

Trends Audio UD-10.1

USB Audio Converter
Version 1.1

User Guide



Trends UD-10



Trends UD-10.1 Lite

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Table of Contents

TABLE OF CONTENTS	3
1. INTRODUCTION	4
2. FEATURES	5
3. OVERVIEW – TRENDS UD-10.1	6
4. OVERVIEW – TRENDS UD-10.1 LITE	7
5. SETUP	8
6. ADVANCE USE	8
7. SPECIFICATION	9
7.1 SPECIFICATION OF THE CONVERTER UNIT	9
7.2 SPECIFICATION OF POWER SUPPLY UNIT (OPTIONAL)	10
8. HINTS & TIPS	11
9. TROUBLESHOOTING	11
10. CONTACT	11
11. REGULATORY COMPLIANCE	12

1. Introduction

Thank you for purchasing a Trends UD-10.1 USB Audio Converter

There are three main uses for the Trends UD-10.1 USB Audio Converter:

1. Connect your PC/Mac/Smartphone to your Hi-Fi system
2. Connect your PC/Mac/Smartphone to your Hi-Fi systems DAC (Digital to analog converter)
3. Work as the Headphone Amplifier for your PC/Mac/Smartphone

There are a lot of good quality audio DACs on the market. But a good inexpensive audio source is still difficult to find. Trends Audio developed the Trends UD-10.1 USB Audio Converter as an external sound card. It has four digital outputs (optical x1, coaxial x2 (RCA & BNC), AES/EBU x1, Trends UD-10 only) and a headphone socket. It effectively isolates the interference from within the PC/Mac case, caused by high frequency data signals, the switching mode power supply and the fan motors.

The Trends UD-10.1 USB Audio Converter upgrades your PC/Mac/Smartphone to be a hi-end audio source. Thanks to the high quality components and engineering the Trends UD-10.1 USB Audio Converter makes your PC/Mac/Smartphone into a high-end CD Player. Trends UD-10.1 USB Audio Converter and PC/Mac/Smartphone combination provides better sound quality, larger storage capacity and a more user-friendly interface than most standard CD players. The computer hard disk is far superior to a CD transport, no matter the speed, stability, error correction or jitter reduction.

2. Features

In the front panel, there are the USB socket and the headphone socket (can convert to a pair of RCA audio output with the bundled adaptor). The back panel is mainly the digital outputs (optical x1, coaxial x2 (RCA & BNC), AES/EBU x1 for UD-10.1 and optical x1, coaxial x 1 (RCA) for UD-10.1 Lite) and the external power supply socket.

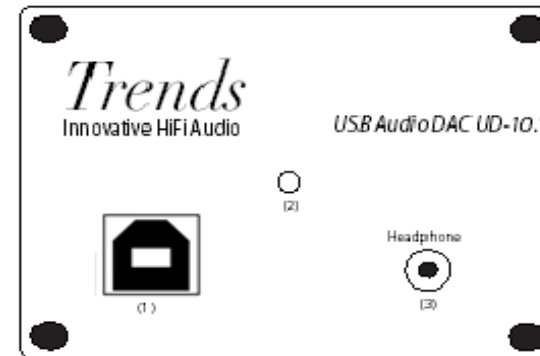
- high-end Burr Brown PCM2704 IC for USB audio conversion
- proprietary dual power regulation circuits design (normal implementations are just directly apply the 5V USB bus power). No matter the power is supplied from the USB bus or from external socket, it is regulated before supply to the related ICs. Dual regulated powers are supplied to digital circuits and analog circuits individually.(UD-10.1 only)
- separated digital/analog ground. The digital GND (network) and the analog GND (solid) is totally separated except connected via a ferrite bread in a single point. It effectively reduce interference between digital signals and analog signals.
- Option to use USB bus power [convenient] or external power [better sound] (e.g. Trends PW-10 PSU or AA size rechargeable battery 1.2V x4=5V, don't use normal batteries with 1.2V x4=6V, it would be too high for safety and good sound performance)
- 4 pins high accuracy crystal clock ($\pm 10\text{ppm}$, UD-10.1 or $\pm 25\text{ppm}$, UD-10.1 Lite)
- applied RS422 driving IC to concurrently drive 4 groups of balance & non-balance digital outputs. Audiophiles can compare the differences between these digital outputs instantly or play for the Bi-DACs or even Quad DACs.
- proprietary impedance matching circuits for AES/EBU(110ohm)(UD-10.1 only), Coaxial(75ohm) digital outputs
- applied the specially designed pulse transformers for each AES/EBU(UD-10.1 only) and Coaxial outputs to further isolated interference from UD-10.1 to the external DAC. The most pure, accurate, standard digital signal is then regenerated with minimum interference and jitter.
- plug-and-play without driver installation for most PC/Mac operating systems, e.g. Windows OS, Mac OS X and Linux OS.

