

**Direct Box**  
**User Manual**

## Preface

The purpose of this section is to ensure that the user is able to use the product correctly through this manual in order to avoid danger in operation or property damage. Before using this product, please read the product manual carefully and keep it for future reference.

### Outlined

This manual applies to Direct Box.

This manual describes the functions and use of the various functional modules of the Direct Box, and guides you through the installation and commissioning of the Direct Box.

### Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 <b>Note</b>	Provides additional information to emphasize or supplement important points of the main text.
 <b>Caution</b>	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 <b>Danger</b>	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

### Safety Instructions

#### **Danger**

To ensure reliable use of the equipment and the safety of personnel, please observe the following during installation, use and maintenance:

- During the installation and use of the equipment, all electrical safety regulations of the country and the region of use must be strictly observed.
- Keep the working environment well ventilated so that the heat generated by the equipment during operation can be discharged in time to avoid damage to the equipment due to excessive temperature.
- Always unplug the unit's power adapter from the AC power outlet before: A. Removing or reinstalling any part of the equipment; B. Disconnecting or reconnecting any electrical plug or connection of the equipment. Do not operate with electricity.

- There are AC high-voltage parts in the equipment, non-professionals should not disassemble them without permission to avoid the risk of electric shock. Do not repair the equipment privately to avoid aggravating the damage.
- Do not spill any corrosive chemicals or liquids on or near the equipment.
- If the unit emits smoke, odour or noises, turn off the power immediately and unplug the power cord, and contact your dealer or service centre.
- If the appliance is not working properly, contact the shop where you purchased the appliance or the nearest service centre and do not disassemble or modify the appliance in any way. (We cannot be held responsible for problems caused by unapproved modifications or repairs).

**Caution**

- Do not drop objects on the equipment or vibrate the equipment vigorously, and keep the equipment away from locations with magnetic field interference. Avoid installing the equipment in a place where the surface vibrates or is susceptible to shock (neglecting this may damage the equipment).
- Do not use the equipment in high temperature, low temperature or high humidity environments. Refer to the equipment's data sheet for specific temperature and humidity requirements.
- Use the unit indoors, not in an exposed installation where it may be exposed to rain or extreme humidity.
- When the equipment is not used for a long period of time or in a humid and dewy environment, the main power supply of the equipment should be switched off.
- When cleaning the equipment, please use a sufficiently soft dry cloth or other alternatives to wipe the internal and external surfaces, do not use alkaline detergent to wash, and avoid hard objects to scratch the equipment.
- Please keep all the original packaging materials of the equipment properly, so that in case of problems, use the packaging materials to pack the equipment and send it to the agent or return it to the manufacturer for processing. We will not be responsible for any accidental damage in transit not caused by the original packaging materials.

**Note**

- Requirements for the quality of installation and commissioning personnel  
Qualifications or experience in the installation and commissioning of audio and video systems and qualifications to perform related work, in addition to the knowledge and operational skills listed below.
  - Basic knowledge and installation skills of audio and video systems and components.
  - Basic knowledge and skills in low voltage cabling and wiring of low voltage electronics.
  - Basic audio and networking knowledge and skills and the ability to read and understand the contents of this manual.

## TABLE OF CONTENTS

Chapter 1 Product Introduction .....	1
1.1 Introduction .....	1
1.2 Product Features .....	1
Chapter 2 Interface Description .....	2
Chapter 3 Application Scenarios .....	2
Chapter 4 Specification .....	2

# Chapter 1 Product Introduction

## 1.1 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.

## 1.2 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.

## Chapter 2 Interface Description



- ① L and R: XLR output connectors;
- ② GND: Ground lift switch to eliminate 50/60 Hz hum and RF interference;
- ③ L and R: 1/4" TS high-impedance jack inputs for instrument-level sources;
- ④ PAD: Gain adjustment knob to regulate input channel gain.

## Chapter 3 Application Scenarios

- Live Performance: Connect stereo keyboards or synthesizers to PA systems, eliminate noise, and support long cable runs.
- Recording Studio: Directly record guitars, basses, or electronic instruments, delivering pure balanced signals to avoid phase issues.
- AV Integration: Interface consumer devices (like laptops or DVD players) with professional mixing consoles, matching multiple input sources.
- Touring: Rugged construction withstands transport and stage use, ideal for festivals and theaters.

## Chapter 4 Specification

Category	Parameter Item	Parameter Description
Audio Performance	Channels	2 (Stereo Independent Channels)
	Frequency Response	20 Hz~20 kHz ( $\pm 0.5$ 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 k $\Omega$ (high impedance); Output: 600 $\Omega$ (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

# Warranty Regulations

The warranty period of this product is 1 year.

In the warranty period of non-man-made damage caused by the product performance failure can enjoy three packages of service.

Warranty card by the sales unit stamped after the effective. The alteration is invalid!

**The following conditions (including, but not limited to, this) are not covered by the three-package service:**

1. No warranty card or missing valid invoice or the date has exceeded the validity period of the three packages of services;
2. Not in accordance with the requirements of the product instructions for use, maintenance, management and damage caused;
3. The product model or code on the warranty voucher does not match the physical goods;
4. Damage caused by the dismantling and repair of non-authorized service providers;
5. Normal discoloration, wear and tear and consumption during the use of the product are not covered by the warranty;
6. The product cannot be used due to the user's own network reasons, please consult customer service staff.