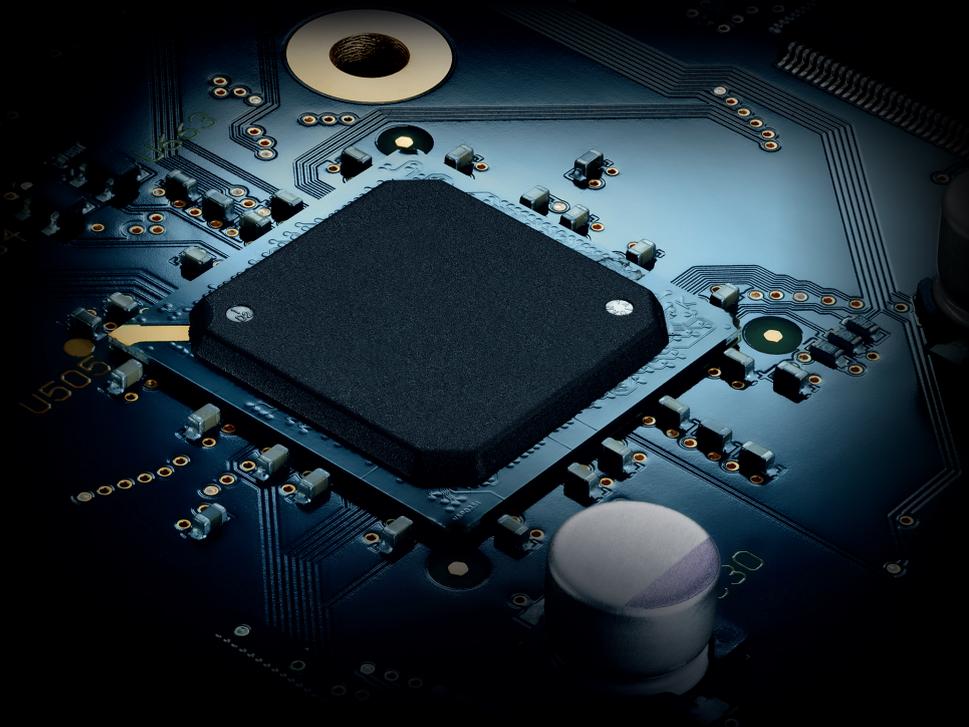
There's more to clocking than controlling jitter. At *dCS* we take great care to ensure that our clocking is as accurate as possible, from the precision, low phase noise, crystal oscillators that generate the clocks at the heart of every *dCS* unit to the low noise, low skew clock distribution systems that get the clock to the point of use exactly as it was generated. All of our internal processing, from power supply synchronisation to the high speed signal processing and modulation, is synchronous with the main audio clock for consistent behaviour day after day and absolute precision.

Constant Product Improvement

At *dCS* we are deeply proud of the extraordinary performance of our current systems, but we never stop measuring, refining and improving. Recognising that technology is constantly changing, we have developed a completely flexible and modular product architecture that allows us to continually invent new features and develop new capabilities. From the Digital Processing Platform and Ring DAC™ circuits at the heart of *dCS* technology to the control and user interface systems, *dCS* products can be easily reprogrammed. This allows music lovers to continue improving the musical and technical performance of their system throughout the life of the product.

Audio Microscope

Fourier analysis, used throughout our development process, enables *dCS* engineers to identify artefacts invisible to other test techniques – a sort of Audio Microscope. With this sensitive tool at our disposal we are able to determine the cause of even the most subtle of degradations, improving performance way beyond what is possible using other techniques. At *dCS* we developed FFT (Fast Fourier Transform) test systems back in the 1990s and our long history and deep understanding of its benefits means our systems offer unparalleled levels of accuracy.



Ring DAC™

It is often the case in engineering that there comes a point beyond which the performance of an existing technology cannot practically be improved. When this happens further progress requires a totally new approach to be developed. This is exactly what happened when *dCS* invented the Ring DAC™. Our Ring DAC™ offers excellent linearity, most notably at the low levels where other DACs fail and, as a result, it delivers unrivalled technical performance. For you, the listener, this translates into a musical experience of breathtaking clarity and emotional intensity.