We applied audiophile grade materials and electronic components, including the high-quality Japanese/Korean precise SMD resistors and capacitors. Besides reducing the space, it also reduces the resident inductance (relative to DIP components). The power filtering and decoupling is using Sanyo OS-CON solid-state electrolyte capacitors. The analog signal decoupling and coupling are using ELNA Silmic electrolyte capacitors and WIMA MKP10 film capacitors#.

The case of the device is the stylish iron-gray whole aluminum one.

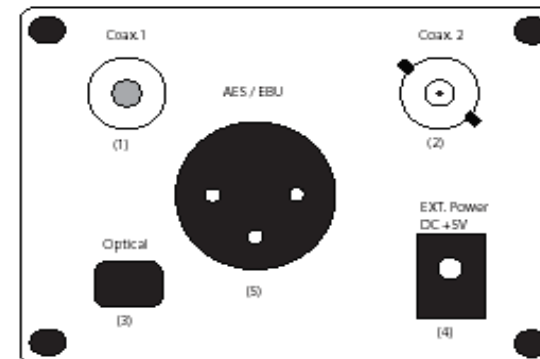
3. Overview – Trends UD-10.1

Front View



1. USB Socket
2. Power Indicator
3. Headphone Socket

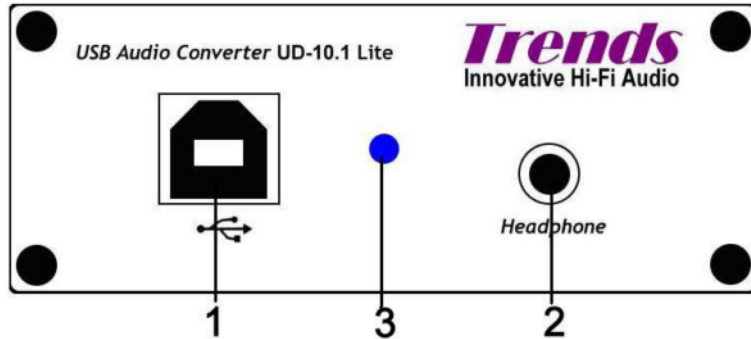
Back View



1. Coaxial (RCA)
2. Coaxial (BNC)
3. Optical
4. AES/EBU(XLR)
5. Power Supply Socket

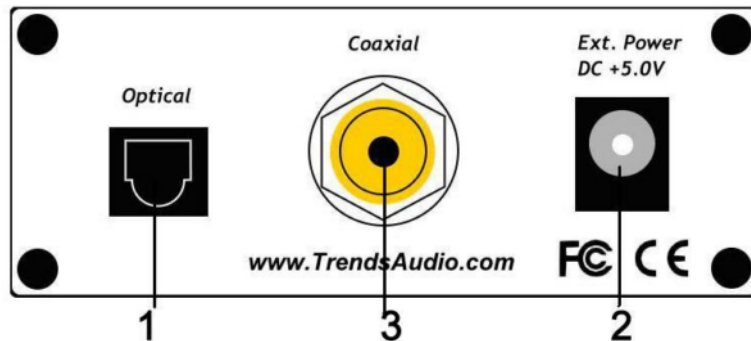
4. Overview – Trends UD-10.1 Lite

Front View



1. USB Socket
2. Headphone Socket
3. Power Indicator

Back View



1. Optical
2. Power Supply Socket
3. Coaxial RCA

5. Setup

Plug-and-play without driver installation for most operating systems, e.g. PC Windows 2000, Windows XP, Vista and Mac OS X.

PC Users may need to select the Trends UD-10.1 as sound output device:
Select - My Computer – Sound Devices – USB Audio DAC

MAC Users may need to select the Trends UD-10.1 as sound output device:
Select – System Preferences – Hardware Sound – USB Audio DAC
Once set up the Trends Audio UD-10.1 will interface with iTunes, Foobar2000, QuickTime Player, Windows Media Player, Real Player, etc.

Connect your PC/Mac/Smartphone to your Hi-Fi system:

PC/Mac USB port / Smartphone microUSB port <-> USB socket on the front of Trends UD-10.1 <-> Headphone Socket Aux Input on amplifier / system. You can use an existing PHONO cable with the supplied mini-jack to PHONO adaptor or a mini-jack to PHONO cable.

Connect your PC/Mac/Smartphone to your Hi-Fi systems DAC:

PC/Mac USB port / Smartphone microUSB port <-> USB socket on the front of Trends UD-10.1 <-> Select digital output on back of UD-10.1 <-> Connect to digital input on DAC.

