DCT-16

USB HD Audio Converter

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
VS1	03/04/13	First Release

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1. INTRODUCTION

The USB HD Audio Converter supports the transmission of high definition audio from a PC or laptop over a High Speed USB 2.0 cable. It will output digital audio via its Optical connection while convert the digital input signal into Analog Stereo via its RCA connection.

The professional DAC also allows users to directly connect their headphones via its Headphone output to enjoy high definition audio. All audio signals are outputted simultaneously, allowing for greater flexibility in integrating computer audio signals into an AV installation.

2. APPLICATIONS

Improve the audio quality for:

- PC game entertainment
- Professional audio environment
- Showroom environment

3. PACKAGE CONTENTS

- USB HD Audio Converter
- 3.5mm Stereo to 6.35mm Headphone Jack Adaptor
- USB Type-A to Mini-B Cable
- Installation CD
- Operation Manual

4. SYSTEM REQUIREMENT

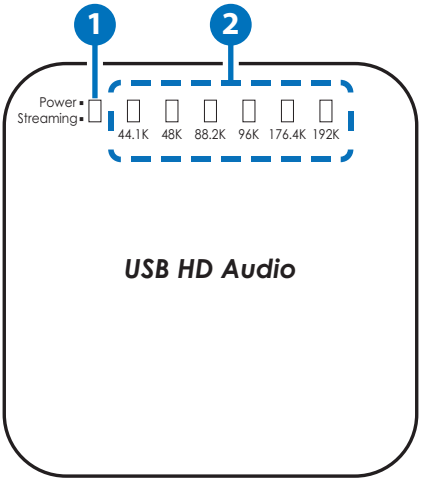
Source equipment such as PCs or laptops with USB Mini-B port and output devices such as AV Receiver or headphones.

5. FEATURES

- Supports sampling rates of 44.1, 48, 88.2, 96, 176.4 and 192 kHz
- Supports bitrates of 16-bit or 24-bit
- Supports Windows and Mac OS
- Compact and elegant design
- Powered by the USB port of the unit
- Supports simultaneous audio output of Headphone, analog Stereo (L/R) and digital Optical
- ASIO (Audio Stream Input/Output) driver support (with the supplied CD)
- USB asynchronous mode

6. OPERATION CONTROLS AND FUNCTIONS

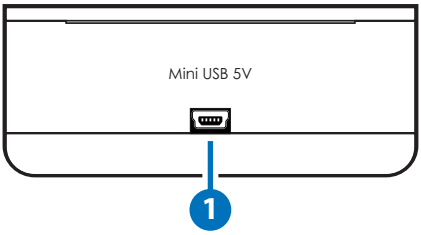
6.1 Top Panel



1 **Power/Streaming LED:** The LED will illuminate when the power is connected, flash when the audio signal is transmitting.

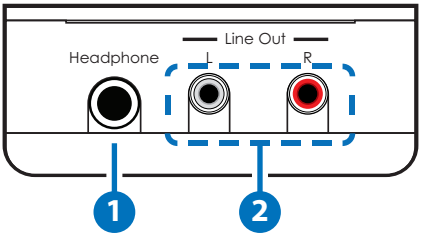
2 **Sample Rate LED:** The LED will illuminate when a PC or laptop is connected. The unit will automatically detect the current audio sample rate.

6.2 Left Panel



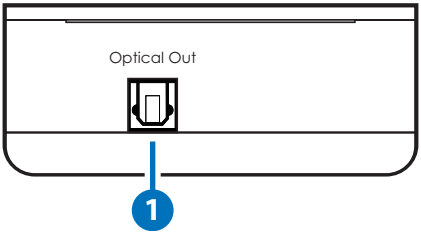
1 **Mini USB 5V:** Connect to the computer's USB port capable of sending audio up to 192 kHz and a high bit rate of 24-bit to the system with both digital and analog outputs by using the supplied USB Type-A to Mini-B cable.

