

NECESSARY ACCESSORIES

Vital kit to keep your hi-fi in top shape (and some goodies too...)

Necessary Accessories



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HIGHLY
COMMENDED

PRO-JECT USB BOX

USB-powered outboard DAC for the PC generation

Just one of some 20 Pro-Ject 'Box' series components, this little number is essentially an outboard – and self-powered – USB soundcard. Priced at just £75 and built into Pro-Ject's now-familiar wrap-around casework, the hardware also comes with some software on a mini CD. Dubbed 'Direct Streaming Technology' this is an installer for Foobar2000, a media player that, on PCs at least, avoids the default Windows Kernel mixer.

The idea is to stream ripped CD media over USB at its native 44.1kHz and not at a re-sampled 48kHz. Pro-Ject states that its USB Box features a 44.1kHz DAC, but in practice the PCM2702 DAC (with integrated USB interface) used inside will support both 44.1kHz and 48kHz digital inputs. Technically, the USB Box offers a good performance from its 1.1V analogue outputs with low ~0.008% distortion through mid and treble and reasonably flat response, peaking by

a mere +0.2dB at 14kHz. The 92dB A-wtd S/N ratio is below the 16-bit standard but this is arguably no bad thing, given the high ~14000psec jitter [see graph, below right]. Naturally, this figure will vary from PC to PC, but I do not anticipate it achieving a good 150psec CD performance!

I used both a desktop PC and Sony VAIO laptop with the USB Box, in both instances enjoying a surprisingly well-rounded performance from a variety of discs. Densely-recorded classical works are not necessarily delivered at their most transparent but up-beat discs, like Matthew Ray's *After the Rain* [NOVA MAT93CD] sound pretty positive. There was some fuzziness about the Numan-esque synth lines but the drum machine cracked out a solid tune that under-pinned his vocals to good effect.

This is no DAC3 on the cheap (see p58) but ranks as fine value. **PM**

ABOVE: a single USB 1.1 input and line-level outputs

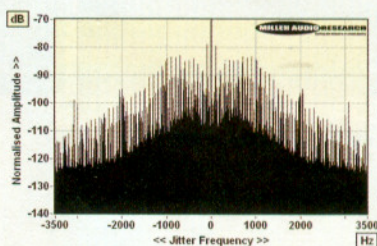
VERDICT

As a replacement for your PC's built-in soundcard Pro-Ject's USB Box is certainly worth a spin, although it's no substitute for the (far costlier) externally-powered USB DACs featured in *Hi-Fi News* of late. And why no headphone socket?

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HI-FI NEWS SPECIFICATIONS

Maximum output level	1.1Vrms
A-wtd S/N Ratio	92.0dB
Distortion (1kHz / 20kHz @ 0dBfs)	0.0079% / 0.01%
Distortion (1kHz / 20kHz @ -30dBfs)	0.008% / 0.01%
Frequency response (20Hz-20kHz @ 48kFs)	-0.2dB to +0.2dB
Digital jitter (44.1kFs/16-bit data)	13900psec



LEFT: High resolution jitter spectrum (44.1kHz/16-bit USB audio)