Digital Processing Platform

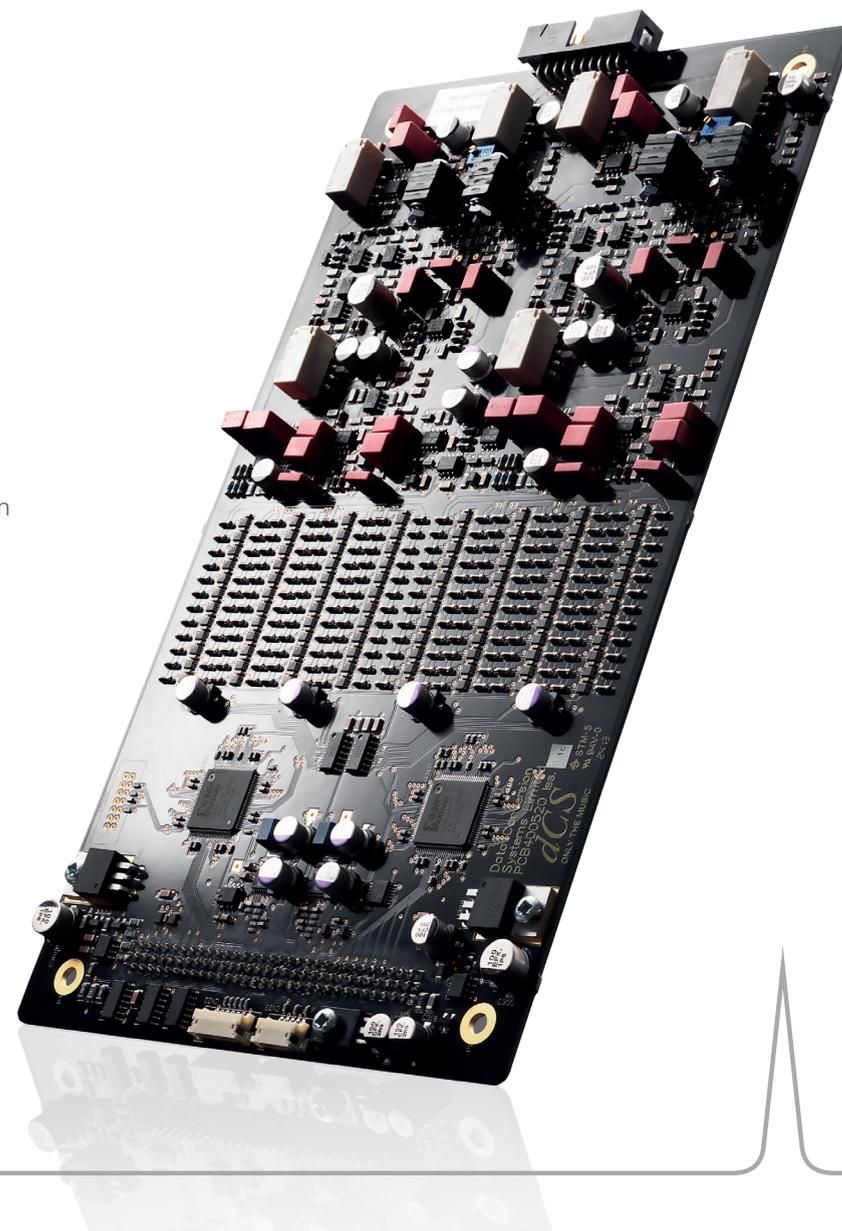
The Digital Processing Platform is a powerful system built around state-of-the-art Field Programmable Gate Arrays and Digital Signal Processing ICs. It allows almost any logic or signal processing function to be configured within the hardware simply by reprogramming the processor ICs. This arrangement is so flexible that it allows us to configure a multitude of products on the same hardware platform and, because it is programmable, it allows new functionality to be enabled by means of a simple software upgrade. It is this platform at the heart of *dCS* products that allow us to implement our unique signal processing and Ring DAC™ topologies that are the very essence of what makes our systems sound so wonderful.

Proprietary Signal Processing

Any audio DAC requires careful filtering and various signal processing operations in order to reconstruct the audio waveform accurately. In our unique Ring DAC™ we chose to implement this processing in programmable circuits configured into the Digital Processing Platform. Other DAC topologies have fixed and often compromised filter responses set by the specific DAC or filter ICs that they use. However, at *dCS* our proprietary approach to signal processing gives us complete control. The result is an optimisation of the signal processing in all *dCS* systems that ensures that you can enjoy music exactly as the artists intended.

Computer Audio

One of the main benefits of the *dCS* approach to design and manufacture is Future Proofing. We have pioneered many breakthrough technologies in digital audio and that's down to the flexibility of our hardware and software but also our ability to anticipate the future. As we have moved from spinning discs to streaming audio *dCS* remains at the forefront of performance and sound by ensuring our products can accept digital audio data from any source and transform it into a unique musical experience.



Vivaldi

Vivaldi is a complete digital playback system that offers unmatched sonic and measured performance. Designed for maximum flexibility with an array of input and output configurations it is easily set up and optimised for music systems with various digital sources.



Featuring the latest groundbreaking technology from *dCS*, Vivaldi will transform your listening experience, taking your music collection to levels you have not heard before.