6.3 Right Panel



1. **Headphone:** Connect to the headphones with the supplied 3.5mm stereo to 6.35mm headphone jack adaptor to get the audio from your computer.
2. **L/R Line Out:** Connect to the Stereo Audio input of an AV Receiver or active speakers.

6.4 Front Panel



1. **Optical Out:** Connect to the Optical input of an AV Receiver or active speakers.

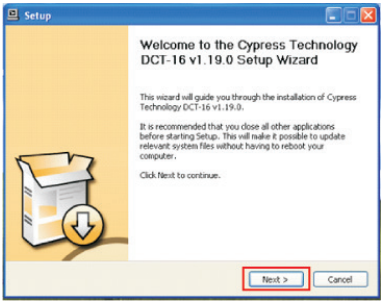
7. SOFTWARE INSTALLATION

7.1 Install Driver

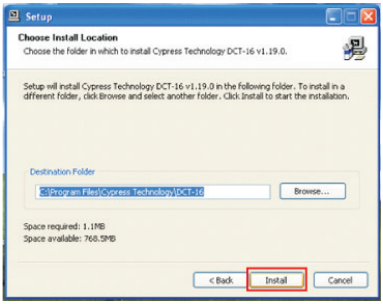
- **Windows 7/Windows XP**

Insert the CD-ROM included in the package into your computer's CD-ROM drive. The setup wizard should automatically start. Connect the USB HD Audio Converter Pro to the computer.

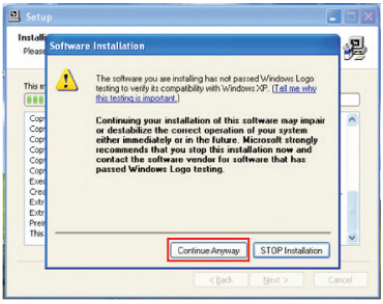
Click on 'Next' to start the setup.



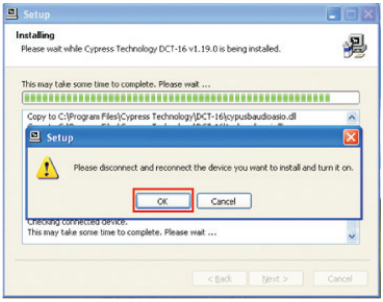
Confirm the location of the 'Destination Folder' (the default location will be shown) and click on 'Install' to continue the setup.



While the installation may proceed uninterrupted, a message may appear (example shown below). Click 'Continue Anyway' to continue the installation.

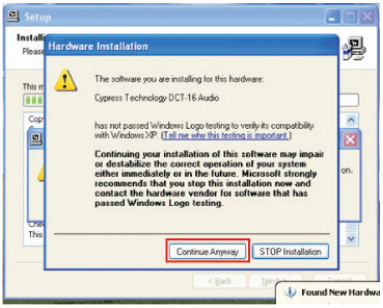


During the setup the unit must be connected to your PC/laptop source device. When the message appears to asking for the unit to be disconnected and reconnected, follow the onscreen prompts and when finished click on 'OK'.

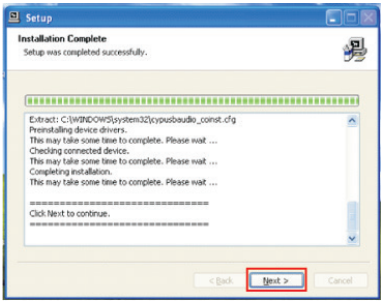


The PC/Laptop should recognize the DCT-16 and a message will be shown in the system tray on the bottom right-hand side.

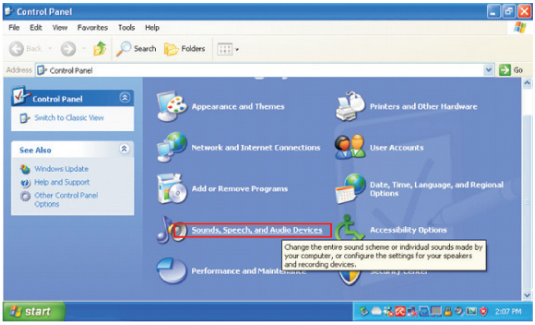
The installation will continue and a message may appear (as below) click 'Continue Anyway' to continue the installation.



