BRYSTON

A Lifetime of Music

MEMO: To All Bryston Customers July 2013

SUBJECT: NEW Bryston BUC-1 USB Converter

BRYSTON BUC-1

(Bryston USB Converter)

Bryston is pleased to announce our BUC-1 new USB Converter.

The Bryston USB Converter provides a high resolution, ultra low jitter digital audio signal interface between your computer (Laptop, Desktop, Notebook etc.) utilizing a single, USB cable.

The Bryston BUC-1 Converter allows for native 24 bit resolution at sampling rates up to 192 kHz. The Bryston USB Converter is built upon low phase noise clocks inside the Bryston USB Converter to run as the master audio clock, resulting in extraordinarily low jitter output.

Digital Outputs include AES/EBU, BNC and COAX. High quality output transformers isolated the output signal from any computer noise.

The goal of any quality USB converter is to convey the exact bits in the audio signal, with the least amount of 'jitter' possible. Most USB Converter devices are capable of delivering the correct bits. However, the timing is a different matter. Timing errors in the signal can come from a number of different sources: noisy power supplies or clocks, timing errors already present on the audio signal being encoded, and noise in the transmission line, just to name a few.

Most crucially, the Bryston USB Converter controls the master timing of the audio system. So, rather than the computer (Laptop) running the master clock, and the audio device slaving to this, the main system clock is in the Bryston USB Converter, and the rest of the system slaves to it.

The last feature, which is frequently referred to by the technical name "asynchronous" (as opposed to "isochronous"), is the key to obtaining ultra-low jitter on USB devices. With asynchronous USB receivers, the jitter is essentially limited only by the clocks on the audio device, plus any [typically very small] timing errors from additional logic gates that the clock signal must travel through.

Critical to any high-end audio design is the power supply. Most USB type adapters are powered through the USB bus connection in the computer (Laptop). The power coming from the computer is supplied at 5 volts, although is typically not terribly clean, due to

noise in the computer and other attached peripherals, such as hard drives. In the Bryston USB Converter we employ a proprietary high quality Bryston power supply with ultralow noise linear power regulation, clean power rails for the internal circuitry.

In order to supply clean power to the on-board circuitry, the Bryston uses a combination of power supply filtering and an newly released power down regulator. Power coming into the device is first PI filtered (CLC), which gives a two-pole attenuation for noise above roughly 3kHz. This works to eliminate high frequency noise, which down-regulators are typically not as good at rejecting. This filtered signal, which is slightly less than 5V (due to resistive elements in the passive filter), is down regulated to 3.3V for the digital electronics, and a separate 3V line for the clocks.

Interior BUC-1

Features:

- USB Input (resolution capable of 192/24 bit)
- AES EBU Balanced 110 Ohm Output
- COAX SPDIF Output
- BNC 75 Ohm SPDIF Output
- Outputs Transformer Coupled
- Input Sample Rate Indicators
- Power on/off switch
- Trigger input (low voltage)
- Matching Bryston Cosmetics

Dimensions: (L.W.H.) 8 inches x 5.5/8 inches x 2.25 inches