



EGE-CT-16 USB HD Audio Converter



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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 nstall 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 de nition 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 de nition audio. All audio signals are outputted simultaneously, allowing for greater exibility 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 REQUIREMENTS

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



- **Power/Streaming LED:** The LED will illuminate when the power is connected, ash 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



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



- **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





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.

Setup	
Choose Install Location Choose the folder in which to install Geratech Ege-CT-16v1.19.0.	遇
Setup will instal [®] Greatech Ese-CT-16V1.19.0 in the following folder. dfferent folder, click Browse and select another folder. Click Install to start i	To install in a the installation.
Destination Folder	Browse
Space required: 1.1MB Space available: 768.5MB	
< Back Instal	Cancel

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

Please Softw	are Installation	ġ
This m Cop Cop Cop Cop Cop Cop Cop Cop Cop Cop	The software you are installing has not passed Windows Logo testing to verify its compability with Windows XP. (<u>I el ne withy</u> this testing is impostent.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vender for software that has passed Windows Logo testing.	*
Extr Extr Preir This	Continue Annual STOP 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 nished click on 'OK'.

Setup	
nstalling Please wait while Geratech Ege-CT-16 v1.19.0 is being installed.	Æ
This may take some time to complete. Please wait	
Copy to C:\Program Files\Geratech\Ege-CT-16\cypusbaudioasio.dl	^
Setup	
Please disconnect and reconnect the device you want to instal	and turn it on.
OK Cancel Checking connecced device. This may take some time to complete. Please wat	~

The PC/Laptop should recognize the EGE-CT-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'.

3	Search D Folders	
Inner Of Control Panel		× 61
Control Facel	Aspennance and Thermes	Printers and Other Hardware
See Also R	Network and Internet Connection	u 🙀 Uner Accounts
 Windows Updata Help and Suzport Other Control Panel Control 	Add or Remove Programs	Defe, Tene, Language, and Regional Defense
	Sounds, Surech, and Audie Devic	za 🔔 Accessibility Dythons
		puter, or configure the settings for your speakers drug devices.

Then click on 'Sound and Audio Devices'.



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

Volume	Sounds	Audio	Voice	Hardware
Sound p	olayback			
0.	Default device	c		
9	Geratech Au	dio 2.0 Outpu	t	~
		Volume	Ad	vanced
Sound	ecording			
2	Default device			
18	Realtek HD A	udio Input		~
		Volume	Ad	vanced
MIDI ma	isic playback			
afte	Default device			
	Microsoft GS	Wavetable S	W Synth	~
		Volume		About
	alu datautt dasir	-		
+ 010 0	ay deiddai devia	.es		

• Windows 8

Part 1

Right click "setup.exe" le 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'.

0	Sound		
Show All	300110	0	
J SHOW AN		4	_
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lect a device for sou	und output:		
ame	Туре		
ternal Speakers	Built-in Out	put	
and a set of the second s			
ttings for the selecte	dio Out USB		
ttings for the selecte	dio Out USB Id device: The selected device has no output contro	ols	•
ttings for the selecte Use audio po	dio Out USB Id device: The selected device has no output contro rt for: Sound Output	ols D	0

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.

Sound	Speakers Properties
Playback Recording Sounds Communications	General Levels Enhancements Advanced
Select a playback device below to modify its settings: Speakers Gonteen Free-DT-18 Audie	Default Format Select the sample rate and bit depth to be used when running in shared mode.
Cetaut Device	Ide bits, 44800 Ate (Ch. Quarke) ▶ Test 16 Bits, 44800 Ate (Ch. Quarke) ■ Test 16 Bits, 45000 Ate (Shushe) Quarke) 16 Bits, 45000 Ate (Shushe) Quarke) 16 Bits, 15400 Ate (Shushe) Quarke) 16 Bits, 15400 Ate (Shushe) Quarke) 17 Bits, 15400 Ate (Shushe) Quarke) 18 Bits, 152000 Ate (Shushe) Quarke) 24 Bits, 1592000 Ate (Shushe) Quarke)
Configure Set Default * Properties	Restore Defaults

Start from Control Panel and click on 'Hardware and Sound'. Click on 'Playback' tab and select the device "EGE-CT-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 con rm 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'.

1	Finder	File	Edit	View	Go	Window Help	_	
					Ba Fo En	ick irward iclosing Folder	31 12 12	
						Computer Home Desktop Network iDisk Applications Documents	0 ₩C 0 ₩H 0 ₩D 0 ₩K • 0 ₩A 0 ₩O	
					- 75	Utilities	080	
					Re	cent Folders	+	
					Co	o to Folder onnect to Server	0 MG 3K	

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 'Con gure Speakers' button to apply.

Built-in Input Zall Bailt Soft Bailt Soft Bailt Soft Bailt Soft Bailt	Audio Devices Built-in Output Clock source: Default Input Output
	Source: Internal Speakers Format: 44100.0 Hz 2ch-24bit Ch Volum 48000.0 Hz Value dB M 88200.0 Hz 0.25 -78.50 2 96000.0 Hz 0.25 -28.50
	Configure Speakers

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 'Geratech EGE-CT-16' and click 'Remove'.