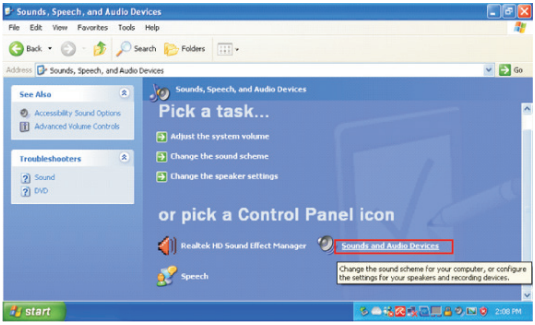
When the installation is complete click on 'Next'.



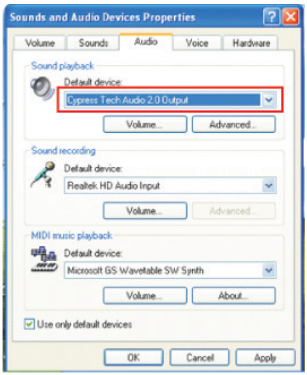
Go to the Control Panel from the 'Start Menu' and click on 'Sounds, Speech, and Audio Devices'.



Then click on 'Sound and Audio Devices'.



Select the 'Audio' tab and choose 'Cypress Tech Audio 2.0 Output' from the Sound playback's Default device dropdown menu. Click 'OK' to start using USB HD Audio Converter Pro.



- **Windows 8**

Part 1

Right click "setup.exe" file found in the CD-ROM.

Select "Trouble Compatibility".

Click "Try Recommended Settings".

Click "Test The Program".

Click "Setup Program Icon" on the Task Bar.

Click "Yes".

The message "This Setup cannot run on the current operating system" will pop-up.

Click “Enter”, then click “Next” of “Program Compatibility Troubleshooter”.

Click “Cancel” to quit part 1.

Part 2

Move the mouse cursor to the right up corner and click “Settings”.

Click “Change PC settings”.

Click “General”, then click “Restart now” of “Advanced Startup”.

Click “Troubleshoot” to bring up the “Choose An Option” window.

Click “Advanced Options”.

Click “Startup Settings”.

Click “Restart”.

Press “7” to choose “Disable driver signature enforcement”.

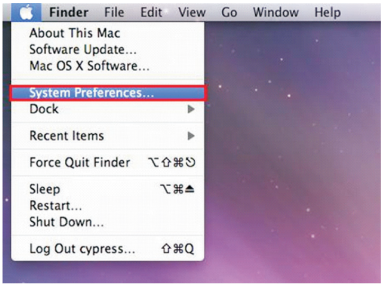
Execute “setup.exe” found in the DC-ROM to install driver when Win8 OS runs.

Select “Install this driver software anyway” when “Windows Security” is pop-up.

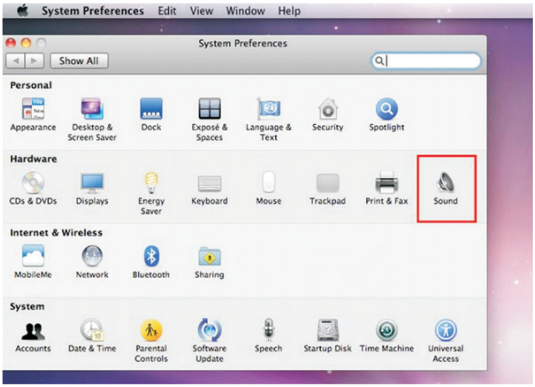
Restart Win8 OS after the driver is installed.

