Direct Box

FOX PDI-2

Product Introduction

This is a professional dual-channel passive impedance converter (Direct Box) designed for live performances, recording studios, and AV system integration. Featuring dual professional-grade audio transformers, it enables seamless conversion from high-impedance unbalanced inputs to low-impedance balanced outputs. Supporting stereo signal processing, it effectively eliminates ground loop noise and EMI interference, ensuring distortion-free transmission over long cable runs (>100 meters). Built-in active attenuators and floating ground functionality facilitate matching high-output sources such as keyboards, synthesizers, and active instruments. Offering an exceptional balance of durability and audio fidelity, this unit is ideal for professional musicians and sound engineers.

Product Features

- ✧ Dual-channel passive design: Independent processing for two channels, supporting stereo input to balanced XLR output. No power supply required; plug-and-play operation;
- ✧ Dual professional-grade transformers: Built-in dual high-quality 10:1 audio transformers deliver flat frequency response and low distortion, ensuring natural sound reproduction;
- ✧ Noise Isolation: >60 dB ground loop suppression eliminates hum and RF interference, enabling long cable runs without signal attenuation;
- ✧ Flexible Control: Each channel features an attenuator and ground lift switch for on-site adjustments;
- ✧ Multi-Input Compatibility: 1/4" TS high-impedance input supports instruments, keyboards, and consumer devices; optional RCA/3.5mm input available;
- ✧ Rugged Construction: Heavy-duty steel chassis with internal beam frame provides shock resistance and durability for touring environments;
- ✧ Compact Portability: Metal enclosure facilitates easy transport for stage, studio, and installation systems.

Specification

Category	Parameter Item	Parameter Description
Audio Performance	Channels	2 (Stereo Independent Channels)
	Frequency Response	20 Hz～20 kHz (±0.5 dB); No Phase Deviation
	Total Harmonic Distortion (THD)	< 0.005% (1 kHz, 0 dBu Input)
	Signal-to-Noise Ratio (SNR)	> 110 dB (A-weighted)
	Maximum Input Level	+26 dBu
	Maximum Output Level	+20 dBu (XLR Balanced)
	Impedance Ratio (Input/Output)	Input: 10 kΩ (high impedance); Output: 600 Ω (low impedance balanced)
	Phase Shift	< 0.5° (full frequency range)
	Dynamic Range	> 135 dB
Isolation and Noise Suppression	Transformer Type	Dual professional-grade 10:1 audio transformers (nickel core, Faraday shielded)
	Isolation Voltage	> 1.5 kV (input/output)
	Ground Loop Noise Suppression	> 60 dB (50/60 Hz); > 40 dB EMI/RFI
	Maximum Transmission Distance	> 100 m (balanced XLR cable, no noticeable attenuation)
	Ground Lift	Ground loop hum elimination
Interfaces and Connections	Input Connectors	2 x 1/4" TS female jacks (high impedance, unbalanced);
	Output Connectors	2 x XLR male connectors (balanced, low impedance, Pin 2 hot)
	Compatible Sources	RCA/3.5mm input adapter (optional);

		supports keyboards, guitars, synthesizers
	Dimensions (L x W x H)	70 mm x 36 mm x 100 mm
Physical and Environmental	Weight	0.45 kg
	Enclosure Material	Heavy-duty 14-gauge steel enclosure, powder-coated + internal I-beam frame
	Operating Temperature	-10°C～60°C
	Storage Temperature	-40°C～85°C
	Humidity	0%～95% (non-condensing)
Power and Safety	Power Requirements	None (Completely power-free design)
	Safety Features	Short-circuit protection; phantom power safe (no internal circuitry)
Installation and Control	Installation Method	Desktop/rack mount (optional stand); plug-and-play
	Control Elements	Per channel: attenuator switch, ground lift switch
	Compatible Systems	Live PA, studio interface, AV integration; supports active/passive instruments