

USBPre Microphone Interface for Computer Based Audio Production



Description

Sound Devices USBPre is a complete, portable hardware interface for PC and Mac-based digital recording. Designed for USB-equipped Macintosh® OS 9 and Windows® OS (98SE, 2000, ME, and XP), the USBPre quickly and easily interfaces microphones, line level sources, musical instruments, consumer audio electronics, and S/PDIF digital sources with personal computers. Its high-performance, 24-bit audio inputs offer the most direct signal path into the computer. All analog-to-digital and digital-to-analog conversion is done outside of the computer, in the USBPre, for superior audio performance.

USBPre has the flexibility to work with most Windows OS and Mac OS recording and streaming software, including ASIO-compatible software. Powered by the USB port from either 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 allow no-compromise digital recording everywhere.

Key Features

Simplicity

- One USB cable to computer provides all power for unit and carries all audio to and from PC.
- All controls on front panel — no software-only features.

Audio Performance

- Dynamic range greater than 106 dB (in 24-bit operation).
- Flat 10 Hz to 20 kHz audio bandwidth.
- Very low distortion characteristics.
- Active-balanced microphone and line level inputs.
- High-impedance, low-noise DI instrument input.

Analog and Digital Inputs

- Two channels accept microphone, instrument, balanced-line, tape level, and coaxial S/PDIF inputs.
- Input type is selected per channel — allowing two different signal types simultaneously (both channels when S/PDIF selected).
- Phantom power (48-volt) available for condenser microphones.

Level Metering

- Six-segment, LED peak input meter for precise level control.

Audio Monitoring

- Mix control enables zero-delay monitoring of source audio, computer audio, or a mix of both source and computer audio.
- Phono (RCA) jacks connect PC AUDIO output to external loudspeakers or preamplifiers.

USB Powered

- Bus powering from the USB port eliminates external power sources and batteries.
- Regulated internal DC/DC converter for low noise, consistent audio quality.

Compact, Durable Mechanical Construction

- High-strength extruded aluminum chassis.

Computer Interface

- Mac® OS 9.x, Windows® 98SE, ME, 2000, and XP.
- ASIO 2.0 for Mac OS 9.x and Windows.

USBPre 1.5



Input Panel



Output Panel

Specifications

Frequency Response: (reference 1 kHz)

10 Hz - 20 kHz, +0.1, -0.5 dB (any input to PC recording)

10 Hz - 20 kHz, +/- 0.5 dB (PC source to PC AUDIO out)

THD+N: (10 Hz - 22 kHz measurement bandwidth)

0.05% max. (any input to PC recording, gain control at min., input driven to -6 dB FS)

0.005% max. (PC AUDIO output, 0 dB FS output, 100k load)

0.05% max. (HEADPHONES output, 2 V rms output, 600 ohm load)

E.I.N.: (MIC inputs)

-124 dBu min.

(10 Hz - 22 kHz bandwidth, 150 ohm source, gain control at 50% or more)

Output Clipping Levels: (1% THD, output audio at max.)

PC AUDIO: +8.2 dBu (2.0 V rms) w/ 100k ohm load

HEADPHONES: +11 dBu (2.75 V rms) w/ 600 ohm load

Output Impedance:

PC AUDIO: 3.3k ohm

HEADPHONES: 20 ohms

A/D Converter:

24 bit resolution

106 dB min. dynamic range, 24 bit mode (10 Hz - 22 kHz bandwidth)

96 dB min. dynamic range, 16 bit mode (10 Hz - 22 kHz bandwidth)

D/A Converter:

16 bit resolution

92 dB min. dynamic range, 24 and 16 bit mode

(10 Hz - 22 kHz bandwidth)

Sample Rates/Bit Depths:

Recording: 8, 16, 24 bits at 32, 44.1, 48 kHz

Playback: 8, 16, 24 bits at 5 to 55 kHz (20 bit, max via S/PDIF output)

Master Clock: (recording)

PLL generated, low jitter

Metering:

Input level at A/D converter

6 segments, 30 dB total range, peak responding

0 dB (meter) = 0 dB FS

Phantom Power:

48 V through 6.8k resistors, each mic input will supply 10 mA

Powering:

USB bus powered, 3 stage soft-start meets USB hot-plugging power requirements

5 V, 100 mA max current drawn during enumeration

5 V, 325 mA quiescent current from USB port

5 V, 500 mA max current from USB port

	Clip Level (1% THD)	Sensitivity (typical, for 0 dBFS) min./max.	Impedance (actual)
MIC	-12 dBu (195 mV rms)	-10 dBu/-53 dBu	2k ohm active-balanced
LINE	+24 dBu (12.3 V rms)	+24 dBu/+7 dBu	65k ohm active-balanced
DI	+9 dBu (2.2 V rms)	+8 dBu/-9 dBu	10M ohm unbalanced
TAPE	+9 dBu (2.2 V rms)	+8 dBu/-9 dBu	110k ohm unbalanced



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