

PUCCINI

U-Clock



Puccini is a revelation – a high end system in one box - combining the aesthetics of the Paganini with all of our upsampling, DAC and CD/SACD player technology in a single, easy to set up unit which delivers unbeatable performance.

The Puccini range now features a **patent pending** (GB0817141.5) Puccini U-Clock which is separate grade 1 system clock to further reduce jitter and improve performance. Puccini U-Clock also features a USB to SPDIF converter, which enables Puccini owners to present sound files from a PC to the legendary **dCS Ring DAC** inside the Puccini.

dCS equipment is designed to generate and accept industry standard Word Clock on 75 ohm co-axial cable. Our Clocks will drive other manufacturers' equipment designed to accept standard Word Clock. Non-standard clock formats must be assumed to be proprietary to that manufacturer.

Asynchronous USB Mode

In USB, there are numerous modes for synchronising the audio between the PC (the host), and an audio device. The most popular of these, "adaptive", involves the audio device synchronising itself to the USB "frame" provided by the PC. This tends to give poor jitter performance.

Puccini U-Clock operates in "asynchronous" mode (NOT to be confused with asynchronous rate conversion), where the audio device synchronises the audio by providing a feedback pipe to the PC. The PC then is effectively locked to the audio device, which can have a much more accurate clock and much lower jitter.



Using the Puccini U-Clock

USB is isochronous. This means that the host (PC) and client (Puccini U-Clock) both know how much bandwidth is available at the outset, so the host can guarantee that bandwidth will be available all the time.

Your music may be stored on a large Hard Disc Drive (HDD) in a different room, linked by WiFi to a small, silent device (such as a laptop) connected by USB cable to the Puccini U-Clock. When the user selects the audio for playback, the Mac/PC streams all of the selected data from the HDD or Network Assigned Storage (NAS) device, then outputs the data on USB.

The audio flowing between the PC and Puccini U-Clock is packetised PCM at 32, 44.1, 48, 88.2 or 96kS/s. It is the job of the codecs installed on the PC to decode the data and present it to Puccini U-Clock in a standard PCM format.



Technical Specifications

Type	System Clock
Clock Frequencies	44.1kHz or 48kHz.
Colour	Silver or Black
Dimensions	(W) 460mm x (D) 410mm x (H) 58mm (W) 18.1" x (D) 16.2" x (H) 2.3" Allow extra depth for cable connectors.
Weight	7.6 kg / 16.7 lbs.
Clock Accuracy	Better than +/- 1ppm when shipped over an ambient temperature range of 10°C to 30°C (guaranteed for 12 months from shipping). Typically +/-0.1ppm when shipped and stabilised.
Word Clock Outputs	4 independently buffered outputs on 75Ω BNC connectors, all carry the same clock frequency. With the USB interface active at 32, 48 or 96kS/s, the word clock outputs are set to 48kHz. With the USB interface active at 44.1 or 88.2kS/s, the word clock outputs are set to 44.1kHz.
Digital Inputs	USB 2.0 interface on type B connector accepts uncompressed audio data at 32, 44.1, 48, 88.2 and 96kS/s.
Digital Outputs	Puccini U-Clock will present data received via the USB interface, unprocessed, in SPDIF format on 2 x RCA Phono connectors.
Operating Systems	Tested on Windows XP, Windows Vista and Mac OS X 10.5. Uses the "Audio Class" in USB. This means no special drivers are required, and any playback software can access Puccini U-Clock as an audio device.
File Formats	Packetised PCM at 32,44.1,48,88.2 or 96kS/s.
Start Up Time	Typically 1 minute to rated accuracy.
Power Supply	Factory set for 100 - 120 or 200 - 240 V AC, 49 – 62Hz.
Power Consumption	3Watts typical / 6Watts maximum.

Key Features

- Puccini Clock is a grade 1 system clock, featuring 4 word clock outputs.
- Allows Puccini owners to play sound files from a PC via the **dCS Ring DAC** on board the Puccini.
- Asynchronous USB mode prevents the source injecting jitter into DAC
- High grade aluminium chassis and laminated acoustic damping panels to reduce magnetic effects and vibration.

About dCS

Since 1987 **dCS** has been at the forefront of digital audio - creating products that are a unique synthesis of exact science and creative imagination. For people who are serious about music, **dCS** audiophile products offer an unrivalled ability to transform digital audio into real music that you can hear, feel and experience.

dCS products are designed and hand built in the UK to deliver a totally unique listening experience. The best materials combined with decades of experience and skilled manufacturing guarantee amazing performance.

Contact dCS

Data Conversion Systems Limited
Mull House, Gt. Chesterford Court, Great Chesterford,
Saffron Walden, Essex, CB10 1PF, UK
Email: sales@dcsLtd.co.uk
Website: www.dcsLtd.co.uk