

# JTECH-BDE02

## Bi-directional DA AD Dolby Decoder



Operation Manual



## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to buildingsurfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

## REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	26/08/13	Preliminary Release

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## 1. INTRODUCTION

The Universal Digital/Analog Audio Converter with Dolby Digital decoder can convert among Optical, Coaxial and analog audio signals. With the ability to convert digital signals into analog and analog signals into digital, this device supports the simultaneous conversion of audio formats so when converting Optical into analog audio you can also convert it into Coaxial. Therefore, if you find yourself limited by multiple audio formats the Universal Digital/Analog Audio Converter with Dolby Digital decoder is the perfect choice.

## 2. APPLICATIONS

- Analog audio to digital audio signal conversion (ADC)
- Digital audio to analog audio signal conversion (DAC)
- Simultaneous digital and analog audio output
- Downmixing of Dolby Digital signals

## 3. PACKAGE CONTENTS

- Universal Digital/Analog Audio Converter with Dolby Digital decoder
- 5 V/1 A Power Adaptor
- Operation Manual

## 4. SYSTEM REQUIREMENTS

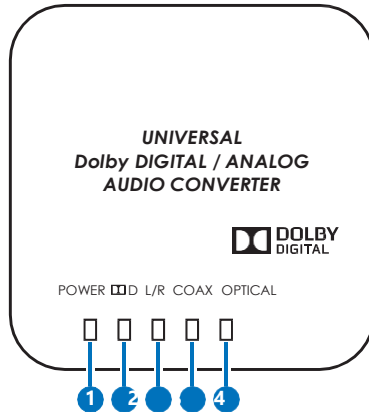
Audio source equipment such as CD/DVD Player with connection cable(s) and AV receiver or similar for audio output.

## 5. FEATURES

- Dolby Digital decoder technology embedded
- Integrated digital interpolator filter and Digital-to-Analog Converter (DAC)
- Integrated Analog-to-Digital Converter (ADC)
- Supports LPCM input sampling rates from 32 to 96 kHz
- Output sampling rates is adjusted to 48 kHz
- Supports Dolby Digital audio downmixing to 2CH audio
- Supports Dolby Digital sampling rate 48kHz
- Provides electromagnetic-noise-free transmission
- Easy to install and operate
- Compact and elegant design

## 6. OPERATION CONTROLS AND FUNCTIONS

### 6.1 Top Panel



#### 1 POWER LED Indicator

The LED will illuminate in blue when the power is connected and in red when switched off.

#### 2 Dolby Digital LED Indicator

When the source is Dolby Digital formatted the LED will illuminate in red and will remain off if not.

#### 3 L/R IN LED Indicator

When selecting the L/R input, the blue LED will turn on.

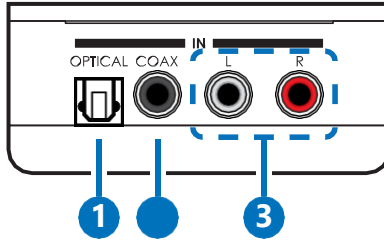
#### 4 COAX IN LED Indicator

When selecting the Coaxial input, the blue LED will turn on.

#### 5 OPTICAL IN LED Indicator

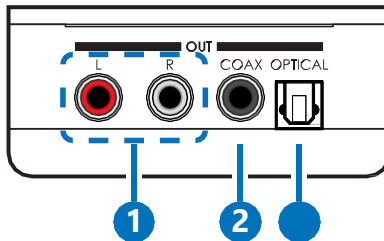
When selecting the Optical input, the blue LED will turn on.

## 6.2 Right Panel



- 1 OPTICAL IN**  
Connect to the audio source's optical output.
- 2 COAX IN**  
Connect to the audio source's coaxial output.
- 3 L/R IN**  
Connect to the analog audio source with a stereo RCA cable.

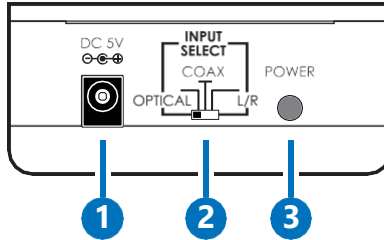
## 6.3 Left Panel



- 1 L/R OUT**  
Connect to a compatible audio equipment, such as a TV or amplifier with a stereo RCA cable.
- 2 COAX OUT**  
Connect to an audio system's coaxial input.
- 3 OPTICAL OUT**  
Connect to an audio system's optical input.



## 6.4 Rear Panel



### 1 DC 5V

Connect the 5 V/1 A DC power supply to the unit and plug the adaptor to an AC wall outlet.

