

# USBPre<sup>®</sup> 2

High-Resolution Two-Channel Computer Audio Interface



## Description

Sound Devices' USBPre<sup>®</sup> 2 is high-resolution, portable hardware interface for Mac- and Windows-based digital audio. The USBPre 2 interfaces professional microphones, line-level sources, consumer audio electronics, and S/PDIF digital sources with Mac OS and Windows computers via USB. Its discrete-transistor microphone preamps with 24-bit converters and sampling rates up to 192 kHz provide the highest performance in a portable interface. Peak limiters, high-pass filters, and a 15 dB pad add overload protection. All analog-to-digital and digital-to-analog conversion is done outside of the computer, in the USBPre 2, for superior audio performance.

USBPre 2 is a class-compliant audio device for plug-and-play connection to computers running Mac OS, Windows,

*Description continued on next page*

## USBPre 2 Key Features

- Extended bandwidth, low-noise microphone preamplifiers with 48 V phantom, limiters, high-pass filters, and 15 dB pad.
- Dynamic range greater than 114 dB (in 24-bit operation).
- Flat 10 Hz to 22 kHz audio bandwidth with ultra-low distortion characteristics.
- Each input individually selectable between microphone, line, and aux level signals (both channels selected simultaneously for S/PDIF connections).
- Precision, 23-segment, multicolor LED peak/VU meter, selectable between input and output sources.
- Balanced outputs on XLR connectors with dedicated level control can be used to drive
- Mix control enables zero-delay monitoring of source audio, computer audio, or a mix of both source and computer audio for multitrack recording or computer telephony.
- Phono (RCA) jacks connect Aux Output to external loudspeakers or preamplifiers.
- Bus powering via USB for convenient, single-cable connection to the computer.
- In Stand-Alone mode the USBPre 2 operates as a microphone preamplifier and analog-to-digital converter.
- Hardware loop-through for test & measurement to send computer audio directly back to an input.
- High-strength extruded aluminum chassis.
- Mac<sup>®</sup> OS X 10.4+, Windows<sup>®</sup> XP/Vista/7, and Linux, class-compliant audio device.
- Additional features controlled by hardware DIP switches on the back panel; no software-only features and no control panel.



# USBPre<sup>®</sup> 2

High-Resolution Two-Channel Computer Audio Interface



[ Input Panel ]



[ Output Panel ]



[ Back Panel ]

## Specifications

**Frequency Response** (reference 1 kHz)  
 10 Hz - 20 kHz, +/- 0.5 dB (any input to PC recording)  
 10 Hz - 20 kHz, +/- 1.0 dB (PC source to AUX output)

**THD+N** (22 Hz - 22 kHz measurement bandwidth)  
 0.05% max (any input to PC recording, gain control at min, input driven to -6 dB FS)  
 0.009% max (AUX output, 0 dBV output, 100 ohm load)  
 0.05% max (HEADPHONES output, 2 V RMS output, 600 ohm load)

**E.I.N.** (MIC inputs)  
 -127 dBu min (22 Hz - 22 kHz bandwidth, 150 ohm source, gain control fully clockwise, 15 dB pad out)

**Input Sensitivity** (typical, for 0 dBFS)  
 Mic: -9 dBu min, -60 dBu max  
 Mic (15 dB pad): +6 dBu min, -58 dBu max  
 Line: +29 dBu min, +10 dBu max  
 Aux: +12 dBu min, -7 dBu max

**Input Clipping Level (1% THD)**  
 Mic: -10 dBu  
 Mic (15 dB pad): +4 dBu  
 Line: +28 dBu (12.3 V rms)  
 Aux: +9 dBu (2.0 V rms)

**Input Impedance** (actual)  
 Mic: 4k ohm, active-balanced  
 Mic (15 dB pad): 4k ohm, active-balanced  
 Line: 60k ohm, active-balanced  
 Aux: 80k ohm, active-balanced

**Input Limiter Threshold**  
 Mic: -4 dB FS

**Output Clipping Level** (1% THD, PC-controlled output levels at max)  
 Balanced XLR: +18 dBu with 100k ohm load  
 Aux: +8 dBu (2.0 V rms) with 100k ohm load  
 Headphones: +11 dBu (2.75 V rms) with 600 ohm load

**Output Impedance**  
 Balanced XLR (Line level): 500 ohms  
 Balanced XLR (Mic level): 5 ohms  
 Aux: 2k ohms

**S/PDIF Digital**  
 24- or 16-bit input

**A/D Converter**  
 24-bit resolution, 114 dB typical dynamic range (22 Hz - 22 kHz bandwidth, A-weighted)

**D/A Converter**  
 24-bit resolution, 112 dB typical dynamic range (22 Hz - 22 kHz bandwidth, A-weighted)

**Sample Rates / Bit Depths**  
 Recording: 8-, 16-, or 24-bit at 8, 16, 32, 44.1, 48, 96, or 192 kHz  
 Playback: 24-bit at 8, 16, 32, 44.1, 48, 96, or 192 kHz

**Master Clock**  
 Crystal based, low jitter

**Metering**  
 23-segment, 44 dB total range, peak ballistics. 0 dB on meter = 0 dBFS (0 dB referenced to full-scale digital)

**Phantom Power**  
 48 V through 6.8k ohm resistors. Each mic input will supply 10 mA.

**Powering**  
 USB bus powered, soft-start meets USB hot-plugging power requirements (5 V, 100 mA max current drawn during enumeration).  
 5 V, 500 mA max current from USB port (USBPre 2 will not function if connected through a passive USB connection or hub).

**Dimensions (unpacked)**  
 4.3 cm x 18 cm x 10 cm (H x W x D)  
 1.7 in. x 7.25 in. x 4.25 in. (H x W x D)

**Weight**  
 0.5 kg  
 1.13 lbs.

**Certifications**  
 Meets FCC Part 15 Class B.  
 Complies with the Requirements of European Directive 89/336/EEC.

## Description Continued

and Linux. The USBPre 2 can be used in Stand-Alone mode as a portable microphone preamplifier and analog-to-digital converter.

Powered by the USB port of notebook or desktop computers, no additional power source is required—the computer provides all power needed for operation. The durable construction and compact size of the USBPre 2 allow no-compromise audio I/O everywhere.

*Features, nomenclature, and specifications subject to change.  
 © 2010, Sound Devices, LLC*