- **Mac OS**

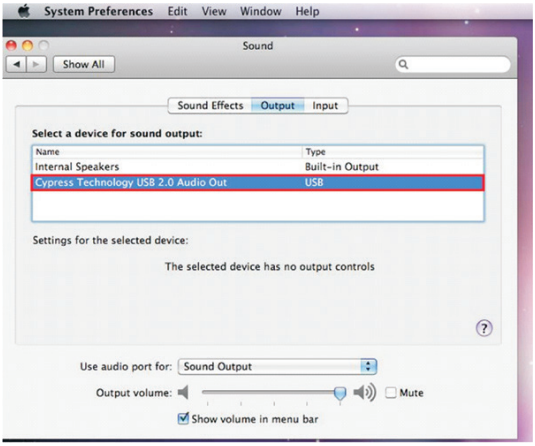
There is no installation required for Mac OS computers, however, a simple setting change is required in order to allow the USB HD Audio to function.



Click on 'System Preferences' and then click 'Sound' button.



When the sound preferences appear, click on 'Output' and select 'USB'.

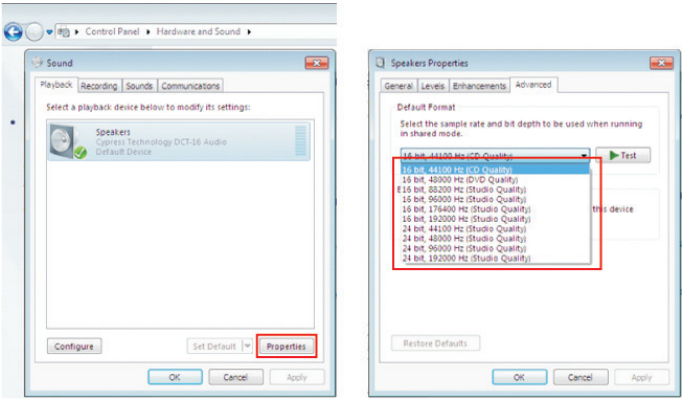


Note: Please make sure the USB Audio is upgraded to version 2.0. If USB Audio driver is under 2.0 version some noise may occur.

7.2 Select Sample Rates

- **Windows 7/Windows 8**

Sampling rate is only selectable in Windows 7 and Windows 8, while other Windows versions do not support this function. Since the output sound quality is dependent on the original source audio signal, performance may vary. Selecting the sampling rate may improve the sound available from your computer.



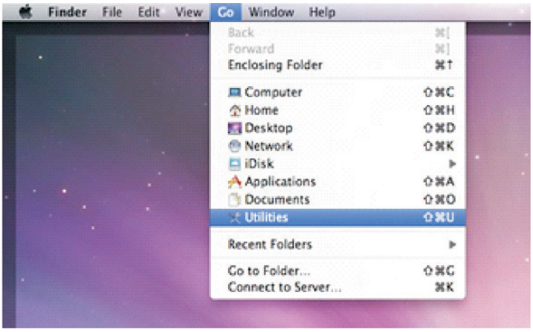
Start from Control Panel and click on 'Hardware and Sound'. Click on 'Playback' tab and select the device “DCT-16” and click 'Properties' button.

Select the 'Advanced' tab and click on the dropdown menu next to 'Test' button and select the desired sampling rate. Click on 'OK' button to confirm the selection and the sampling rate selection is complete.

- **Mac OS**

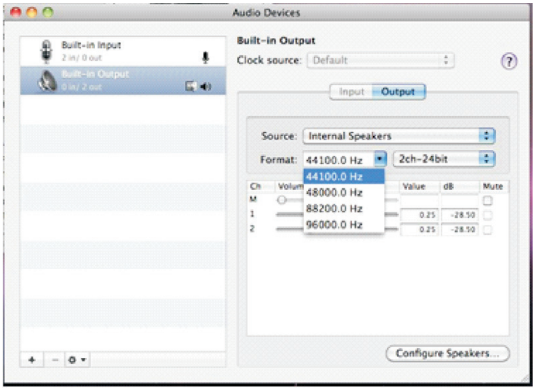
Sampling Rate is selectable in Mac OS. Since the output sound quality is dependent on the original source audio signal, performance may vary. Selecting the sampling rate may improve the sound available from your computer.

