DCT-40

Digital to Analog Audio Convertor with DSP Function

HDBT™

Operation Manual

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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 building surfaces.
- 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	11/05/16	Preliminary Release

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1. INTRODUCTION

This digital to analog audio convertor is designed to accept an optical or coaxial 2.0 LPCM audio source and convert it to analog stereo audio for output with volume control. In addition, the audio processor supports decoding DSD over PCM (DoP) sources as well. This product is great for audio archival or connecting analog speakers to digital sources. The maximum acceptable audio sampling rate for sources is 192 kHz/24bits. Output volume can be adjusted from 0 dB to -50 dB. This digital to analog audio convertor utilizes a DSP engine instead of software process to prevent audio distortion during conversion. The converted audio source signal could be output to stereo L/R output simultaneously. The speaker or amplifier allowing being connected the output audio for high quality audio broadcasting. The additional benefit has been made to reduce the chance of pop or noise when could be reduced when plugging in audio sources.

2. APPLICATIONS

- Music source archival
- Audio equipment testing
- Recording studios
- Conference rooms
- Ballrooms

3. PACKAGE CONTENTS

- 1 x Digital to audio convertor
- 1 x DC 5V power adaptor
- 1 x Operation manual

4. SYSTEM REQUIREMENTS

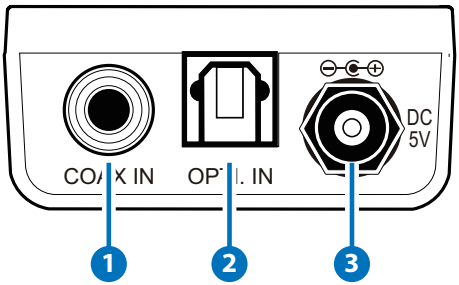
A digital stereo audio source with optical or coaxial audio output such as a portable music player or DVD player. A destination device that accepts analog L/R audio inputs such as an amplifier or powered speaker set.

5. FEATURES

- Optical and coaxial digital stereo audio inputs
- Converts digital stereo audio to analog stereo audio
- Automatic audio sampling rate detection supporting a maximum sampling rate up to 192kHz
- Automatic PCM/DoP audio format detection
- Analog stereo L/R output up to 2Vrms for connection to powered speakers, amplifiers of for use in audio broadcasting
- Supports volume adjustments from 0 dB to -50 dB in 1 dB increments
- Contains a “de-pop” function to eliminate the pop noise when plugging in audio sources
- Integrated DSP engine to prevent audio distortion during audio conversion process
- Supports DoP decoding from optical and coaxial audio sources
- Compact and light weight design

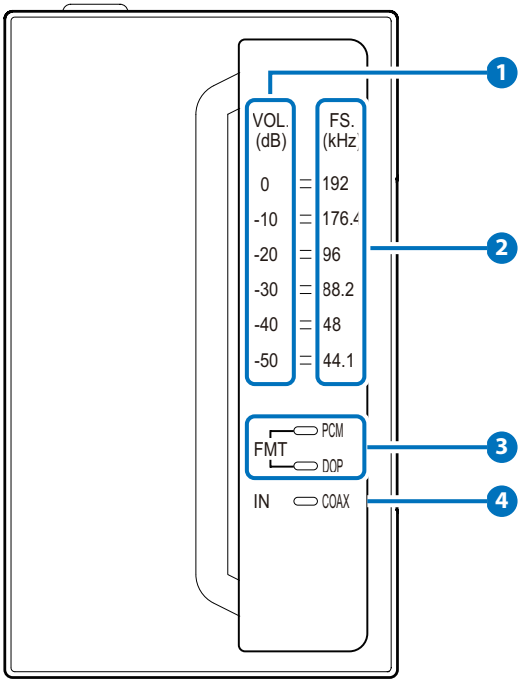
6. OPERATION CONTROLS AND FUNCTIONS

6.1 FRONT PANEL



1. **COAX IN:** Connects to a coaxial digital stereo audio source.
2. **OPTI. IN:** Connects to an optical digital stereo audio source.
3. **DC 5V:** Plug the 5V DC power adapter into the unit and connect it to an AC wall outlet for power on the device

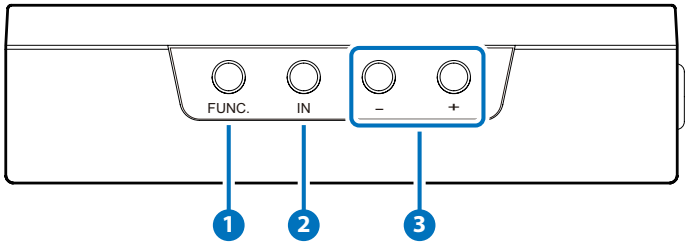
6.2 TOP PLATE WITH INDICATORS



1. **VOL (dB):** When the associated LED is solid green it indicates the current relative volume output in 10 dB steps (0, -10, -20, -30,-40 and -50 dB). The display mode is changed via the "FUNC" button.
2. **FS. (kHz) [192, 176.4, 96, 88.2, 48, 44.1]:** When the associated LED is flashing green it indicates the currently detected audio sample rate. The sampling rate is detected automatically. The display mode is changed via the "FUNC" button.
3. **FMT [PCM/DOP]:** The audio input format will be detected automatically. The audio format can be either PCM or DoP (DSD over PCM). The indicator will illuminate in green to indicate the detected audio format.
4. **COAX:** This LED will illuminate green when the source is set to coaxial. If the optical input is selected it will not illuminate.

