

Vivaldi Master Clock

Master Clock



The *dCS* Vivaldi range redefines the state-of-the-art in digital audio playback, representing the pinnacle of our no-compromise approach to product design and setting a new standard for the future of digital audio by delivering an unrivalled in-home musical experience.

Vivaldi Master Clock is a powerful yet simple to use Grade 1 master clock, based on our pioneering developments in studio and home audio. Featuring two banks of clock outputs capable of outputting different frequencies, Vivaldi Master Clock uses the latest ground-breaking technology from *dCS*.

In a digital audio system, samples must be accurately transferred at the correct time. Instability in the sample timing is called jitter – this exists in all digital systems. Severe jitter results in timing errors in the delivery of data to the DAC, causing the analogue signal to be reconstructed inaccurately.

In a *dCS* system, the DAC can act as the system master clock, but listening tests have shown that there is no substitute for a high quality, dedicated master clock. *dCS* pioneered the use of external clocks in digital audio systems. Our clocking technology has been continually refined so that our latest multi-stage Phase-

Locked-Loop (PLL) system sets world-beating standards for accuracy and control of troublesome jitter from the incoming audio stream.

All *dCS* Master Clocks are subjected to rigorous in-house testing. The crystal oscillators are pre-aged, selected for long term stability and then individually calibrated over a wide temperature range to ensure consistent optimal performance. Vivaldi Master Clock uses a sophisticated microcontroller system to ensure smooth frequency correction as the temperature changes, and this approach gives a more stable result than either oven-controlled crystal oscillators or even atomic clocks.

All *dCS* Master Clocks are designed to generate industry-standard Word Clock over a 75 ohm coaxial cable. Other manufacturers' equipment that has been designed to accept standard Word Clock can be used with our clocks.

Vivaldi Master Clock may be slaved to an external reference (such as an atomic clock or GPS reference) if increased accuracy is desired. Our sophisticated multi-mode Phase-Locked-Loop (PLL) significantly reduces jitter from the reference source.

The *dCS* 'soft' approach to programmable logic allows the user to easily update Vivaldi Master Clock software, whether this is to add new features, improve performance or adapt to changes in digital formats.

Used as part of the Vivaldi digital audio playback system, Vivaldi Master Clock improves on an already spectacular sound and takes it into an entirely new domain. With a clock added to a *dCS* system, images snap into sharper focus, the music displays a substantially greater sense of authority and power, as well as offering noticeably superior resolution of detail.

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TECHNICAL SPECIFICATIONS

Type	Class 1 Master Clock.
Clock Frequencies	44.1, 48, 88.2, 96, 176.4 or 192kHz.
Colour	Silver or Black.
Dimensions (WxDxH)	444mm/17.5" x 435mm/17.2" x 126mm/5.0". Allow extra depth for cable connectors.
Weight	13.6kg/29.9lbs.
Clock Accuracy	Better than +/-1ppm when shipped. Typically +/-0.1ppm when shipped and stabilised.
Word Clock I/O	Two groups of 4 independently buffered outputs on 75Ω BNC connectors. Each group may be set to a different clock frequency.
Digital Inputs	External Reference Input on 1x 75Ω BNC connector. Accepts either Word Clock or AC coupled signals at 1MHz, 5MHz & 10MHz. Lock range is +/-300ppm.
Start Up Time	Typically 1 minute to rated accuracy.
Software Updates	Loaded from CD-R or PC / Upsampler via Reference Input.
Local Control	<i>dCS</i> Premium Remote handset is supplied with Vivaldi DAC. RS232 (controlled by a third party device).
Power Supply	Factory set for 100, 115, 220 or 230V AC, 49-62Hz.
Power Consumption	10 Watts typical / 12 Watts maximum.

KEY FEATURES

- Utilises the latest generation *dCS* Digital Processing Platform for state-of-the-art measured performance and unrivalled musical experience.
- Designed for maximum flexibility as output configuration can be optimised in systems with a wide variety of digital audio sources.
- Dual crystal oscillators with microcontroller-enhanced temperature correction.
- New dual frequency output and auto-clocking mode used in the Vivaldi range improves ease of use and minimises jitter, particularly with computer audio sources.
- Improved power supplies give lower running temperature and superior tolerance to AC supply variations.
- Multi-stage regulation ensures sensitive clock and PLL circuitry is unaffected by digital interference.
- Aerospace-grade machined aluminium chassis fitted with tuned acoustic damping panels reduces magnetic effects and vibration.

ABOUT *dCS*

dCS has been at the forefront of digital audio since 1987. Its unique expertise in digital signal processing means that it has played a vital innovating role in digital music recording and playback over the years, and makes its products sound like no others.

The company has won numerous awards for its range of class-leading digital converters, all of which use the bespoke, custom-designed Ring DAC™ architecture – created during the company's time working on specialist radar applications for military aviation.

dCS products are unrivalled in their class – not only for sonic performance, but also for build quality. Designed and manufactured in the United Kingdom using only the best materials and components, they offer state-of-the-art sound, superlative reliability and are uniquely upgradeable as new formats appear.

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