DCT-9
Universal Digital / Analog Audio Converter

Operation Manual
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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

<table>
<thead>
<tr>
<th>Version No</th>
<th>Date</th>
<th>Summary of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>20090713</td>
<td>Preliminary Release</td>
</tr>
</tbody>
</table>
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 electromagnet-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: 47KΩ
L/R Output Impedance: 47KΩ
ESD Protection: Human body model: ± 10kV (air-gap discharge)
                  ± 6kV (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: 120 g
Chassis Material: Plastic
Silkscreen Color: White
Operating Temperature: 0°C~40°C / 32°F~104°F
Storage Temperature: -20°C~60°C / -4°F~140°F
Power Consumption: 1W
Relative Humidity: 20~90% RH (non-condensing)

6.1 Input Audio Reference Level

<table>
<thead>
<tr>
<th>Input L/R Reference Level/Freq</th>
<th>Output</th>
<th>Output Reference Level</th>
<th>Output T.H.D+N</th>
<th>Signal to Noise Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>L/R 2Vrms 1KHz</td>
<td>L/R</td>
<td>1Vrms±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
<tr>
<td></td>
<td>COAX</td>
<td>0 dB~0.35dB</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
<tr>
<td></td>
<td>OPTICAL</td>
<td>0 dB~0.35dB</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input COAX Reference Level/Freq</th>
<th>Output</th>
<th>Output Reference Level</th>
<th>Output T.H.D+N</th>
<th>Signal to Noise Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>COAX OdBFS 1KHz</td>
<td>L/R</td>
<td>1Vrms±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
<tr>
<td></td>
<td>COAX</td>
<td>0 dB±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
<tr>
<td></td>
<td>OPTICAL</td>
<td>0 dB±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
</tbody>
</table>
### Input Audio Reference Level/Freq

<table>
<thead>
<tr>
<th>Input OPTICAL Reference Level/Freq</th>
<th>Output</th>
<th>Output Reference Level</th>
<th>Output T.H.D+N</th>
<th>Signal to Noise Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTICAL OdBFS 1KHz</td>
<td>L/R</td>
<td>1Vrms±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
<tr>
<td></td>
<td>COAX</td>
<td>0 dB±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
<tr>
<td></td>
<td>OPTICAL</td>
<td>0 dB±0.05</td>
<td>0.01%↓</td>
<td>&gt;90dB</td>
</tr>
</tbody>
</table>

### 6.2 Input Audio with Output Audio Comparison Chart

<table>
<thead>
<tr>
<th>Audio Input Source</th>
<th>Output</th>
<th>Output Format</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPCM 2CH stereo L/R, coax or optical</td>
<td>L/R</td>
<td>Analog 2CH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COAX</td>
<td>LPCM2CH(48KHz)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPTICAL</td>
<td>LPCM2CH(48KHz)</td>
<td></td>
</tr>
<tr>
<td>OPTICAL LPCM 2CH/AC3/DTS</td>
<td>L/R</td>
<td>No Support (Support optical / coaxial LPCM 2CH only)</td>
<td>Odd sound may appear</td>
</tr>
<tr>
<td></td>
<td>COAX</td>
<td>LPCM 2CH/AC3/DTS</td>
<td>Bypass</td>
</tr>
<tr>
<td></td>
<td>OPTICAL</td>
<td>LPCM 2CH/AC3/DTS</td>
<td>Bypass</td>
</tr>
<tr>
<td>COAX LPCM 2CH/AC3/DTS</td>
<td>L/R</td>
<td>No Support (Support optical / coaxial LPCM 2CH only)</td>
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<td></td>
<td>OPTICAL</td>
<td>LPCM 2CH/AC3/DTS</td>
<td>Bypass</td>
</tr>
</tbody>
</table>
7. Operation Controls and Functions

7.1 Top Panel

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

7.2 Right Panel

- **OPTICAL:** Connect from audio source equipment’s optical audio output with optical cable.
- **COAX:** Connect from audio source equipment’s coaxial audio output with coaxial cable.
- **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

Blue Ray or DVD or Set-top-Box

Optical

Coaxial

L/R

Optical

Coaxial

L/R

Amplifier

or

TV