On the menu bar, click 'Go' and select 'Utilities'.



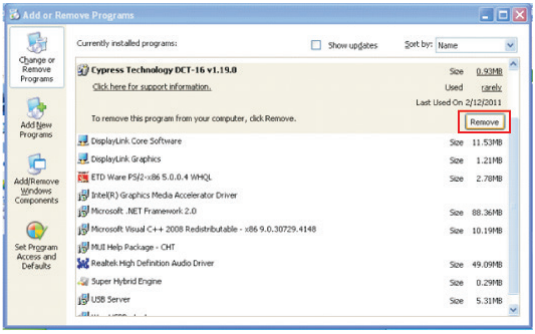
Click 'Applications' in the left pane, then double click the 'Audio MIDI Setup' in the right pane to launch the 'Audio Devices' screen.

Click 'Built-in Output' in the left pane. Use the 'Format' dropdown menu to select the desired sampling rate, then click 'Configure Speakers' button to apply.



7.3 Uninstall Driver

1. Open the Control Panel from the 'START Menu' and double click on the 'Control Panel 'then select 'Add or Remove Programs'.
2. Select 'Cypress Technology DCT-16' and click 'Remove'.



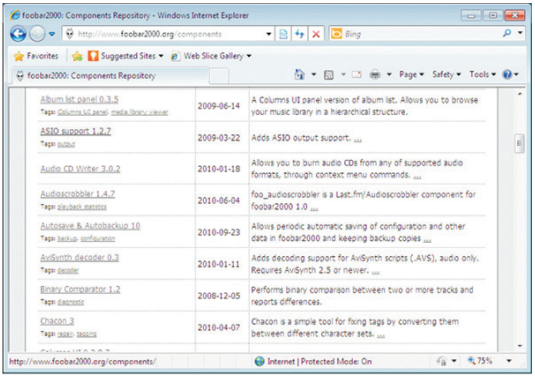
3. Click 'Yes' to confirm the removal and click 'Yes' again to restart the computer in order to remove the software completely.

7.4 Install Foobar2000

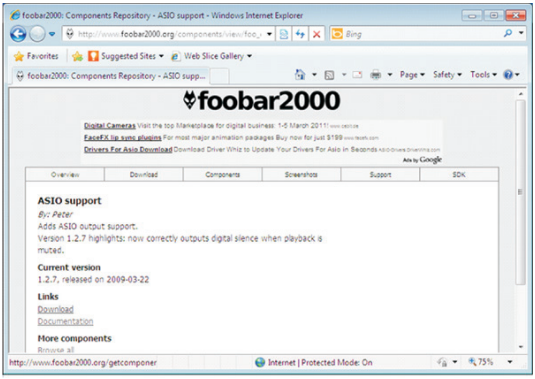
If ASIO support is required, please follow the procedure below:

1. Go to the website: http://www.foobar2000.org to download the latest Foobar2000 and complete the installation.

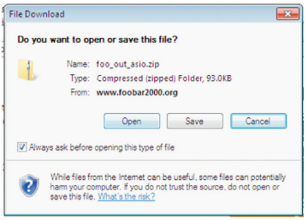
2. Click on Components and search for ASIO and click on ASIO support 1.2.7 or the latest version of ASIO support to enter into the link.



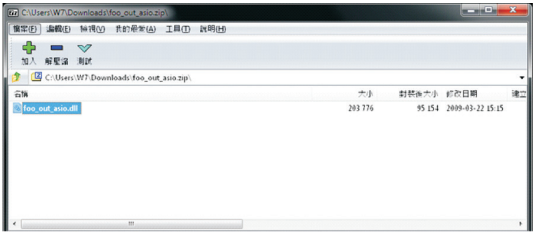
3. Double click on Download to download the ASIO software.



