

# Direct Box

## FOX DI-1



### Product Introduction

This is a professional single-channel passive impedance converter (Direct Box) designed for live performances, recording studios, and broadcast applications. The unit employs high-quality audio transformers to convert high-impedance unbalanced inputs to low-impedance balanced outputs, supporting long-distance cable transmission (>100 meters) without distortion while effectively eliminating ground loop noise, hum, and EMI/RFI interference. Its passive design requires no external power supply, offering plug-and-play functionality for connecting high-impedance sources like guitars, basses, and keyboards to professional mixing consoles or PA systems. The unit delivers an exceptional balance of audio fidelity and durability, ensuring natural tonal reproduction and reliable performance.

### Product Features

- ✧ Single-channel passive design: Operates passively without batteries or power supply, supporting high-impedance input to balanced output conversion;
- ✧ Premium transformer: Built-in top-tier 10:1 audio transformer delivers flat frequency response and ultra-low distortion for high-fidelity signal transmission;
- ✧ Noise Isolation: >60 dB ground loop suppression with built-in ground lift switch eliminates 50/60 Hz hum and RF interference;
- ✧ Thru output: 1/4" parallel Thru jack facilitates chaining amplifiers or effects processors;
- ✧ Flexible Input: Compatible with 1/4" TS high-impedance plugs for instrument-level sources;
- ✧ Rugged Construction: Heavy-duty steel chassis with internal shielding, shock-resistant and durable for touring and stage environments;
- ✧ Impedance Matching: 133:1 impedance ratio for optimized level conversion (-20 dB shift), preventing signal overload;
- ✧ Compact Portability: Lightweight design for easy transport and integration into any audio system.

## Specification

Category	Parameter Item	Parameter Description
Audio Performance	Number of Channels	1 (Mono)
	Frequency Response	20 Hz~20 kHz ( $\pm 1$ dB)
	Total Harmonic Distortion (THD)	< 0.01% (1 kHz, 0 dBu input)
	Signal-to-Noise Ratio (SNR)	> 100 dB (A-weighted)
	Maximum Input Level	+20 dBu
	Maximum Output Level	0 dBu (balanced output)
	Impedance Ratio (Input/Output)	133:1 (high-impedance input to low-impedance output)
	Phase Shift	< 5° (full frequency range)
	Dynamic Range	> 120 dB
Isolation and Noise Suppression	Transformer Type	Jensen JT-DB-E Class 10:1 audio transformer (nickel core, Faraday shielded)
	Isolation Voltage	> 1 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	Independent switch to eliminate ground loop hum
Interfaces and Connections	Input Connectors	1 x 1/4" TS female jack (high impedance, unbalanced)
	Output Connectors	1 x XLR male connector (balanced, low impedance, Pin 2 hot)
	Thru Output	1 x 1/4" TS female jack (parallel output)

	Compatible Sources	For high-impedance devices like guitars, basses, keyboards, synthesizers, etc.
Physical and Environmental	Dimensions (L x W x H)	70 mm x 36 mm x 100 mm
	Weight	0.45 kg
	Enclosure Material	Heavy-duty 16-gauge steel enclosure, powder-coated
	Operating Temperature	-10°C~60°C
	Storage Temperature	-40°C~85°C
	Humidity	0%~95% (non-condensing)
Power and Safety	Power Requirements	None (fully passive design)
	Safety Features	Short-circuit protection; phantom power safe (no internal circuitry)