Vivaldi Highlights

Vivaldi DAC

- Features standard digital inputs in addition to an isolated asynchronous USB interface. The enhanced digital volume control allows direct connection to a power amplifier so that in the majority of systems there is no need for a separate preamplifier. Maximum output can be set to one of four levels to suit different amplifier and speaker combinations.
- Featuring the latest generation *dCS* Digital Processing Platform designed to handle all high resolution musical formats up to DXD (24 bit data at 352.8 and 384kS/s) plus DSD/128. The optimised DSP filters available will ensure you can extract every last nuance of musical detail and emotion by tuning the system to suit your personal preference.
- Utilises the latest generation of our state-of-the-art *dCS* Ring DAC™ that delivers enhanced dynamic range, reduced jitter, improved channel separation and greatly improved musical realism.

Vivaldi Upsampler

- Accesses music from any digital source and converts the audio from its native sample rate to either high resolution DXD (24 bit data at 352.8 or 384kS/s), DSD (1 bit data at 2.822MS/s or 5.644MS/s) or standard high resolution PCM (24 bit data up to 192kS/s).
- Network connectivity to stream high resolution audio files stored on a computer or on network storage via UPnP™. Asynchronous USB input also allows direct connection of a PC, supporting high resolution audio up to 24/384kS/s and native DSD or DoP (DSD over PCM). Galvanic isolation prevents interference from the computer equipment.
- Apple™ authenticated and supports playback of iPod™/iPhone™ stored digital media, bypassing the internal DAC to ensure optimal performance.
- An array of independently selectable digital inputs and filter options elevates the performance of Red Book CD from CD Players or high resolution audio from digital streamers and servers to a previously unsurpassed level.

Vivaldi Transport

- Extracts revelatory levels of detail from both CD and SACD. All signal processing is controlled by electronics designed by *dCS*. It uses the TEAC Esoteric VRDS Neo™ mechanism which provides a brushless motor with heavy flywheel for stable disc rotation and super-rigid construction.
- Features a Dual AES output that supports *dCS*-encrypted DSD to a *dCS* DAC for SACD plus the option of upsampling CD data to DSD/128 or DXD.

Vivaldi Master Clock

- A powerful yet simple to use Grade 1 master clock. Featuring two banks of clock outputs capable of outputting different frequencies, the new auto-clocking mode in Vivaldi improves ease of use and minimises jitter.
- Used as part of the Vivaldi digital audio playback system it improves on an already spectacular sound and takes it into an entirely new domain. Images snap into sharper focus and the music displays a substantially greater sense of authority and power as well as, most importantly, offering noticeably higher resolution of detail.

Vivaldi redefines state-of-the-art in digital playback and represents the pinnacle of our 'no compromise' approach to product design – setting a new standard for the future of digital audio.

Rossini

The new *dCS* Rossini system makes superlative sounding music from a wide range of digital sources, simply integrating your digital music and setting the performance standard for digital playback. This single-box digital music player features the legendary *dCS* Ring DAC™ and signal processing platform, plus a custom high performance UPnP music streamer and CD transport.



Rossini Highlights

Rossini DAC

- State-of-the-art network streamer and DAC with a variety of digital inputs, including UPnP, asynchronous USB and Apple™ Airplay sources, plus AES, Dual AES and S/PDIF digital audio streams. Various subscription streaming services supported.
- Featuring streamlined *dCS* Digital Processing Platform designed to handle all high resolution musical formats up to DXD (24 bit data at 352.8 and 384kS/s) plus DSD/64 and DSD/128. The optimised DSP filters available will ensure you can extract every last nuance of musical detail and emotion by tuning the system to suit your personal preference.
- Utilises the latest generation of our state-of-the-art *dCS* Ring DAC™ that delivers enhanced dynamic range, reduced jitter, improved channel separation and greatly improved musical realism.
- The enhanced digital volume control allows direct connection to a power amplifier so that in the majority of systems there is no need for a separate preamplifier. Maximum output can be set to one of four levels to suit different amplifier and speaker combinations.

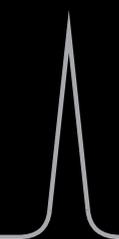
Rossini Player

- State-of-the-art network streamer and DAC with a variety of digital inputs, including UPnP, asynchronous USB and Apple™ Airplay sources, plus AES, Dual AES and S/PDIF digital audio streams. Various subscription streaming services supported. Rossini Player also features an integral, high quality CD transport for silver disc playback.
- Featuring streamlined *dCS* Digital Processing Platform designed to handle all high resolution musical formats up to DXD (24 bit data at 352.8 and 384kS/s) plus DSD/64 and DSD/128. The optimised DSP filters available will ensure you can extract every last nuance of musical detail and emotion by tuning the system to suit your personal preference.
- Utilises the latest generation of our state-of-the-art *dCS* Ring DAC™ that delivers enhanced dynamic range, reduced jitter, improved channel separation and greatly improved musical realism.
- The enhanced digital volume control allows direct connection to a power amplifier so that in the majority of systems there is no need for a separate preamplifier. Maximum output can be set to one of four levels to suit different amplifier and speaker combinations.