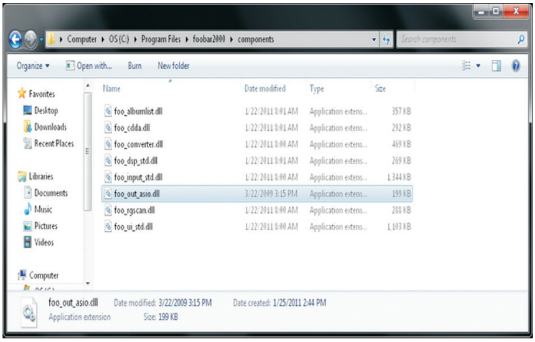
4. Click 'Open' or 'Save' to open or save the ASIO software.



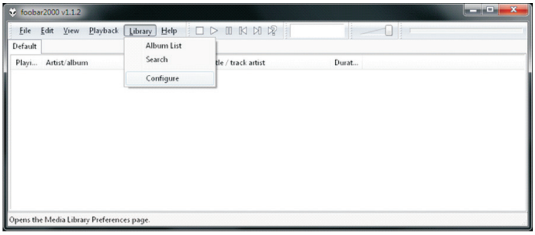
5. Unzip the 'foo_out_asio.dll' file.



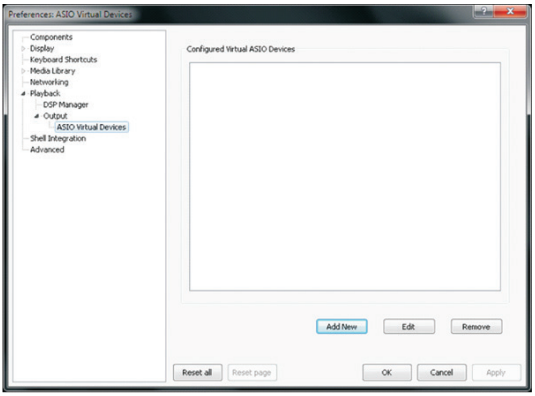
6. Copy the 'foo_out_asio.dll' file to Foobar2000 in the 'Components' folder of the installation directory (default is 'C:\Program Files\ foobar2000\components').



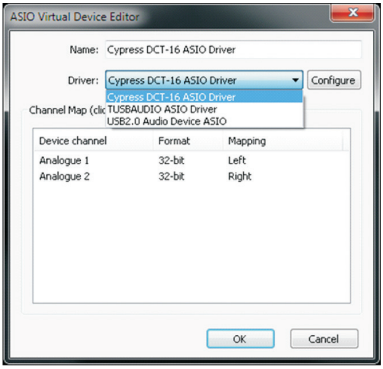
7. Restart the Foobar2000 application, click on 'Library→Configure'.



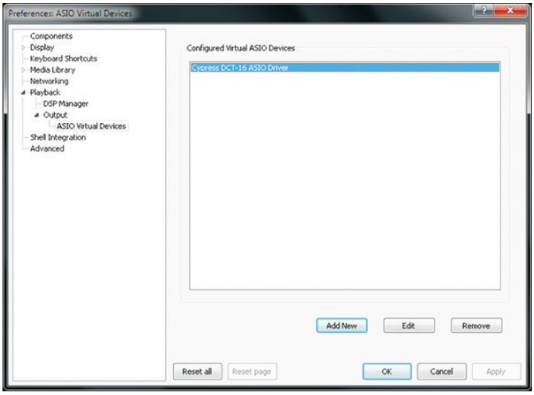
8. Enter into Playback preferences and click on'Output→ASIO Virtual Devices.



