USB Multi- Channel Audio Converter User Manual



UDA-501

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Introduction

This product adopts PCM (Pulse-Code Modulation) sampling technology to digitize audio analog signals. It receives audio stream from PC via USB interface and transmits audio data according to the consumer interface standards in digital playback mode.

It enable USB HID (Human Interface Device) to work, and provide what the source offer in. 2.1 or 5.1 channel audio to Listen CD or on-line music, enjoy DVD movies or concerts as well as watching TV programs will be most suitable by using this adapter.

Features

- Compliant with USB specification V1.1
- > USB audio device class spec. 1.0 and USB HID class spec. 1.1 compliant
- Supports USB remote wake-up; Plug-and-play
- Supports 48 / 44.1 KHz sampling rate for playback
- Compatible with Win XP / Vista / 7 / 8 / 8.1 / 10 / 11; Mac O/S 10.x or higher
- Supports 5.1 channels for analog playback in the analog playback mode
- LED indication for power-on (red) and operation (green)

Specification:

Model No.		UDA-501
Chip		C-MEDIA
Data Speed		1.5 / 12 Mbps
Connector	Upstream	USB Type A Male
Connector	Device	Audio Output Jack x 3
Cable	•	1m
Power Mode		Bus
Housing		Plastic
Dimension (L	xWxH)	73 x 52 x 23 mm



- Installing the Software of UDA-501 for Vista / 7 / 8 / 8.1 / 10 / 11
 Ensure that you have plug-in the UDA-501 Device before installing USB Multi-Channel Audio
 Device driver. Otherwise, driver installation error may occur. (No driver required for Win 10 /
 11)
- ♦ If UDA-501 USB Multi-Channel Audio Device is not plug-in. You will see follow dialog.



1.1 Installation

- Insert C-Media UDA-501 USB Multi-Channel Audio Device driver CD. Double click the setup.exe file if auto run is disabled. Press "Cancel" if you want to quit installation.
- Start Driver installing, please press "Next" button to next step as following diagram.

8 Multi-Cl	annel Audio Devic	e		
Installin <u>c</u> l	SB Multi-Channel Au	udio Device Drive	er	

♦ Install complete. It is recommended that you restart your computer.



1.2 Un-Installation

♦ Double click the "Programs/Uninstall a program" item from Windows Control Panel.



Select "USB Multi-Channel Audio Device" item, and then click "Uninstall/Change" button.



♦ Start uninstalling process.

Start to uninetal	LISB Multi-Channel Au	dio Device driver	
oran to uninistan	000 Mala-channer.ed	dio Device driver.	

Uninstall driver successfully, it is recommend restarting your computer to completely remove driver.



2. Audio Control Panel (CPL) Introduction

2.0 Open UDA-501 USB Audio Device Software CPL

After the driver installing and rebooting, you will find the UDA-501 USB Multi-Channel Audio Device software CPL icon on the system tray bar.

 \diamond You are able to open the CPL by double-clicking on the icon as following diagram.



If the tray icon does not appear in your system tray, please go to the Windows control panel and double click the "USB Multi-Channel Audio Device" CPL icon to open it.



♦ The USB Multi-Channel Audio Device control panel will appear as below diagram.

System Input	non
2 CH • ?	MP3.CD,VCD,Wav,WMA
DSP Mode	
	DSP Effect
7.1	
	्र । ।
Output Mode	
Output Mode	Dutput Device
Output Mode Analog Output 2 Speakers	Output Device
Output Mode Analog Output 2 Speakers Digital Audio 48 KHz	Output Device
Dutput Mode Analog Dutput 2 Speakers Digital Audio 48 KHz	Dutput Device
Dutput Mode Analog Output 2 Speakers Digital Audio 48 KH2	Output Device

- ♦ How to make CPL icon visible in the system tray?
 - 1. Open UDA-501 USB Multi-Channel Audio Device software control panel.
 - 2. Go to "Information" page.
 - 3. Check "Show the audio configuration icon in the system tray."

Main Setting	Mixer	Effect	Karaoke/Magic Voice Information		
Xea	- 30	10	how the audio configuration icon in the system	tray	
Xea	· 3D	0	how the audio configuration icon in the system	tray	
	3D gic		how the audio configuration icon in the system	tray	

2.1 "Main Setting" Page Function Introduction

You can control the USB Audio various playback device configuration as below diagram.



