

DCT-9

Universal Digital / Analog Audio Converter

Operation Manual



DCT-9

• **Disclaimers**

The information in this manual has been carefully checked and is believed to be accurate. Cypress Technology assumes no responsibility for any infringements of patents or other rights of third parties which may result from its use.

Cypress Technology assumes no responsibility for any inaccuracies that may be contained in this document. Cypress also makes no commitment to update or to keep current the information contained in this document.

Cypress Technology reserves the right to make improvements to this document and/or product at any time and without notice.

• **Copyright Notice**

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means - electronic, mechanical, magnetic, optical, chemical, manual, or otherwise - without express written permission and consent from Cypress Technology.

© Copyright 2009 by Cypress Technology.
All Rights Reserved.
Version 1.0 July 2009

• **Trademark Acknowledgments**

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.

• **Safety Precautions**

Please read all instructions before attempting to unpack or 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 module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

• **Revision History**

Version No	Date	Summary of Change
V1	20090713	Preliminary Release

Table of Contents

1. Introduction.....	1
2. Applications.....	1
3. Package Contents.....	1
4. System Requirements.....	1
5. Features.....	1
6. Specifications.....	2
6.1 Input Audio Reference Level.....	2
6.2 Input Audio with Output Audio Comparison Chart.....	3
7. Operation Controls and Functions.....	4
7.1 Top Panel	4
7.2 Right Panel	4
7.3 Left Panel	5
7.4 Back Panel	5
8. Connection and Installation	6

1. Introduction

This comprehensive audio converter device allows users to make a wide use with audio format and interfaces. With three different types of bidirectional connectors of optical, Coaxial and L/R, this device can convert all three signals into the desire format. Analog audio signal can be converts into digital output and digital audio signal can be converts into analog output. Not only so, it can be perform simultaneously without any signal loss. The audio converter is compact and elegant, it is easy to set up and friendly use.

2. Applications

- Analog audio signal convert into digital output
- Digital audio signal convert into analog output
- Simultaneously digital and analog audio output
- Digital coaxial to Toslink and Toslink to coaxial conversion

3. Package Contents

- Universal Digital / Analog Audio Converter
- Power Adaptor
- Operational Manual

4. System Requirements

Input audio source(s) equipments with connection cable(s) and output signal with connection cables.

5. Features

- Intergrated digital interpolator filter and Digital-to-Analog Converter (DAC)
- Integrated Analog –to-Digital Converter (ADC)
- Supports sampling frequencies from 16 to 100kHz
- Provides elelctromagnetic-noise-free transmission
- Easy to install and to operate
- Compact size with elegant design

6. Specifications

Input Ports	Optical, Coaxial and L/R
Input Format	Toslink, SPIDIF and LPCM 2CH
Sample Frequency	32kHz, 44.1kHz, 48kHz and 96kHz
Output Ports	Coaxial, Optical and L/R
L/R Input Impedance	47K Ω
L/R Output Impedance	47K Ω
ESD Protection	Human body model: $\pm 10\text{kV}$ (air-gap discharge) $\pm 6\text{kV}$ (contact discharge)
Power Supply	5V / 1A DC (US/EU standard, CE/FCC/UL certified)
Dimensions(mm)	97(W) x 85(D) x 35(H)
Weight(g)	120
Chassis Material	Plastic
Silkscreen Color	White
Operating Temperature	0 $^{\circ}\text{C}$ ~40 $^{\circ}\text{C}$ / 32 $^{\circ}\text{F}$ ~104 $^{\circ}\text{F}$
Storage Temperature	-20 $^{\circ}\text{C}$ ~60 $^{\circ}\text{C}$ / -4 $^{\circ}\text{F}$ ~140 $^{\circ}\text{F}$
Power Consumption	1W
Relative Humidity	20~90% RH (non-condensing)

6.1 Input Audio Reference Level

Input L/R Reference Level/Freq	Output	Output Reference Level	Output T.H.D+N	Signal to Noise Ratio
L/R 2Vrms 1KHz	L/R	1Vrms ± 0.05	0.01% \downarrow	>90dB
	COAX	0 dB~-0.35dB	0.01% \downarrow	>90dB
	OPTICAL	0 dB~-0.35dB	0.01% \downarrow	>90dB

Input COAX Reference Level/Freq	Output	Output Reference Level	Output T.H.D+N	Signal to Noise Ratio
COAX 0dBFS 1KHz	L/R	1Vrms ± 0.05	0.01% \downarrow	>90dB
	COAX	0 dB ± 0.05	0.01% \downarrow	>90dB
	OPTICAL	0 dB ± 0.05	0.01% \downarrow	>90dB

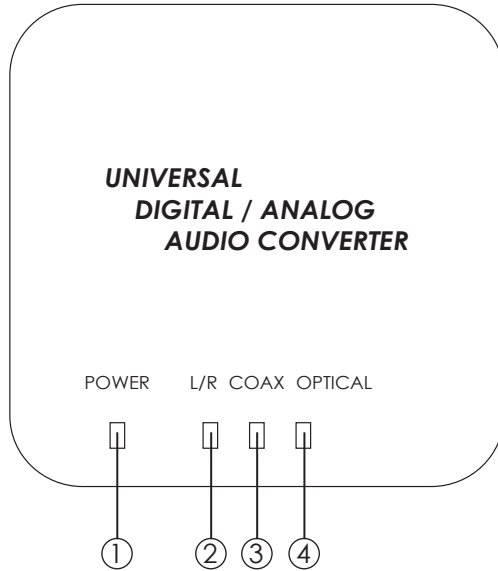
Input OPTICAL Reference Level/Freq	Output	Output Reference Level	Output T.H.D+N	Signal to Noise Ratio
OPTICAL OdBFS 1KHz	L/R	1Vrms±0.05	0.01%↓	>90dB
	COAX	0 dB±0.05	0.01%↓	>90dB
	OPTICAL	0 dB±0.05	0.01%↓	>90dB