Rossini Master Clock

- A powerful yet simple to use Grade 1 master clock. New dual frequency output and auto-clocking mode used in the Vivaldi and Rossini range improves ease of use and minimises jitter, particularly with computer audio sources.
- Used as part of the Rossini digital audio playback system it improves on an already spectacular sound and takes it into an entirely new domain. Images snap into sharper focus and the music displays a substantially greater sense of authority and power as well as, most importantly, offering noticeably higher resolution of detail.

When listening to digital music through a Rossini system, listeners are immediately struck by its natural musicality and faithfulness to the original recording. It delivers a powerful and visceral sound yet is highly transparent too, making for an immersive and realistic listening experience.



Debussy

The entry point to the world of *dCS* and designed to be the hub of a digital playback system, Debussy combines the legendary *dCS* Ring DAC™ with our award-winning asynchronous USB technology in one box to deliver a DAC that will extract amazing performance from any digital source.



Debussy Highlights

Debussy DAC

- Isolated asynchronous USB input also allows direct connection of a PC and supports high resolution audio up to and including 24/384kS/s and DSD/128.
- The optimised DSP filters available will ensure you can extract every last nuance of musical detail and emotion by tuning the system to suit your personal preference.
- Optional DSD upsampling offers a more rounded sonic presentation.
- An array of independently selectable digital inputs completes the versatility of this powerful machine and elevates the performance of Red Book CD from CD Players or high resolution audio from digital streamers and servers to a previously unsurpassed level.
- The enhanced digital volume control allows direct connection to a power amplifier so that in the majority of systems there is no need for a separate preamplifier. Maximum output can be set at either two or six volts to suit different amplifier and speaker combinations.

Single box
elegance at the
cutting edge
of standalone
DAC design.



Vivaldi

				
Name	Vivaldi DAC.	Vivaldi Upsampler.	Vivaldi Transport.	Vivaldi Master Clock.
Type	Digital-to-Analogue Converter.	Digital-to-Digital Converter.	Upsampling CD/SACD Transport.	Master Clock.
Colour	Silver or Black.	Silver or Black.	Silver or Black.	Silver or Black.
Dimensions (WxDxH)	444mm/17.5" x 435mm/17.2" x 151mm/6.0".	444mm/17.5" x 435mm/17.2" x 125mm/5.0".	444mm/17.5" x 435mm/17.2" x 196mm/7.8".	444mm/17.5" x 435mm/17.2" x 125mm/5.0".
Weight	16.2kg/35.65lbs.	14.2kg/31.3lbs	23.2kg/51.1lbs.	13.6kg/29.9lbs.
Consumption	23W typical, 30W maximum.	15W typical, 18W maximum.	28W typical, 40W maximum.	10W typical, 12W maximum.
Control	IR or RS232. <i>dCS</i> Premium Remote as standard.	IR or RS232. Vivaldi Controller app. <i>dCS</i> Premium Remote as option.	IR or RS232. <i>dCS</i> Premium Remote as option.	IR or RS232. <i>dCS</i> Premium Remote as option.
Function	Uses proprietary latest generation <i>dCS</i> Ring DAC™ and Digital Processing Platform technology to operate as a standalone DAC or as part of a digital system.	Accesses music from any digital source and converts audio from its native sample rate to PCM up to 24/384 (DXD) or DSD in DoP format (DSD over PCM) at either 2.8MS/s or 5.6MS/s (DSD/128).	Designed to read both CD and SACD. Optional DXD and DSD upsampling. Uses the TEAC Esoteric VRDS Neo™ mechanism. All signal processing controlled by electronics designed by <i>dCS</i> .	Grade 1 master clock featuring two banks of clock outputs capable of outputting different frequencies.
Inputs	2x Dual AES or 4x AES/EBU. 1x USB2.0 isolated interface on a type B connector, operates in asynchronous USB mode. 3x SPDIF (2xRCA + 1xBNC). 1x Toslink optical. 1x SDIF-2 interface on 2x BNC connectors. 3x Word Clock inputs on 3x BNC connectors.	RJ45 – acts as UPnP renderer. 1x USB 2.0 interface on B-type connector. 1x USB 2.0 interface on A-type connector. AES3 on a 3-pin female XLR connector. 3x SPDIF on 2x RCA Phono, 1x BNC. 1x Toslink optical. 1x SDIF-2 interface on 2x BNC connectors. 2x Word Clock input on 2x BNC connectors.	1x Word Clock input accepts 44.1, 88.2 or 176.4kHz.	1x Reference input on BNC connector can be used to lock to an external atomic clock or GPS reference at 1, 5 or 10MHz, TTL or AC compatible.
Outputs	1 pair balanced, floating analogue outputs on 2x 3-pin male XLR connectors. 1 pair unbalanced analogue outputs on 2x RCA connectors. Analogue outputs may be set to 0.2, 0.6, 2 or 6V. 1x Word Clock output.	1x Dual AES interface on 2x 3-pin male XLR connectors. OR 2x AES3 interfaces. 2x SPDIF on 1x RCA Phono and 1x BNC. 1x Word Clock output.	1x Dual AES interface on 2x 3-pin male XLR connectors. 1x AES3 on 3 pin Male XLR. 2x SPDIF on 1x RCA Phono and 1x BNC. 1x SDIF-2 interface on 2x BNC.	8x Word Clock outputs, independently buffered. Each group of 4 may be set to 44.1, 48, 88.2, 96, 176.4 or 192kHz.
Maximum Sample Rates	USB: 24/384, DSD/128 & DoP/128 (DSD over PCM). Dual AES: 24/384 PCM, DoP/128 & encrypted DSD/64. Single AES & SPDIF: 24/192 PCM & DoP/64 (DSD over PCM). Toslink: 24/96 PCM. SDIF-2: 24/96 & DSD/64.	UPnP: 24/384 PCM, DSD/128 & DoP/128. USB: 24/384, DSD/128 & DoP/128. Dual AES output: 24/384 PCM, DoP/128. Single AES & SPDIF: 24/192 PCM & DoP/64. Toslink: 24/96 PCM. SDIF-2: 24/96 PCM & DSD/64.	Dual AES: 24/352.8 & encrypted DSD/128. All other outputs carry 16/44.1 PCM.	
Performance	Residual Noise: Better than -113dB0 @ 20Hz-20kHz unweighted. (6V Setting). L-R Crosstalk: Better than -115dB, 20-20kHz. Spurious Responses: Better than -105dB0 @ 20-20kHz.	Spurious Responses: Better than -100dB0 @ 20Hz-20kHz.		Better than +/-1ppm when shipped. Typically +/-0.1ppm when shipped and stabilised.
Updates	CD-R or USB.	CD-R or USB.	CD-R.	CD-R.