- 1. System Input selector.
- 2. Analog Output –DSP Mode.
- 3. Analog Output Speaker Configuration
- 4. Analog Output Digital Volume control
- 5. Audio System Status Bar

2.1.1 System Input Device Options (For Vista / 7 / 8 / 8.1 / 10 / 11)

The System Input option is to select the correct channel number for the audio content which you are going to play in order to have a precise audio output.

System Input	
2 CH	• ?
2 CH	
DIA CH	
6 CH	
8 CH	

Users can have a better concept by clicking the Information icon (2), and refer to below dialog windows.

For Vista



For Win7/8/8.1



2.1.2 Analog Output - DSP Mode

UDA-501 USB Multi-Channel Audio Device Driver provides a DSP mode. The button (Selform allows users switch DSP Effect Advanced Setting on or off. When the DSP Mode is turned on, users can see the DSP working layout on the right.

System Input	
2 CH •	?
DSP Mode	
7.1 V///031 D2244 2 500 5225	
Output Mode	
Analog Output	
6 Speakers	
Digital Audio 48 KHz 🔻	13 + 03 40 [2] - 03 40 [3 + 03 40 [3 - 03 40
S/PEUF Ourland	
PON *	<u>C</u>

When the DSP Mode is turned on, users can see the DSP working layout. When the DSP Mode is off, the standard speaker test mode will be resumed.



DSP mode turned ON



DSP Mode turned OFF

When the DSP Mode is turned on, click the button (button (button) to enable the DSP Effect as below diagram.



1. Volume Control:

2.

Increase / decrease the volume of all channels by 1 dB for one step. (+4dB~-17dB) Auto Rotation Mode:

The virtual speakers rotate clockwise or counterclockwise slowly. For example, if clockwise is selected:



T=0

T=0.25 sec

T= 1 sec

3. Manually Rotation Mode:

Use mouse to rotate the virtual speakers on the screen manually.

- 4. Manual Shifting (Free Moving Mode): Use pointer and click-and-drag to move the location of individual virtual speakers.
- 5. Reset:

Reset the location of virtual speakers / virtual listener to default.

6. Virtual Speaker:

Each virtual speaker virtualizes one channel of the 5.1 channel speakers in the real world. 7. Virtual Listener:

- The virtual listener virtualizes your position.
- 8. Volume indicator: Indicate value for each channel.

When the DSP Mode is turned on, click the button () to enable the DSP Effect. The effect icon will be displayed in the DSP Effect section to the right.



2.1.3 Analog Output – Speaker Configuration and Sound Testing

UDA-501 USB Multi-Channel Audio Device support 5.1CH analog output.

Drags the Analog Output list to set the Speaker configuration (2/4/6/8 Speakers) or Headphone, and the Home Theater Diagram will auto change the speaker number.

utput Mode			2	a su
Analog Output		Output Device	R UI	Bunot
6 Speakers 🔹		Partition -	000	
Headphone		LEAREN	1	- NACA
2 Speakers	and the second second		and the second	
4 Speakers		LO		/ Ri
6 Speakers				100 V
7 1 Speakers				

Click the Advanced settings button (^[LS]) to set the advanced speaker setting.

- ♦ Advanced settings Headphone
 - 1. output Swap headphone left/right output



- ♦ Advanced settings 6 Speakers configuration
 - 1. Swap center/bass output
 - Bass Enhancement According to the media content type, user can choose the optimization Bass Enhancement type such as "Soft Music", "General Music" and "DVD Title".

Analog Output	Swap center/bass output
6 Speakers	Bass Enhancement
Digital Audio 48 KHz 🔹	General Music
G S/HOIF Output	O DVD Title
PCM *	

After the Speaker number setting, user can testing all the output sound for each channels whatever the Home Theater type is.

♦ Manual Speaker Testing:

Click the single speaker diagram to test speaker output sound by manual.

utput Mode	Fron Fron
Analog Output	Output Device
6 Speakers 🔹	
Digital Audio 18 KHz -	
S/PDIF Output	
PCM ·	

2.1.4 Analog Output – Volume Control

UDA-501 USB Multi-Channel Audio Device CPL provides the volume control function, Click the "Digital Volume" Button () to enable the volume control bar as following diagram.