6.2 Input Audio with Output Audio Comparison Chart

Audio Input Source	Output	Output Format	Remark
LPCM 2CH stereo L/R, coax or optical	L/R	Analog 2CH	
	COAX	LPCM2CH(48KHz)	
	OPTICAL	LPCM2CH(48KHz)	
OPTICAL LPCM 2CH/ AC3/DTS	L/R	No Support (Support optical / coaxial LPCM 2CH only)	Odd sound may appear
	COAX	LPCM 2CH/AC3/DTS	Bypass
	OPTICAL	LPCM 2CH/AC3/DTS	Bypass
COAX LPCM 2CH/ AC3/DTS	L/R	No Support (Support optical / coaxial LPCM 2CH only)	Odd sound may appear
	COAX	LPCM 2CH/AC3/DTS	Bypass
	OPTICAL	LPCM 2CH/AC3/DTS	Bypass

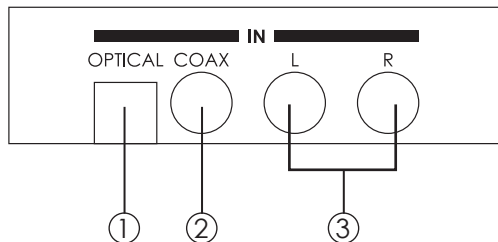
7. Operation Controls and Functions

7.1 Top Panel



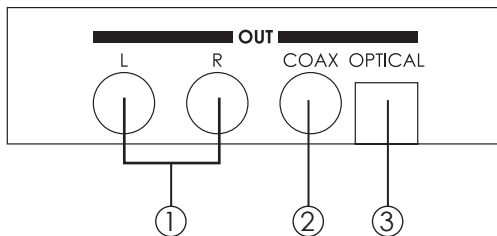
- ① Power: Power LED indicator. When power on the device the LED is green, when turn off the device the LED is red.
- ② Input Analog 2CH LED indicator. When selecting input L/R, blue LED will illuminate.
- ③ Input COAX: Input Coax LED indicator. When selecting input COAX, blue LED will illuminate.
- ④ Input OPTICAL: Input OPTICAL LED indicator. When selecting input Optical, blue LED will illuminate.

7.2 Right Panel



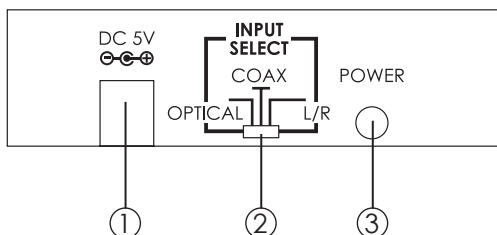
- ① OPTICAL: Connect from audio source equipment's optical audio output with optical cable.
- ② COAX: Connect from audio source equipment's coaxial audio output with coaxial cable.
- ③ L/R: Connect from audio source equipment's L/R audio output with L/R RCA jack cable.

7.3 Left Panel



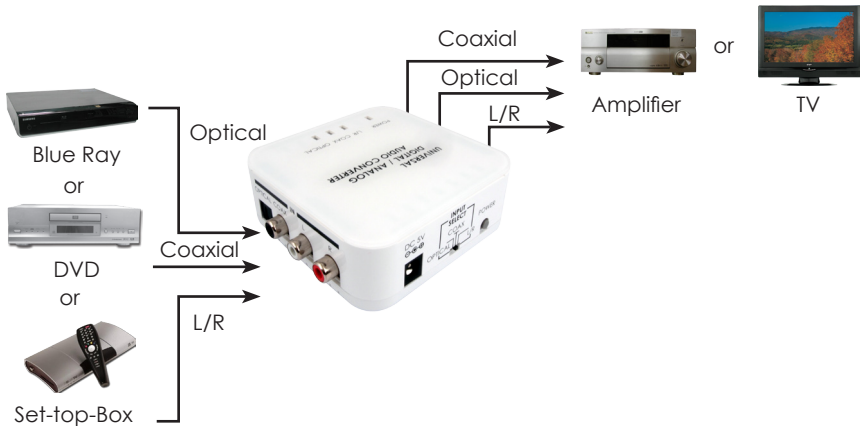
- ① L/R: Connect to audio equipment's L/R input such like TV or amplifier with L/R RCA jack cable.
- ② COAX: Connect to audio equipment's coaxial input such like TV or amplifier with coaxial cable.
- ③ OPTICAL: Connect to audio display equipment's optical input such like TV or amplifier with optical cable.

7.4 Back Panel



- ① DC 5V Power Jack: Plug 5V 1A DC power supply into the unit and connect the adaptor to AC wall outlet.
- ② INPUT SELECT: Use this switcher to select input from optical, coaxial or L/R.
- ③ Power Switch: Push to button the turn on or switch off the device.

8. Connection and Installation





CYPRESS TECHNOLOGY CO., LTD.
Home page: <http://www.cypress.com.tw>

20090810 MPM-DCT9