



## Pro USB Codec



## Owner's Manual

## Regulatory Compliance

### FCC Class A Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

**Modifications:** Any modifications made to this device that are not approved by Dixon Systems may void the authority granted to the user by the FCC to operate this equipment.

### ICES-003 Class A Notice - Avis NMB-003, Classe A

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

## DESCRIPTION

**Dixon Systems' Pro USB** is a high performance, desk top, professional USB audio codec interface device. It employs Texas Instrument's PCM-2900E, a single-chip, USB, stereo audio codec with a USB-compliant full-speed protocol controller. It is used in place of a computer's sound card and works with virtually any audio recording or editing software. A USB 1.1 (or higher) connection to the PC is all that's required. The USB protocol controller *requires no software.*

The PCM-2900E employs SpAct architecture, Texas Instrument's unique system that recovers the audio clock from USB packet data. On-chip analog PLLs with SpAct architecture enable playback and record with low clock jitter as well as ***independent playback and record sampling rates.***

The **Pro USB** also employs input and output analog anti-aliasing filters. The single ended outputs of the filters are followed by balanced line drivers.

Analog inputs and outputs are balanced. The nominal input level is +4dBu. Internal trim pots allow adjustment of the output level. (This is normally not required.)

No special preventive maintenance is required.

## Main Features

### *On-Chip USB Interface:*

With Full-Speed Transceivers  
Fully Compliant with USB 2.0 Specification  
Certified by USB-IF  
USB Adaptive Mode for Playback  
USB Asynchronous Mode for Record  
Bus Powered  
16-Bit Delta-Sigma ADC and DAC

### *Sampling Rate:*

DAC: 32, 44.1, 48 kHz  
ADC: 8, 11.025, 16, 22.05, 32, 44.1, 48 kHz  
On-Chip Clock Generator with Single 12-MHz Clock Source

### *Single Power Supply:*

5 V Typical ( $V_{BUS}$ )

### *Stereo ADC:*

Analog Performance at  $V_{BUS} = 5\text{ V}$ :  
THD+N = 0.01%  
SNR = 89 dB  
Dynamic Range = 89 dB  
Decimation Digital Filter:  
Pass-band Ripple =  $\pm 0.05\text{ dB}$   
Stop-Band Attenuation = 65 dB  
Anti-aliasing Filter Included  
Digital HPF Included

### *Stereo DAC:*

Analog Performance at  $V_{BUS} = 5\text{ V}$ :  
THD+N = 0.005%  
SNR = 96 dB  
Dynamic Range = 93 dB

### *Oversampling Digital Filter:*

Pass-band Ripple =  $\pm 0.1\text{ dB}$   
Stop-Band Attenuation = -43 dB

## Installation and Set-up

The Pro USB should be installed near the computer with which it will be used. Any audio programs should be closed. A standard USB cable should be connected between the Pro USB and any USB slot on the computer. **Do not use a USB hub.** The amber LED on the Pro USB should light. This indicates the unit is getting power from the computer. The computer will recognize the Pro USB as an audio codec. No special software is required.

***NOTE: When audio software is started up, it may be necessary to change the settings in the program to select the USB audio codec as the default.***

The AC power cord should be connected. A green LED will indicate the unit is on.

N.B. The Pro USB can be configured for either 110VAC/60 Hz or for 220VAC/60 Hz. The fuse used for 110VAC is .0625A slow blow. For 220VAC, a .03A slow blow fuse should be used.

Connect the analog inputs and outputs to the Pro USB. These should be wired the standard way: Pin 1 is ground, pin 2 is high audio and pin 3 low audio. As with any professional installation, connection to ground should be made at ONE END ONLY to prevent ground loops.

Notes:

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