Analog Output		Output Device
7.1 Speakers	- <	Resetter to the top Digital Vol
Digital Audio 48 KHz	•	
PCM	•	

♦ Volume Control Bar:

Use the volume control bar to adjust sound value for individual speaker.

♦ Volume Reset Button:

Click the "Reset" Button to return all speaker sound value to default setting.

2.1.5 Audio System Status Bar

UDA-501 USB Multi-Channel Audio Device CPL provides a status Bar to indicate the Audio system status.

♦ Analog Channel – Indicate the audio system status of Analog Output.



2.2 "Effect" Page Function Introduction

The features in this page provide various sound effects.

	🚰 USB Multi-Channel Audio Device	
	Main Setting Mixer Effect Karaoke/Magic Voice Information	
	Environment Equalizer	
	More options	
Environment Option Button		
Environment Option List	30 60 120 250 500 1K 2K 4K 8K 16K Frequency Gain For EC	2
	Environment Size Default Dance Bass	
	Treble Live Rock	
	Soft-Rock Jazz Metal EQ Preset Mor	le
Environment Size Option Button	User Defining	ıg
		-
	ОК	

♦ Environment

Select an "Environment option button" or "Environment option List" for emulation that is implemented by producing the sound reflection and reverberation.

♦ Environment Size

You can change the "Environment Size Button" to simulate a larger or smaller space (Default is Medium). You feel the changes of space.

♦ Equalizer (EQ) 10-Band

Select a pre-set mode for equalizer that is designed accordingly. There are 12 preset modes such as Bass, Treble, Live, Rock, Jazz, etc. You can change the gain setting for each band and then give it a name in the following blank. Click "+" to add your new setting into the "User Defined" list. Click "-" to delete settings.

2.3 "Tray Icon" Function Introduction

Open the "CPL Tray Icon Function List" by right-clicking on the tray Icon on system tray.



1. Open:

When click the "Open" item, will restore the USB Audio Software CPL.

2. Volume Mixer:

When click the "Volume Control" item, will open the Volume Mixer of Windows OS, if you want to separately control the volume of your speakers and other sound devices or programs using this Volume Mixer.



3. Windows Media Player:

When click the "Windows Media Player" item, will open the Microsoft Windows Media Player.



4 Multimedia Properties:

Open the multimedia properties page of Windows OS, you can select the working sample rate & bit rate on the property page.

♦ Playback

I. Select the "Speakers" device and then click the "properties" button.



II. Click the tag of "Advanced", enter the advanced page, and click the drop down list to open default format support list as below diagram.

16 bit, 44100 Hz (CD Quality)	▼ ► Iest
16 bit, 3000 Hz (Telephone Quality) 16 bit, 11025 Hz (Dictation Quality) 16 bit, 1000 Hz (Tape Recorder Quality) 16 bit, 22050 Hz (AM Radio Quality) 16 bit, 32000 Hz (FM Radio Quality) 16 bit, 44100 Hz (CD Quality) 16 bit, 48000 Hz (DVD Quality) 16 bit, 48000 Hz (DVD Quality)	this device
16 bit, 96000 Hz (Studio Quality) 24 bit, 4100 Hz (Studio Quality) 24 bit, 48000 Hz (Studio Quality) 24 bit, 96000 Hz (Studio Quality)	

- III. Please follow the same step to change the sample rate & bit rate for "Digital-Output" device or other playback device.
- 6. Exit: When click the "Exit" item, will exit the tray Icon from system tray.

3. Installing the Software of UDA-501 (for XP)

Ensure that you have plug-in the USB audio card before installing UDA-501 USB Multi-Channel Audio Device driver. Otherwise, driver installation error may occur.

Please make sure your UDA-501 USB Multi-Channel Audio Device is plug-in. Otherwise you will see follow dialog.



3.1 Installation

- Insert C-Media UDA-501 USB Multi-Channel Audio Device driver CD. Double click the setup.exe file if auto run is disabled. Press "Cancel" if you want to quit installation.
- Start Driver installing, please press "Next" button to next step as following diagram.



♦ Please press "Next" button to next step as following diagram.



♦ Install Program will automatic run following processes.



♦ Install complete. It is recommended that you restart your computer.



3.2 Un-Installation

♦ Double click "Add or Remove Programs" icon from Windows XP Control Panel.