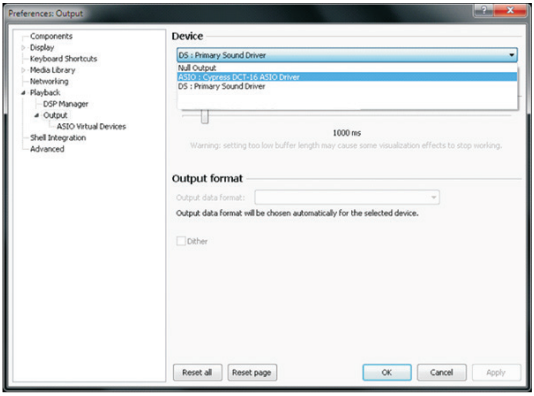
9. Click on the 'Driver' dropdown menu and select 'Cypress DCT-16 ASIO Driver' and then click 'OK'.



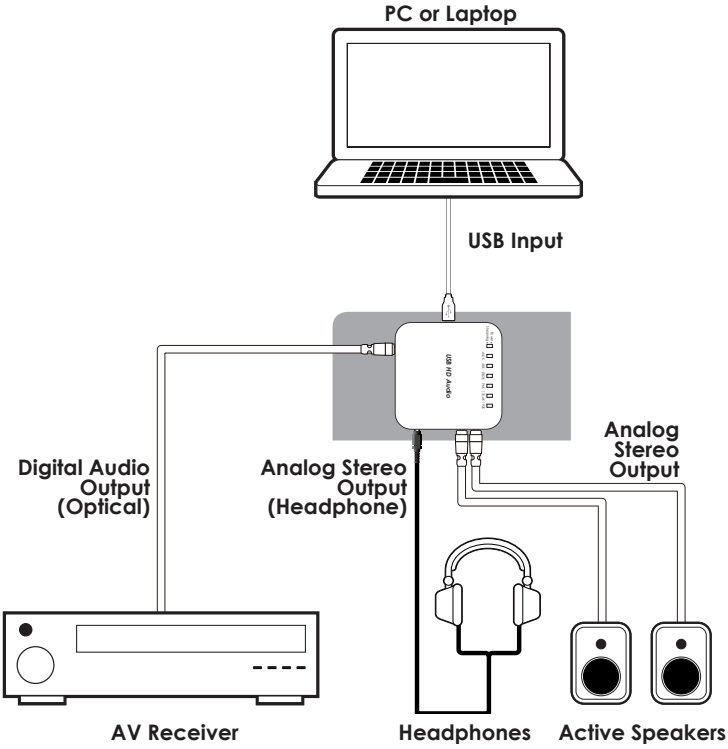
10. Confirm that the 'Cypress DCT-16 ASIO Driver' is in the 'ASIO Virtual Devices' list.



11. Enter into the Playback preferences again and click on 'Output'. Click on the Devices and select 'ASIO : Cypress DCT-16 ASIO Driver' and then click on 'OK' to complete the installation.



8. CONNECTION DIAGRAM



9. SPECIFICATIONS

Input Port	1×USB 2.0 Mini-B
Output Ports	1×6.35 mm Headphone Jack, 2×Analog Stereo (L/R), 1×Optical
Headphone Output	Load: 16 ohm Output Power: 200 mW Full-Scale: 1.8Vrms±20% THD+N: < 10% SNR: > 80dB Crosstalk: < -60dB Frequency Response: ±5dB IMD SMPTE: -77dB IMD DFD: -92dB IMD MOD: -70dB
Analog Stereo Output	Full-Scale: 2Vrms±10% THD+N: < 0.01% SNR: > 80dB Crosstalk: < -80dB Frequency Response: ±1dB IMD SMPTE: -83dB IMD DFD: -97dB IMD MOD: -81dB
Digital Optical Output	THD+N: < 0.01%
ESD Protection	Human body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
Power Supply	USB 5 V
Dimensions	97 mm (W)×85 mm (D)×35 mm (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
Relative Humidity	20~90 % RH (no condensation)

10. ACRONYMS

ACRONYM	COMPLETE TERM
ASIO	Audio Stream Input/Output
IMD	Intermodulation Distortion
SNR	Signal-to-Noise Ration
THD	Total Harmonic Distortion with Noise

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Home page: http://www.cypress.com.tw

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