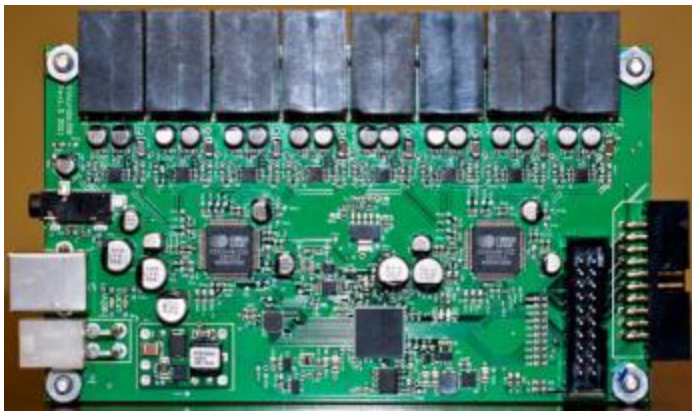
User's Guide



8soundsUSB board

Version 1.0

Contents

License agreement

8 Sound USB end user License agreement.

PLEASE READ THE LICENSE DOCUMENT *CREATIVE COMMONS LICENSE (ENGLISH)* CAREFULLY BEFORE USING OR INSTALLING ANY SOFTWARE OR HARDWARE RELATED TO 8 SOUND USB. All DOCUMENTS AND ITEMS ARE SUBMITTED TO THAT LICENSE.

About 8 Sound USB card

Before you begin installing and connexion be sure that you have these

Figure 1: 8 Sound USB card (1)

Figure 2: Câbles(2)

Figure 3: Microphone card (3)

Figure 4: USB cable(4)

Figure 5: Molex P4 cable(5)

Figure 6: external power supply

List of connexions materials.

1. 8SoundsUSB card
2. RJ11 cable for connecting 8 soundsUSB and microphone board
3. Microphone board.
4. USB cable.
5. Molex P4 cable for external power supply (yellow for Vcc and black for ground)
6. External power supply block

Features

Sound card features

Dimensions	Length(mm)	Width(mm)	Heigth (mm)
8 Sound USB card	125	74	15
Microphone	25.4	23.4	15
Electrical features.			
	Tension (V)	Courant (A)	Power dissipated (W)
External supply	7	0.332	2.324
	12	0.198	2.376
	24	.114	2.376
	36	0.0867	3.121
External supply with microphone card	7	0.343	2.401
	12	0.208	2.496
	24	0.118	2.843
	36	0.0884	3.182
USB supply	5	0.434	2.1675
USB supply with microphone	5	0.449	2.246
Maximum rating of dissipated power			
External power supply			3.182
USB power supply			2.246
Performances			
Effective number of bit			22
signal-to-noise ratio			-112dB
Adustable Gain of microphone			20 to 40 dB

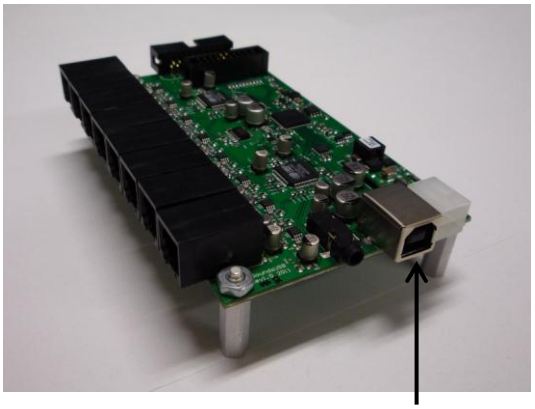
Bundle of materials

1. 1 Soundcard (8SoundsUSB)
2. 8 microphones boards (8SoundsUSB-MIC)
3. 8 RJ11 cables (8SoundsUSB-Cable)

Connexions

Power and communication USB connexion

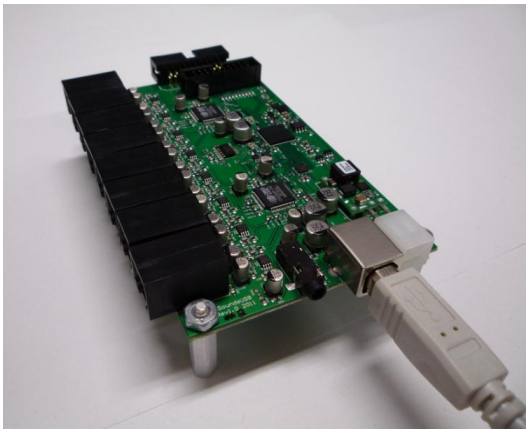
- Overview connections



USB Type B female

Power with USB

- Connect the USB cable male type B in the connector female type B of sound card. The sound card will be powered and the communication between the sound card and the PC will be established. The USB port of PC will handle only to establish communication.