🖻 Control Panel							
<u>Eile E</u> dit <u>Yjew</u> F <u>a</u> vorites <u>T</u> ools	Help						1
🔾 Back + 🕥 + 🎓 🔎 Se	arch 🦻 Folders	•					
Address 🔂 Control Panel		-				× 6	Go 🖌
Control Papel	Ċ,	2 6	-	R	40	-9	
Switch to Category View	Accessibility Add H Options	lardware Add or Remov	Administrative Tools	AntiVir Desktop	Automatic Updates	Date and Time	
Enclose (2)		J Z	and a			1	
Windows Update	Display Folder	r Options Fonts	Game Controllers	Intel(R) GMA Driver	Internet Options	Keyboard	
Help and Support	3	2 🚮	1			0	
	Mouse Ne Conr	twork Network Setup nections Wizard	Phone and Modem	Power Options	Printers and Faxes	Regional and Language	
	3	9	Ø,	2	3		
	Scanners and Sch Cameras T	eduled Security asks Center	Sounds and Audio Devices	Speech	System	Taskbar and Start Menu	
	2	12 📦					
	USB User / Multi-Chan	Accounts Windows Firewall	Wireless Network Set				

Select "USB Multi-Channel Audio Device" item, and then click "Change/Remove" button.

	Currently installed programs:	Show up <u>d</u> ates	Sort by: Name	*
Change or Remove	🔀 Avira AntiVir Personal - Free Antivirus		Size	71.86MB
Programs	問 Intel(R) Graphics Media Accelerator Driver			
Ch.	😰 Microsoft Visual C++ 2008 Redistributable - x86 9,1	0.30729.17	Size	10.28MB
	🚰 USB Multi-Channel Audio Device		Size	15.14MB
Programs			Used	<u>rarely</u>
-			Last Used On	1/21/2010
9	To change this program or remove it from your com	puter, click Change/Remove.	Change	Remove

Please press "OK" button to Uninstall C-Media UDA-501 USB Multi-Channel Audio Device driver



♦ Uninstall driver successfully, it is recommend restarting your computer to completely remove driver.



4. Driver Control Panel (CPL) Introduction For XP

4.0. Open UDA-501 USB Audio Device Software CPL

After the driver installing and rebooting, you will find the UDA-501 USB Multi-Channel Audio Device software CPL icon on the system tray bar.

♦ You are able to open the CPL by double-clicking on the icon as following diagram.



If the tray icon does not appear in your system tray, please go to the Windows XP control panel and double click the "USB Multi-Channel Audio Device" CPL icon to open it.



♦ The USB Multi-Channel Audio Device CPL will appear as below diagram.



- ♦ How to make CPL icon visible in the system tray?
- 1. Open UDA-501 USB Multi-Channel Audio Device software control panel.
- 2. Go to "Information" page.
- 3. Check "Show the audio configuration icon in the system tray."

Main Setting	Mixer	Effect Karaoke/Magic	Voice Information		
		Life the later the gr	2 VOICE # ROHINGBOIT		
-					
Xea	r 30	whow the audio	configuration icon in the system t	ay	
Xea	r 30	how the audio	configuration icon in the system t	ay	
Xea	r 30	Now the audio	configuration icon in the system t	æ	
Xea i Ma	r 3D	How the audio	configuration icon in the system t	æ	

4.1 "Main Setting" Page Function Introduction

You can control the USB Audio various playback device configuration as below diagram.



- 1. Analog Output Speaker Configuration.
- 2. Analog Output Speaker Testing.
- 3. Analog Output Volume Control.
- 4. Analog Output DSP Mode.
- 5. Display Audio System Status.

4.1.1 Analog Output - Speaker Configuration

UDA-501 USB Multi-Channel Audio Device support 7.1CH analog output.

Click Speaker configuration button (HP/2CH/4CH/6CH/8CH) to set the Speaker Channel or Headphone, and the Home Theater Diagram will auto change the speaker number.



- \diamond Click the Advanced settings button (\mathbf{K}) to set the advanced speaker setting.
- ✓ Advanced settings Headphone
 - 1. Swap headphone left/right output



- ✓ Advanced settings 6CH Speaker configuration
 - 1. Swap center/bass output
 - Bass Enhancement According to the media content type, you can choose the optimization Bass Enhancement type such as "Soft Music", "General Music" and "DVD Title".

VSD Multi-Channel Audio Device	Freedow Ferdinament
Output Device DSP Mode	Speaker Environment

4.1.2 Analog Output – Speaker Testing

After the Speaker number setting, you can testing all the output sound for each channels whatever the Home Theater type is.

