DCT-24

USB Audio Center

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 to 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	07/12/14	Preliminary Release
VS0	20/06/13	Updated Text & Diagrams

CONTENTS

1. INTRODUCTION

The USB Audio Center allows multiple audio sources to be controlled, switched and outputted to a variety of audio equipment. With 3 audio inputs (USB, Line-level RCA and 3.5mm mini-jack and 2 audio outputs (Line-level RCA and 6.3mm headphone output) you can integrate and convert USB or analog stereo audio sources to Line-level output and 6.3mm headphone simultaneously.

2. APPLICATIONS

- Multiple input/output Audio Center
- PC/Mac USB audio input support
- Show event audio set up
- Home theater
- Educational/Lecture presentation

3. PACKAGE CONTENTS

- 1×USB Audio Center
- 1×5 V/3 A DC Power Adaptor
- 1×6.3mm to 3.5mm Jack
- 1×3.5mm to D-sub 9-pin Cable
- 1×Driver CD-Rom
- Operational Manual

4. SYSTEM REQUIREMENTS

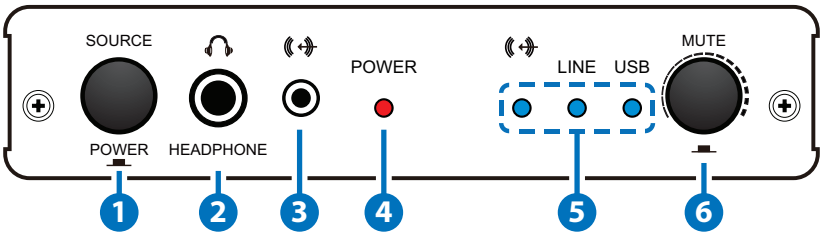
Audio source equipment such as PC (USB), DVD player or MP3 Player and audio output devices such as active speakers, amplifier or headphones.

5. FEATURES

- Supports Digital to Analog audio Conversion (DAC)
- Supports USB sampling rate up to 192 kHz
- Simultaneous output on both Line out and 6.3mm headphone output
- Supports RS-232 control
- Total Harmonic Distortion (THD): Less than 100 dB (−20 dBFs)
- Volume control of analog and headphone outputs
- Direct power ON/OFF and mute button on unit
- Headphone output fades in after system is muted
- 6.3 mm headphone output (3.5 mm mini-jack adaptor supplied)
- Compact design and easy to use

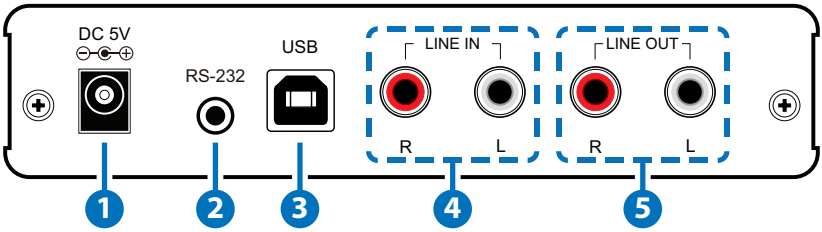
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1. **POWER/SOURCE:** Press to turn on the device or to put it into standby mode. Turn left or right to select the audio source (3.5mm Line-level/ Line in/ USB), the LED will illuminate to indicate the selected audio source.
2. **HEADPHONE OUT:** Connect to professional headphones with a 6.3mm jack for user to enjoy high quality audio. Use the supplied 6.3 mm to 3.5 mm adapter for headphones with a 3.5mm mini-jack connection.
3. **LINE-LEVEL IN:** Connect with a 3.5mm mini-jack cable to any audio equipment such as a smart phone or MP3 Player.
4. **POWER LED:** This LED will illuminate when the Power is switched ON.
5. **LINE-LEVEL/LINE/USB LEDs:** The LED will illuminate to indicate the selected audio source.
6. **MUTE/VOLUME:** Turn to adjust the volume levels. Press to Mute the audio, the input LED indicators will turn off automatically. Turn left or right to un-mute the audio, the input LED indicators will illuminate to the last source selected.

6.2 Rear Panel



1. **DC 5V:** Connect the 5V DC power supply to the unit and plug the adaptor into an AC outlet.
2. **RS-232:** Connect via the supplied 3.5mm D-sub 9-pin adaptor cable to a PC/Laptop or RS-232 control system for RS-232 control.
3. **USB:** Connect to a PC/Mac source for USB audio.

   Connect to a PC with a USB cable for firmware update. Press and hold down the 'POWER/SOURCE' wheel and then plug the 5V DC power supply to the unit, the system will enter into firmware update mode. Run the software on the supplied CD-Rom and follow the on-screen intructions to install the driver (PC/Windows only).
4. **LINE IN:** Connect the L/R IN to an analog stereo source such as a CD or media player.
5. **LINE OUT:** Connect the L/R OUT to amplifier or active speakers with RCA jack cables.