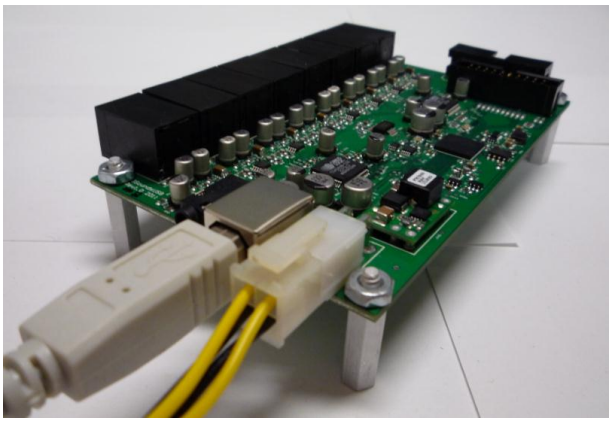


Power with external power supply

- Overview connections

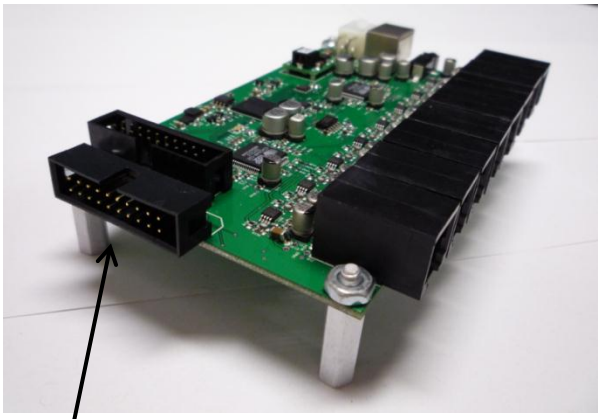
- Connected to other end of cable with the connector female Molex P4 a regulated DC power supply 7 volts minimun to 36 volts maximun.

- Connect the USB cable male type B in the connector female type B of sound card. Then, connect the Molex P4 cable male in the connector female Molex P4. The sound card will be powered and the communication between the sound card and the PC will be established. However, the USB port of PC will handle only to establish communication with no power USB.