Rossini

			
Name	Rossini DAC.	Rossini Player.	Rossini Master Clock.
Type	Upsampling Network DAC.	Upsampling CD/Network Player.	Master Clock.
Colour	Silver or Black.	Silver or Black.	Silver or Black.
Dimensions (WxDxH)	444mm/17.5" x 435mm/17.2" x 125mm/5.0". Allow extra depth for cable connectors.	444mm/17.5" x 435mm/17.2" x 151mm/6.0". Allow extra depth for cable connectors.	444mm/17.5" x 435mm/17.2" x 64mm/2.6". Allow extra depth for cable connectors.
Weight	15.6kg/34.3lbs.	17.4kg/38.3lbs.	8.3kg/18.3lbs.
Consumption	23W typical, 28W maximum.	26W typical, 35W maximum.	3W typical/4W maximum.
Control	Rossini controller App, IR or RS232.	Rossini controller App, IR or RS232.	RS232.
Function	Converts music from any digital source to top-quality analogue using the proprietary latest-generation <i>dCS</i> Ring DAC™ and a new streamlined Digital Processing Platform. Operates as a standalone UPnP renderer or as part of a digital audio system.	Converts music from any digital source or CD to top-quality analogue using the proprietary latest-generation <i>dCS</i> Ring DAC™ and a new streamlined Digital Processing Platform. Operates as a standalone UPnP renderer, CD player or as part of a digital audio system.	Grade 1 Master Clock.
Inputs	RJ45 – acts as a UPnP renderer. 1x USB 2.0 on B-type connector. 1x USB 2.0 on A-type connector. Dual AES or 2x AES on 2x 3-pin female XLR connectors. 2x SPDIF on RCA & BNC connectors. 1x Toslink optical. 2x Word Clock inputs on BNC connectors.	RJ45 – acts as a UPnP renderer. Internal CD mechanism. 1x USB 2.0 on B-type connector. 1x USB 2.0 on A-type connector. Dual AES or 2x AES on 2x 3-pin female XLR connectors. 2x SPDIF on RCA & BNC connectors. 1x Toslink optical. 2x Word Clock inputs on BNC connectors.	
Outputs	1 pair balanced, floating outputs on 2x 3-pin male XLR connectors. 1 pair unbalanced outputs on 2x RCA connectors. Analogue outputs may be set to 0.2, 0.6, 2 or 6V. 1x Word Clock output on BNC connector.	1 pair balanced, floating outputs on 2x 3-pin male XLR connectors. 1 pair unbalanced outputs on 2x RCA connectors. Analogue outputs may be set to 0.2, 0.6, 2 or 6V. 1x Word Clock output on BNC connector.	3x Word Clock outputs: Output 1: fixed at 44.1kHz Output 2: fixed at 48kHz Output 3: nominally 44.1kHz, RS232 controllable.
Maximum Sample Rates	UPnP: 24/384 PCM, DSD/128 & DoP/128. USB: 24/384, DSD/128 & DoP/128. Dual AES: 24/384/PCM, DSD/128. Single AES & SPDIF: 24/192 PCM or DoP/64.	UPnP: 24/384 PCM, DSD/128 & DoP/128. USB: 24/384, DSD/128 & DoP/128. Dual AES: 24/384/PCM, DSD/128. Single AES & SPDIF: 24/192 PCM or DoP/64.	
Performance	Residual noise: Better than -113dB0, 20-20kHz unweighted (6V setting). L-R crosstalk better than -115dB0 20-20kHz. Spurious responses: Better than -105dB0, 20-20kHz.	Residual noise: Better than -113dB0, 20-20kHz unweighted (6V setting). L-R crosstalk better than -115dB0 20-20kHz. Spurious responses: Better than -105dB0, 20-20kHz.	Better than +/-1ppm when shipped. Typically better than +/-0.1ppm when shipped and stabilised.
Updates	Download & update via Rossini App, or from CD-R or file.	Download & update via Rossini App, or from CD-R or file.	Loaded by distributor.