3. Click 'Yes' to con rm 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.

A Color A number of	feebar2000.org		• 🖻 49 🗙 😇	Bing	٩
Fevorites 🎪 🚺 S	uggested Sites 💌 👔	Web Slice Gallery •			
🗑 foobar2000			🗿 • 🖬	- 🖙 🛞 + Page	• Safety • Tools • 👔
		∜fooba	ar2000		
Overview	Download	Components	Screenshop	Support	5DK
			to a shellow		
Some of the basic	features include full o	inicode support, Repla	yGan support		
and native support	: for several popular a	udio formata.			
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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

*	Favorites 🙀 🌄 Suggested Sites • 🗃	Web Slice Gallery	• [2] • [X] [a sing	ų.
	foobar2000: Components Repository		🔓 * 🔯 * 🖾 🛞 * Page * Safety * Tools	• @•
	Abum list ganel 0.3.5 Tegel Galuma LG anel meda litera unum	2009-06-14	A Columns UI panel version of album lat. Allows you to browse your music library in a hierarchical structure.	
	ASSO support 1.2.7 Tage Build	2009-03-22	Adds ASJD output support	1
	Audo, CD. Vinter, 3.0.2	2010-01-16	Alows you to burn audio CDs from any of supported audio formats, through context menu commands	
	Audoscrobbler 1.4.7 *et# Jaubek.statists	2010-05-04	foo_audioscrobbler is a Last.fm/Audioscrobbler component for foobar2000 1.0 $_{\rm stat}$	
	Autorave & Autobackup 10 Tape backup mefaceter	2010-09-23	Allows periodic automatic saving of configuration and other data in foobar2000 and keeping backup copies $_{\rm sat}$	
	Außunth decoder 0.3 Tep-decoder	2010-01-11	Adds decoding support for AviSynth scripts (.AVS), audio only. Requires AviSynth 2.5 or newer. $_{\rm sup}$	
	Binary Comparator 1.2 Tape descents	2008-12-05	Performs binary comparison between two or more tracks and reports differences.	
	Chacon 3 Teps man- second	2010-04-07	Chacon is a simple tool for fixing tags by converting them between different character sets	
	P.1		O	

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

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Favorites	🛓 🌄 Suggested Sites 🔹 👸	Web Slice Gallery •				
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ASIO su	pport					
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4. Click 'Open' or 'Save' to open or save the ASIO software.





5. Unzip the 'foo_out_asio.dll' le.

C-Users/W7/Dox	niceds\foo_out_esic.zp\	2011年			and the	
101 WE2 1	₩ ₩ ₩	85-102				
2 Collines V	17 Downloads foo_out_asie.pp					
inte			大小	封装在大小	おな日期	183
C foo_out_asio.dl			241776	15 154	2009-03-22 D-15	
0						

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

Diganice + 💽 Opi	en with				· ·	1
Favorites	Name	Date modified	Type	Sce		
🔜 Desktop	🕥 foo_albumlot dil	1/22/2011/01 AM	Application extens.	357.83		
🗼 Donnloads	🔊 foo_cdda.dll	1/22/20111-01.333	Application extent	293 KB		
E Recent Flaces	💧 foo_converter.dll	1/12/2011189 AM	Application extens.	465 KB		
	o foo_dsp_std.dll	1/22/2011 1/91 AM	Application extens.	249.88		
Libraries	🔊 foo_mput_std.dll	1/22/2011 8-00 AM	Application extension	134188		
Documents	💿 foo_out_asia.dl	1/22/2009 1:5 914	Application extension	199 RB		
a Music	💧 foo_igscan.dll	1/22/2011/0.90 AM	Application extens.	244.83		
Pictures	🛐 foo_u_std.dll	1/22/2011 1:69 AM	Application extens.	1.10388		
Videos						
Computer						
Computer						

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

			Contraction of Contra	
Eile Edit Yrew Playback	Library Help	N N N 0 ⊂ ⊂	0	
Default	Album List			
Play, Artrit/album	Search	de / track artist	Durat	
	Configure			

8. Enter into Playback preferences and click on Output \rightarrow ASIO Virtual Devices.

Components Display Keyboard Shortcuts Media Library Metricuting	Configured Virtual ASIO Devices
Planksk OSP Manager OSP Manager Osp Manager Osp Manager Add Manager Add Manager Shell Stegration Advanced	
	Add New Edit Remove Reset all Reset page OK Cancel Apply

9. Click on the 'Driver' dropdown menu and select 'Geratech EGE-CT-16 ASIO Driver' and then click 'OK'.

SIO Virtual Device Edito	or		×
Name: Ege-	CT-16 ASIO Driv	er	
Driver: Ege-	CT-16 ASIO Drive	er	Configure
-Ege- Channel Map (dic TUSB/ USB2	CT-16 ASIO Drive AUDIO ASIO Driv .0 Audio Device A	er er ASIO	
Device channel	Format	Mapping	
Analogue 1 Analogue 2	32-bit 32-bit	Left Right	
		OK	Cancel

10. Confirm that the 'Geratech EGE-CT-16 ASIO Driver' is in the 'ASIO Virtual Devices' list.

Components Display Configured Varual ASIO Devices	
Boybard Shotods Moda Usry Meterial Boybard DoP Anager Odp Anager Odp Anager Solo What Devices Advanced Advanced Reset al Prest au	ier Edt Remove

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

Components	Device
-Display Keyboard Shortouts	DS : Primary Sound Driver
Media Library	Null Output
Networking	DS : Primary Sound Driver
Playback DSP Manager	
# Output	
ASIO Virtual Devices	1000 ms
-Advanced	Warning: setting too low buffer length may cause some visualization effects to stop working.
	Output format
	Output data format:
	Output data format will be chosen automatically for the selected device.
	Dither

8.CONNECTION DIAGRAM



8. SPECIFICATIONS

Input Port	1×USB 2.0 Mini-B
Output Port	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
Digital Optical Output	THD $\pm N_{\rm c} = 0.01\%$
ESD Protoction	Human body model:
	+8 kV (air-gan discharge)
	+4 kV (contact discharge)
Power Supply	
Dimensions	97 mm (W)x85 mm (D)x35 mm (H)
Weight	
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)

9. ACRONYMS

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