6.3 RS-232 Protocol

USB AUDIO CENTER	
PIN	**Assignment**
1	NC
2	TxD
3	RxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

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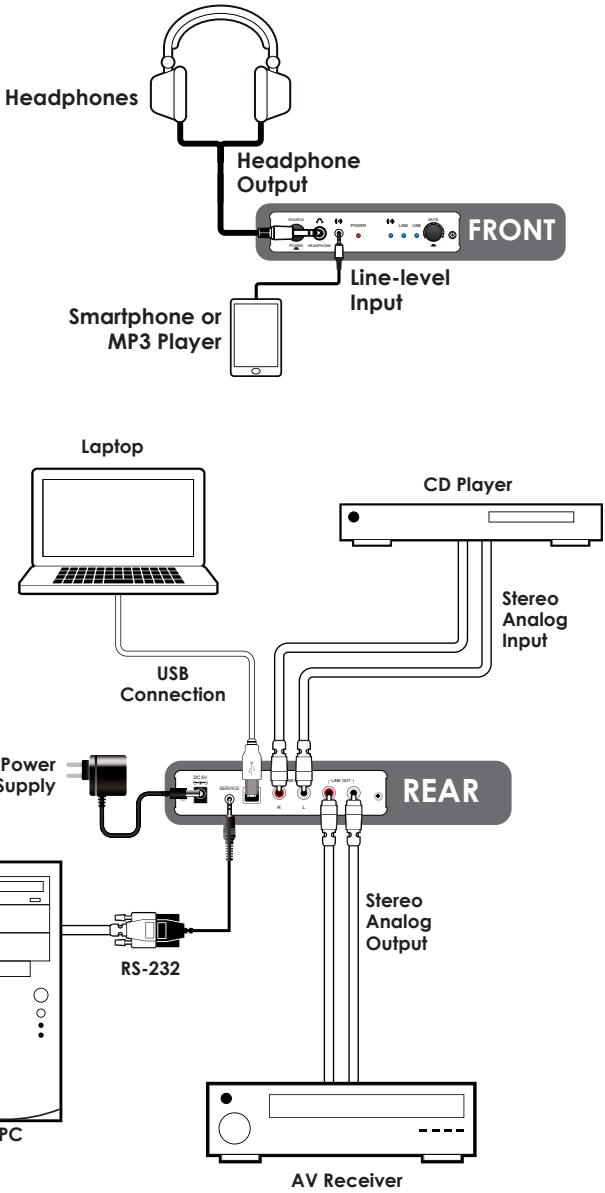
REMOTE CONTROL	
PIN	**Assignment**
1	NC
2	RxD
3	TxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Baud Rate: 19200 bps
Data bit: 8-bits
Parity: None
Stop Bit: 1
Flow Control: None

6.4 RS-232 Commands

COMMAND	DESCRIPTION
PORT 00	Switch Front In
PORT 01	Switch Line In
PORT 02	Switch USB In
VOL 00	Volume controller
VOL 01~160	Volume controller
POWER 00	Power Off
POWER 01	Power on
MUTE 00	Mute Off
MUTE 01	Mute On
FIX 00	LINE Out volume levels
FIX 01	LINE Out fix level
ME 03	Reset to default
HPR 00~05	HPR 00=16Ω, HPR 01=32Ω, HPR 02=64Ω, HPR 03=200Ω, HPR 04=300Ω, HPR 05=600Ω
INFO	Display the current status and F/W version
?	Display all available commands

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

8.1 Technical Specifications

Input Ports	1×3.5mm Mini-jack, 1×L/R (Analog Stereo 2RCA), 1×USB Type B, 1×RS-232
Output Ports	1×L/R (Analog Stereo 2RCA), 1×6.3mm Headphone Jack
Audio Input/Output Format	LPCM 2CH
Stereo Input/Output Level	2 Vrms ± 10%
USB Audio Sampling Rates	Up to 192kHz
THD+N	<0.01%
Frequency Response	±1dBFs
SNR	>80dB
Crosstalk	<-70dB
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	5V/3A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	145mm (W)×113mm (D)×30mm (H)/ Excluding Connector 145mm (W)×128mm (D)×30mm (H)/ Including Connector
Weight	375g
Chassis Material	Aluminum
Color	Black
Operating Temperature	0 ˚C~40 ˚C
Storage Temperature	−20 ˚C~60 ˚C / −4 ˚F~140 ˚F
Relative Humidity	20 ~ 90 % RH (non-condensing)
Power Consumption	8.5W

8.2 Audio Specifications

INPUT LEVEL	OUTPUT TERMINAL	CHANNEL	OUTPUT SAMPLING RATES	OUTPUT LEVEL	THD+N	FREQUENCY RESPONSE	SNR	CROSS-TALK
Line 2Vrms	Line	L	N/A	1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
		R		1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
	Headphone	L	N/A	1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
		R		1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
3.5mm Line 2Vrms	Line	L	N/A	1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
		R		1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
	Headphone	L	N/A	1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB
		R		1.8 ~2.2Vrms	<0.01%	±1dBFS	>80dB	<-70dB

9. ACRONYMS

ACRONYM	COMPLETE TERM
COAX	Coaxial
HDMI	High-Definition Multimedia Interface
OLED	High-Definition Multimedia Interface
OPT	Optical
USB	Universal Serial Bus

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