Debussy

	
Name	Debussy DAC.
Type	Digital-to-Analogue Converter.
Colour	Silver or Black.
Dimensions (WxDxH)	445mm/17.6" x 392mm/15.5" x 65mm/2.6".
Weight	8.8kg/19.4lbs.
Consumption	19W typical, 25W maximum.
Control	IR or RS232. <i>dCS</i> Premium Remote supplied as standard.
Function	Uses proprietary <i>dCS</i> Ring DAC™ and Digital Processing Platform technology to operate as a standalone DAC or as part of a digital system. Features USB input for computer audio.
Inputs	1x USB2.0 interface on 'B' type connector, operates in asynchronous USB mode. 1x Dual AES interface OR 2x AES/EBU on 2x 3-pin female XLR connectors. 2x SPDIF on 1xRCA + 1x BNC connector. 1x Word Clock input on BNC connector.
Outputs	1 pair balanced, floating analogue outputs on 2x 3-pin male XLR connectors. 1 pair unbalanced analogue outputs on 2x RCA connectors. All outputs may be set to 2V or 6V.
Maximum Sample Rate	USB: 24/384 PCM, DSD/128 & DoP/128. Dual AES: 24/384 & DoP/128. AES & SPDIF: 24/192 PCM & DoP/64.
Performance	Residual Noise: Better than -110dB0 @ 20Hz-20kHz unweighted. (6V Setting). L-R Crosstalk: Better than -80dB, 20-20kHz. Spurious Responses: Better than -100dB0 @ 20-20kHz.
Updates	CD-R or USB.

The Ring DAC™

At the heart of every *dCS* system is our proprietary Ring DAC™, originally designed and built to meet the exacting standards demanded in mission-critical military applications. When used for audio applications, in the now-legendary professional 900 ADC and 950 DAC products, it performed quite unlike anything else available.

The Ring DAC™ is born

Rather than simply optimising the performance of an off-the-shelf digital converter chip, *dCS* designed the Ring DAC™ from the ground up. It lifted both the objective measured performance and the subjective listening experience of digital music to new, previously undreamed of heights. Indeed, the Ring DAC™ tested so well that standard measurement devices could find no error in the data passing through it. As a result *dCS* had to develop its own, far more sensitive test equipment and test software.

