

Berkeley Audio Design Alpha USB Series 2

The Alpha USB Series 2 is a noise isolating, reclocking digital audio interface with an asynchronous USB 2.0 High Speed Audio input optimized to connect to modern high speed, low latency USB 2.0 High Speed Audio drivers. It has selectable coaxial SPDIF or balanced AES/EBU digital audio outputs. The USB input is galvanically (DC), capacitively and inductively isolated from the very low phase noise reclocked digital audio output which greatly reduces noise and significantly improves audio quality.

INSTALLATION

The Alpha USB Series 2 should be installed in a space with several inches of clearance above, behind and on both sides of the chassis to provide adequate ventilation. Avoid placement directly above other equipment that produces significant heat. The Alpha USB Series 2 should also not be placed on top of the D to A converter. It should be positioned at least a foot or so away to physically isolate any noise radiated by the USB input cable.

Power Connection

The Alpha USB Series 2 is designed to run continuously when connected to AC mains power. It has no power switch and as soon as AC power is connected the unit is powered on. Units for sale in the United States are set internally for 120VAC operation. An Alpha USB Series 2 dealer can select 240VAC operation for use outside of the United States by setting an internal switch and adding a 240V label to the rear panel. 100VAC operation requires a specific power transformer. The AC power fuse used for all mains voltages is a 5X20mm Cartridge, .05A Time Lag (Slow-Blow) Littelfuse 0218.050MXP or 0218.050HXP.

Powering the Alpha USB Series 2 from the same power source and ground as the D to A converter and other analog components is recommended. The low noise linear power supply in the Alpha USB Series 2 has several layers of isolation between the AC power input and the digital circuitry and it performs best when treated as an analog component. The music server/streamer should be powered from a separate circuit and ground whenever possible to minimize radiation and conduction of power line noise.



Alpha USB Series 2 Rear Panel

Signal Connections

The Alpha USB Series 2 has a USB 2.0 High Speed Audio input data connection and switch selectable output signal type – either coaxial SPDIF using a 75Ω BNC connector or balanced AES using an XLR connector. Sampling rates up to 192kHz and word lengths up to 24-bit are supported.

Lead Dress

It is good practice to keep various types of signal and power cables physically separated from each other. This is especially important for the USB cable to the server/streamer. It should be routed away from the chassis of the Alpha USB Series 2 and any other component or cable that is part of the audio system. 1.5 meters is an optimum length for USB, SPDIF and AES digital cables.

OPERATION



Alpha USB Series 2 Front Panel

Controls & Indicators

- Output Select: switch selects coaxial SPDIF or balanced AES type output
- Status LED: Green indicates USB Lock, Amber indicates Standby

The Alpha USB Series 2 has one control and one bi-color indicator LED. The digital audio output is either a 75Ω SPDIF signal on a BNC connector or a 110Ω balanced AES type signal on an XLR connector. A switch on the rear panel selects which output is active. Whenever possible, use the balanced AES signal output because of its greater voltage swing.

The indicator LED on the front panel is amber when AC line power is on but the USB connection is not active. When the USB connection to the server/streamer is established and the music server and the Alpha USB Series 2 are talking to each other the LED turns green.

In normal use, AC power to the Alpha USB Series 2 should be connected first. Then the music server/streamer should be powered on or the USB cable connected.

The Alpha USB Series 2 has no AC power switch and is designed to be left powered on. It draws only 3 watts of power. When the USB input is not active, it goes into standby mode.

The Alpha USB is designed to work with modern Linux based music server/streamers and Apple Macintosh and Windows PC computers

SPECIFICATIONS

- Input: High Speed USB 2.0/USB 3.0 connection - type B receptacle
- Output: switch selected, coaxial SPDIF - BNC, 75Ω or balanced AES/EBU - XLR, 110Ω
- Supported sampling rates: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
- Supported word lengths: up to 24-bit
- Supported operating systems: Linux, Apple Macintosh and Microsoft Windows
- Enclosure dimensions: 2.3" H X 10.5" W x 5" D, 2.55" H including feet
- Mains power: 100 or 120 or 240 VAC, 50/60 Hz, IEC power input connector
- Power consumption: 3 Watts AC, 1.5 Watts USB input, designed for continuous operation

For further information on the Alpha USB Series 2, please contact Berkeley Audio Design, LLC at: info@berkeleyaudiodesign.com or call 1-510-277-0512