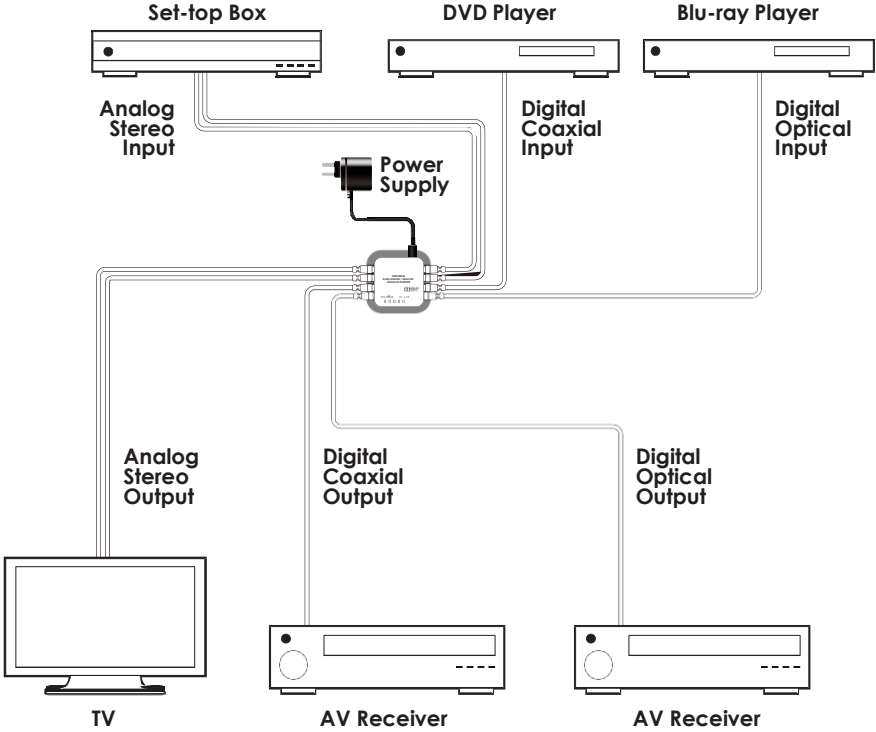
### 2 INPUT SELECT

Selects the current audio source, either optical, coaxial or L/R (Analog).

### 3 POWER

Push the button to turn the unit on or off.

# 7. CONNECTION DIAGRAM



## 8. SPECIFICATIONS

<b>Input Ports</b>	1×Optical, 1×Coaxial,
<b>Input Format</b>	1×Analog Stereo (L/R) LPCM 2CH & Dolby Digital from Optical/ Coaxial
<b>Sample Rates</b>	32 ~ 96 kHz
<b>Output Ports</b>	1×Coaxial, 1×Optical,
<b>L/R Input Impedance</b>	1×Analog Stereo (L/R) 47KΩ
<b>L/R Output Impedance</b>	600Ω
<b>ESD Protection</b>	Human body model: ±10 kV (air-gap discharge) ±6 kV (contact discharge)
<b>Power Supply</b>	5 V/1 A DC (US/EU standard, CE/FCC/UL certified)
<b>Dimensions</b>	97 mm (W)×85 mm (D)×35 mm (H)
<b>Weight</b>	110 g
<b>Chassis Material</b>	Plastic
<b>Silkscreen Color</b>	White
<b>Operating Temperature</b>	0 °C~40°C / 32 °F~104 °F
<b>Storage Temperature</b>	-20 °C~60 °C / -4 °F~140 °F
<b>Relative Humidity</b>	20~90 % RH (non-condensing)
<b>Power Consumption</b>	2.1 W

**Audio Specifications:**

OUT IN	Output	Output Level	T.H.D+N (A-Weight)	Frequency Response	SNR	Crosstalk
Optical 0dBFS	Optical	0~1 dBFS	<0.01%	±1 dBFS	>80 dB	<-85 dB
	Coaxial	0~1 dBFS	<0.01%	±1 dBFS	>80 dB	<-85 dB
	Line-Out	2Vrms±0.1	<0.01%	±1 dB	>80 dB	<-80 dB
Coaxial 0dBFS	Optical	0~1 dBFS	<0.01%	±1 dBFS	>80 dB	<-85 dB
	Coaxial	0~1 dBFS	<0.01%	±1 dBFS	>80 dB	<-85 dB
	Line-Out	2Vrms±0.1	<0.01%	±1 dB	>80 dB	<-80 dB
Line 2Vrms	Optical	0~1 dBFS	<0.01%	±1 dB	>80 dB	<-80 dB
	Coaxial	0~1 dBFS	<0.01%	±1 dB	>80 dB	<-80 dB
	Line-Out	2Vrms±0.1	<0.01%	±1 dB	>80 dB	<-80 dB

**Input Audio to Output Audio Chart:**

Audio Input	Input Format	Audio Output		
		Analog L/R	COAXIAL	OPTICAL
Analog L/R	Analog 2CH	Analog 2CH	LPCM 2CH	
COAXIAL/ OPTICAL	LPCM 2CH	Analog 2CH	LPCM 2CH	
	Dolby Digital	Decoding Lt/Rt	Bitstream Pass-through	

## 9. ACRONYMS

ACRONYM	COMPLETE TERM
$\Omega$	Ohm
ADC	Analog to Digital Conversion
COAX	Coaxial
DAC	Digital to Analog Conversion
LPCM	Linear Pulse Code Modulation