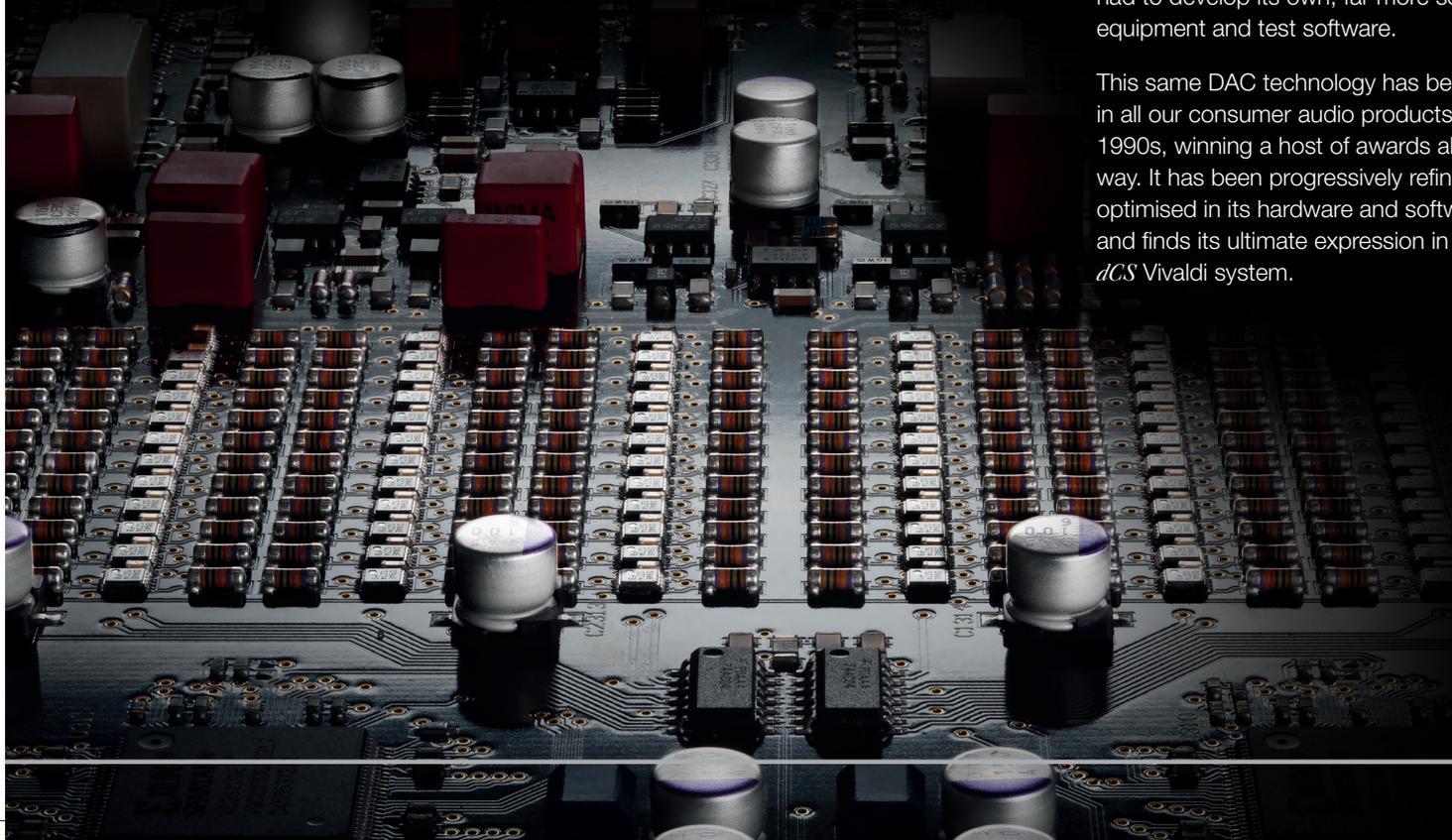
This same DAC technology has been used in all our consumer audio products since the 1990s, winning a host of awards along the way. It has been progressively refined and optimised in its hardware and software, and finds its ultimate expression in today's *dCS* Vivaldi system.

How the Ring DAC™ Works

After oversampling and digital filtering, the audio is re-encoded as 5 bits of noise-shaped data and passed to the Ring DAC™. Here the 5-bit binary data is mapped onto an array of 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 levels.

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 artefacts, leaving a superlative quality analogue output. The Ring DAC™ features separate unbalanced and balanced output stages, so they can be used simultaneously without any interaction between the two.

The balanced output stage is a discrete, floating design that operates in Class A. It behaves like a coupling transformer, helping to keep hum and interference out of the music. The balanced mix amplifier stages double as analogue filters, effectively removing any residual Nyquist images remaining after the oversampling process and rejecting the switching noise inherent in any high-speed DAC. This board provides four user-selectable gain settings, to help match the DAC to the rest of the system.



The Future

Ring DAC 2.0™ – Setting the Standard for the 21st Century

As the first decade of the 21st century came to a close we decided to completely overhaul the Ring DAC™, in the light of advances in technology and component design since it was first created.

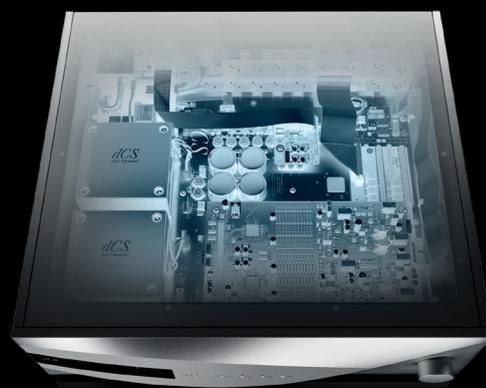
The first product to be built around the completely revised Ring DAC 2.0™ was our Vivaldi system, now followed by the more affordable Rossini. Both feature the addition of FPGAs on the Ring DAC™ board itself, a modification that has allowed our engineers to work on the maths behind the mapping process so that changes to the mapper algorithm can be effected with a simple firmware update.