Note: The PCM/DOP LED indicators will both flash simultaneously if the input source is an unsupported compressed digital audio format.

6.3 SIDE PANEL



1. **USB & LED:** 1. FUNC: Used to change the info display mode. Two modes are available.

   a. Volume Mode:

   The default state is volume mode. The output volume is adjustable in this mode using the "-" and "+" buttons.

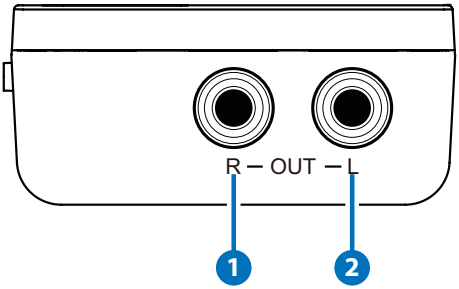
   b. Input Sampling Frequency Detection Mode:

   The input sampling frequency is indicated when in this mode. The LED will flash green to indicate the currently detected sampling rate. If no audio source is detected the frequency indicator will not illuminate. After indicating the frequency information for 4 seconds the mode will automatically return to Volume Mode.

2. **IN:** This button toggles between the coaxial and optical inputs. A single button press switches between inputs. The default audio input is coaxial.

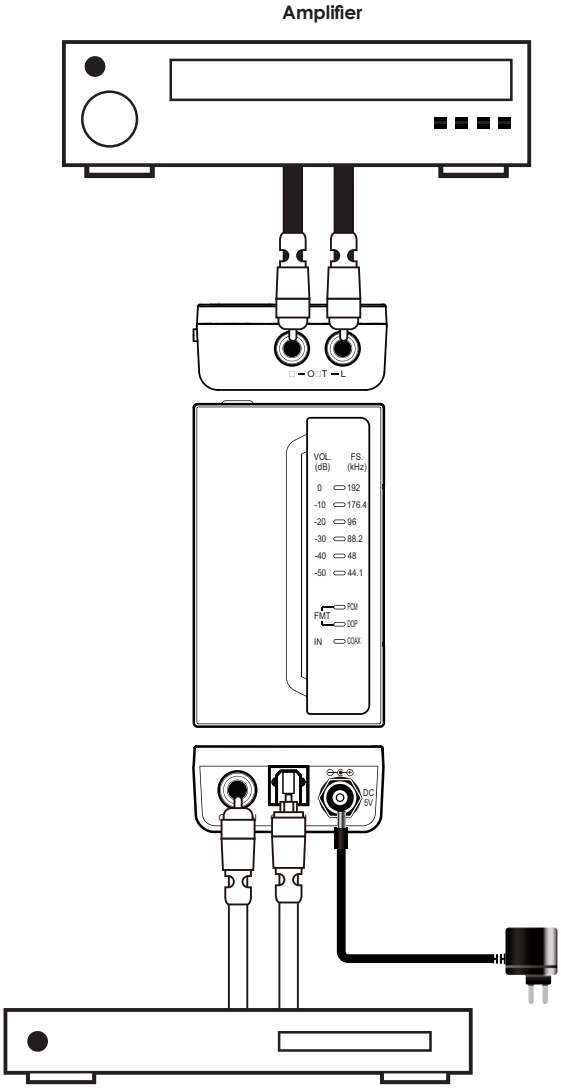
3. **"-" and "+":** Press "-" or "+" to decrease or increase the output audio volume from 0 dB to -50 dB. Each step of the volume adjustment is in 1 dB increments.

6.4 BACK PANEL



1 **L/R OUT:** Left and right analog audio outputs for connection to powered speakers, amplifiers, etc.

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Input Ports	1x Coaxial In
	1 x Optical In
Output ports	1x L/R Out
Function key	1x FUNC key
	1x IN key
	1x "-" key
	1x "+" key
Power Supply	5V 2.6A (US/EU Standards, CE/FCC/UL certified)
ESD Protection	Human Body model:
	±12kV (air-gap discharge)
	±8kV (contact discharge)
Dimensions	50mm (W) x 85mm (D) x 22.5mm (H) Jacks Excluded
	51mm (W) x 98mm (D) x 22.5mm (H) Jacks Included
Weight	62g
Chassis Material	Plastic
Color	Black
Operating Temperature	0˚C~40˚C / 32˚F ~ 104˚F
Storage temperature	-20˚C~60˚C / -4˚F ~ 140˚F
Relative Humidity	20~90% RH (no condensation)
Power Consumption	0.627w

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