 Automatic Speaker Testing: Click the auto testing button (Image), CPL will auto testing every speaker in turn.

Output Device	DSP Mode
Analog Output	
Digital Audio 48 KHz	
	sub-woler
Audio System Status	Janta Ra P

2. Manual Speaker Testing:

Click the single speaker diagram to test speaker output sound by manual.

4.1.3 Analog Output – Volume Control

- 1. Volume Control Bar: Use the volume control bar to adjust sound value for individual speaker.
- 2. Reset Button: Click the "Reset" Button to return all speaker sound value to default setting.



4.1.4 Analog Output - DSP Mode

UDA-501 USB Multi-Channel Audio Device CPL provides a DSP mode.

♦ The button (≤) allows users switch DSP Effect Advanced Setting on or off. When the DSP Mode is turned on, users can see the DSP working layout to the right.





1. C-Media 7.1 Virtual Speaker Shifter:

Click the "7.1 Virtual Speaker button" (to enable the DSP Effect. When enabled, the icon will be displayed in the DSP Effect section to the right.





I. Volume Control:

Increase / decrease the volume of all channels by 1 dB for one step. (+4dB~-17dB)

II. Auto Rotation Mode: The virtual speakers rotate clockwise or counterclockwise slowly. For example, if clockwise is selected:



III. Manually Rotation Mode: Use mouse to rotate the virtual speakers on the screen manually. IV. Manual Shifting (Free Moving Mode): Use pointer and click-and-drag to move the location of individual virtual speakers.

V. Reset: Reset the location of virtual speakers / virtual listener to default.

- VI. Virtual Speaker: Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
- VII. Virtual Listener: The virtual listener virtualizes your position.
- VIII. Volume indicator: Indicate value for each channel.

4.1.5 Audio System Status Panel

UDA-501 USB Multi-Channel Audio Device CPL provides a panel to indicate the Audio system status.

♦ Analog Speaker Number



♦ Peak Meter



4.2 "Effect" Page Function Introduction

The features in this page provide various sound effects.



♦ Environment

Select an "Environment option button" or "Environment option List" for emulation that is implemented by producing the sound reflection and reverberation.

♦ Environment Size

You can change the "Environment Size Button" to simulate a larger or smaller space (Default is Medium). You feel the changes of space.

♦ Equalizer (EQ) 10-Band

Select a pre-set mode for equalizer that is designed accordingly. There are 12 preset modes such as Bass, Treble, Live, Rock, Jazz, etc. You can change the gain setting for each band and then give it a name in the following blank. Click "+" to add your new setting into the "User Defined" list. Click "-" to delete settings.

4.3 "Tray Icon" Function Introduction

Open the "CPL Tray Icon Function List" by right-clicking on the tray Icon on system tray.



1. Open:

When click the "Open" item, will restore the CM6620 USB 2.0 High-Speed True HD Audio Software CPL.

2. Volume Control:

When click the "Volume Control" item, will open the Volume Control of Windows OS as below diagram.

Options Help				
Volume Control	Wave	SW Synth	CD Player	Line In
Balance:	Balance:	Balance:	Balance:	Balance:
Volumo:	Volumo:	Volume: 	Volume:	Volume:
Mute all	Mute	Mute	Mute	Mute

3. Windows Media Player: When click the "Windows Media Player" item, will open the Microsoft Windows Media Player.



4. Multimedia Properties:

Open the "Sounds and Audio Devices Properties" of Windows OS, you can set the advanced setting on this page.

	Sounds	Audio	Voice	Hardware
O,	USB2.0 Audio	Device		
Device v	olume			
6]	
e	Low			High
	LOW			
	<u>M</u> ute			
	□ <u>M</u> ute Place vol	ume jcon in t	he taskbar	-
	<u>M</u> ute ✓ Place vol	ume jcon in t	he taskbar	vanced
Speaker	_ <u>M</u> ute ✓ Place vol	ume joon in t	he taskbar Ad	yanced
Speaker	■ <u>M</u> ute Place vol settings Use the speaker	ume joon in t settings belo	he taskbar Ad	<u>v</u> anced
Speaker	■ <u>M</u> ute Place vol settings Use the speaker	ume jcon in t settings belo volume and	he taskbar Ad w to change other settings	vanced