The first way in which this upgrade in technology has been exploited is to improve the original *dCS* mapper, together with a new noise shaper, so that it can now run at two different speeds; ~3MHz and ~6MHz. For *dCS* this is revolutionary because, although the Ring DAC™ design has been improved in various ways over the years, the mapping algorithm and speed have remained constant.

The results of these upgrades have been profound. The already extraordinary measured performance of the original Ring DAC™ has been exceeded on all fronts, and the subjective performance

has risen to even greater heights. Most notable is the superior detail, poise and dynamics of the music, which has made for an even smoother and more extended top end, more transparent and natural midband and better bass articulation.

Audiophiles have traditionally been offered a choice between forensically detailed or musically satisfying DACs, but the new Ring DAC 2.0™ fitted to the latest *dCS* products provides the best of both worlds. It offers both an emotionally profound musical performance, as well as breathtaking levels of detail, whatever the type of music you play.



Just as the advance of audio technology influences people's relationship with music so too does people's listening habits propel the development of new and exciting technology.

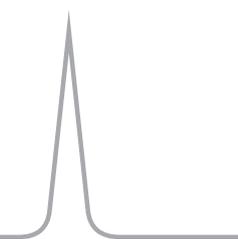
Fast forward to the present day and music lovers worldwide are all looking for the same thing; excellent sound quality in their home that is easy to use and is future proofed.

Our current range of products have a simple yet powerful interface that lets listeners manage their music playback experience from any source such as Compact Disc, iRadio, Apple Airplay, digital and UPnP.



Music can be streamed from all of these sources in an elegantly simple way. Our easy-to-use control software also allows listeners to install, configure and update their system to add new features.

Connectivity and inter-operability have always been the cornerstone of our development efforts, so to truly enjoy the *dCS* experience, our DAC just needs a data stream. We continue to invest in Research and Development activities that improve our core technologies but also the listener experience.



Our Values

The very special culture at *dCS* enables us to embrace change and push the limits of human ingenuity in order to make our world-beating digital audio products ever better. It is this passionate commitment to product and service excellence that sets *dCS* apart from the rest.

The *dCS* Product Promise

- We will design all of our products from the ground up using leading-edge technology – so that they perform better than anything else out there.
- We will ensure that our products have the very best measured performance across all important technical parameters.
- We will build our products by hand in the UK to ensure superb product quality and reliability – testing each product exhaustively before it reaches our customer.

The *dCS* Customer Promise

- We will only sell products that offer the finest possible subjective performance in terms of musical reproduction.
- We will only sell our products through dedicated and extensively trained retailers who will optimise the performance of *dCS* products in our customers' systems.
- We will offer our customers the best possible after-sales service without question.





It's almost unfair; *dCS* seem to play in a league of their own.

STEREOPHILE

For me *dCS* remains the finest source of A/D converters whether hi-res. or ordinary-res; they excel in bandwidth, filter management and lack of noise modulation.

Tony Faulkner
GREEN ROOM PRODUCTIONS, UK

The Vivaldi is in a class of its own in every category – technical sophistication, capabilities and, most importantly, sound quality. It was mind-blowing. There is simply nothing else like it. It is truly, and by a wide margin, the *ne plus ultra* of digital playback.

Robert Harley
THE ABSOLUTE SOUND

Vivaldi makes music like no other digital replay system or CD player ever has. This family of digital electronics is just so far ahead of what I have heard that it is truly remarkable.

Chris Thomas
HIFI PLUS

Life is rich, life is emotional, life is beautiful. If you substitute “music” for “life”, you’ll know how I feel about this wonderful hobby of ours. So yea, I get truly excited when things click, when listening to music on the hi-fi becomes a completely captivating journey. The *dCS* Rossini DAC and Clock are capable of exploding the listening experience into a fabulous psychedelic adventure constrained only by imagination and time.

Michael Lavorgna
AUDIOSTREAM

Well – there you have it: the *dCS* Scarlatti and Puccini are the best digital sources I’ve yet heard.

Jonathan Valin
THE ABSOLUTE SOUND

The Debussy equates to a triumph, bringing world-class digital performance to a price point previously out of most audiophile’s reach.

Jeff Dorgay
TONE AUDIO MAGAZINE

Overall, the *dCS* Vivaldi measured superbly well. When I measured the company’s earlier four-box system, the Scarlatti, in 2009, I concluded that it offered “state-of-the-art measured performance.” The Vivaldi improves on the Scarlatti’s performance in almost every way. Wow! Then I took a listen to the complete Vivaldi system. Again wow! Without any doubt, this was the best digital playback I have experienced.

John Atkinson
STEREOPHILE

But the Paganini is not just superb technically; the most remarkable thing it does is to make digital music enjoyable in an unselfconscious way, just like an excellent analogue system.

David Price
HIFI WORLD

Hugely flexible, hugely capable, the Vivaldi system represents a milestone in the development of digital audio.

Paul Miller
HIFI NEWS





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