Work as Headphone Amplifier for your PC/Mac/Smartphone:

PC/Mac USB port / Smartphone microUSB port <-> USB socket on the front of Trends UD-10.1 <-> Headphone socket on front of Trends UD-10.1

6. Advance Use

Battery Power: It is possible to power the Trends UD-10.1 USB Audio Converter with battery power for the best possible sound quality. Using the supplied battery box install four recharges AA batteries, 2000mAh or larger capacity recommended this will give you approximately 16hrs of playing time. Small capacity batteries are suitable but will need recharging more frequently. *Do Not Be Tempted to use ordinary AA batteries as this could cause irreparable damage. Rechargeable batteries (1.2V x4=5V). Normal batteries (1.5V x4=6V).*

Mains Power: You can power the Trends UD-10.1 USB Audio Converter directly from the mains for improved sound quality and to reduce the current draw on the USB bus power; this will be an advantage when you are already using many USB peripherals. It is recommended that you use a 5V power supply with Centre Pin (+) 5.5mm Diameter, Pin 2.1mm.

7. Specification

7.1 Specification of the Converter Unit

Model	UD-10.1	UD-10.1 Lite
USB DAC IC	Burr Brown PCM2704 USB DAC (digital to analog converter)	
USB Input	USB Type A / B connector x 1	USB Type B female connector x 1
Clock	4 pin high accuracy crystal clock: ±10 ppm	4 pin high accuracy crystal clock: ±25 ppm
Power Regulation	Dual regulated power for analog & digital, paths, individually	Regulated power for both analog & digital paths
Digital Outputs	Optical connector:TOSLINK Coaxial(RCA)connector:75 ohms Coaxial(BNC) connector:75 ohms AES/EBU(XLR)connector:110 ohms Audio format: linear PCM, 16 bits per sample Sample rates: 32, 44.1, 48 kHz	Optical connector:TOSLINK Coaxial(RCA)connector:75 ohms Audio format: linear PCM, 16 bits per sample Sample rates: 32, 44.1, 48 kHz
Analog Output	Headphone 3.5mm jack (Volume Controlled by PC/Mac/Smartphone)	
Signal-to-noise ratio (SNR)	98dB	
Dynamic Range	98dB	
THD+N	0.006% (RL > 10 k, Self-Powered)	
Audio Formats	Lossless Formats: APE, FLAC, WMA Lossless, Apple lossless or other Uncompressed formats: WAV, AIFF, PCM or other Compressed formats: MP3,AAC,Ogg Vorbis,MP2,MusePack,WMA or other	
System Requirements	All systems: 256MB RAM with 30MB hard disk space Windows OS: Windows NT/2000/XP/Vista or later Macintosh: Mac OS X 10.3 or later Linux, PC LinuxOS 2007, Fedora core 7, Ubuntu 7.04 or other	
Power Supply	USB Bus Power or External power(Optional): DC 4.35V – 5.25V(max) (e.g. AA size rechargeable battery 1.2V x4=5V. NOTE: Don't use normal batteries with 1.5V x4=6V, it would be too high for safety and good sound performance)	
Dimensions (W) x (H) x (D)	76mm x 46mm x 114mm [case only] 76mm x 46mm x 128mm [incl. sockets & knob]	76mm x 29mm x 114mm [case only] 76mm x 29mm x 128mm [incl. sockets & knob]
Weight	300g	250g
Case	Stylish aluminum	
Accessories	1.5m type A to type B cable x 1 Mini Jack to 2 Phono Sockets Adapter x 1 User Guide x 1 Warranty Card x 1	
Warranty	One year parts and labor.	
Regulatory Compliance	CE, FCC	

7.2 Specification of Power Supply Unit (Optional)

Model	Trends UD-10.1 Battery Pack*	Trends PW-10 Power Supply Unit
AC Input	Universal AC: 100V-240V / 50~60Hz	110V / 50~60 Hz, OR 220V / 50~60Hz (specific model should be selected, not compatible)
DC Output	DC 5V /0.5A	DA/UD: +5V/230mA
AC Input Socket	IEC socket	IEC socket
DC Output Socket	DC 2.1 socket	DC 2.1 socket
LED Indicator	Power ON w/o battery: Black Charging: Red Charged/Float Charging: Green	Main Power: Blue TA: Green DA/UD: Green PA: Green
Dimensions	110mm x 80mm x 60mm	205mm x 105mm x 55mm
Weight	300g	1.8kg

*Trends UD-10 Battery Pack includes:

- Charger x 1
- Battery Box x 1
- 2300mAh 1.2V AA-size rechargeable battery x 4

8. Hints & Tips

- Always power the Trends UD-10.1 USB Audio Converter before starting your media player.
- It's impossible to advise on the suitability of every media player, operating system, file type combinations, so for best results experiment
- Use battery power for a more open and spacious sound

9. Troubleshooting

Symptom	Solution
No power	Check battery pack is not flat & is switched on.
No sound	Check USB cable is connected Restart your media player
Sound is intermittent	Check battery pack it may need charging. Restart your media player
No Sound & No power	Check USB cable - battery pack - power supply
Volume very low	Check PC/Mac/Smartphone master volume & media players volume setting

10. Contact

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11. Regulatory Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.