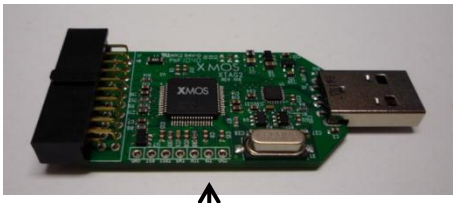


Connexion to program the sound card 8SoundUSB

- Overview connections

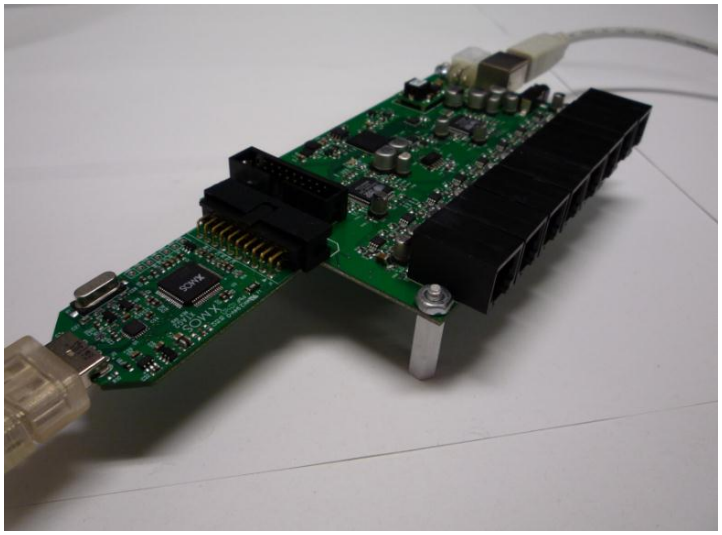


Female connector XTAG2



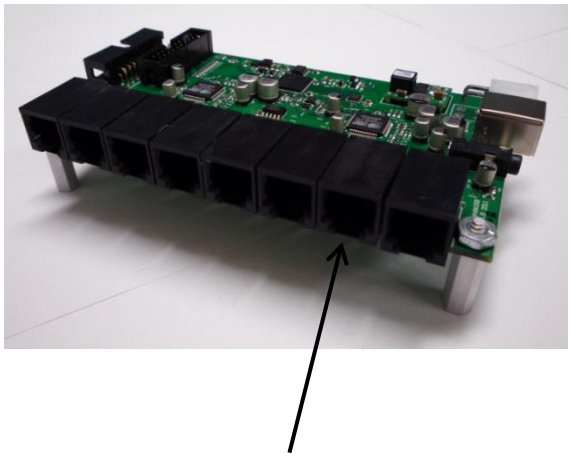
XTAG2 debug adapter

- Connect XTAG2 Debug Adapter to female connector XTAG of the sound card. Then, connect the USB port male of XTAG2 Debug Adapter via USB extension cable that will be connected to USB port of PC. Insured you that the sound card is powered either by USB or by the Molex P4 cable to be able to program the sound card.

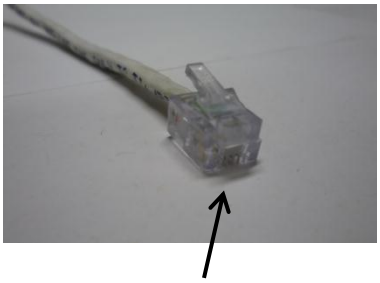


Connecting the microphones to the differential inputs

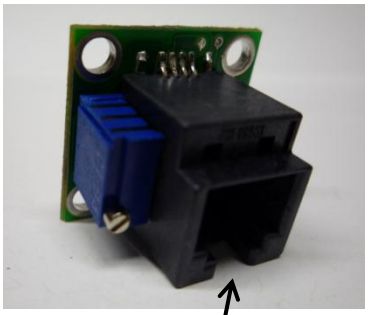
- Overview connections



Analog differential input RJ11

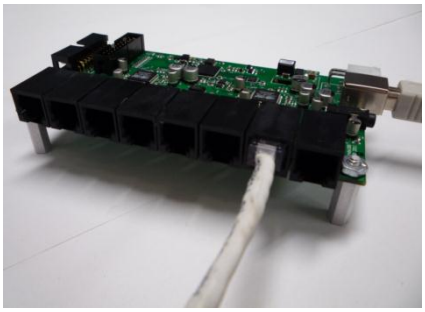


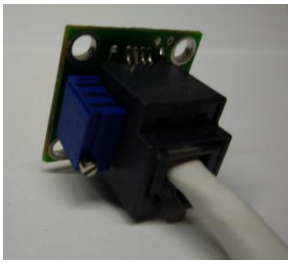
RJ11 Cable for analog differential input



Micro analog differential output RJ11

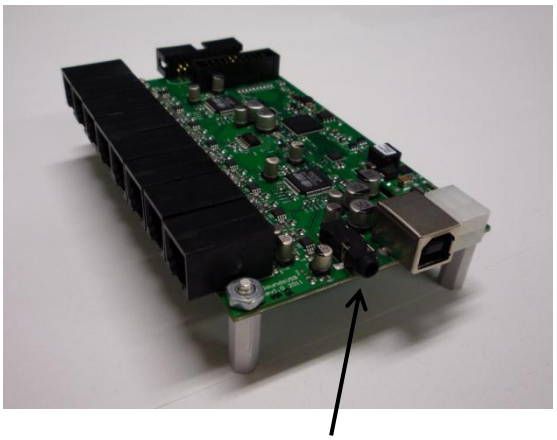
- With the RJ11 Cable, connected each end to sound card and other to micro



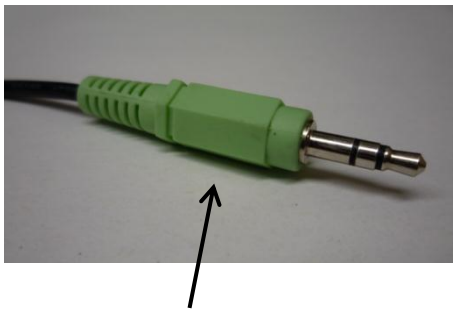


Using the analog output

- Overview connections

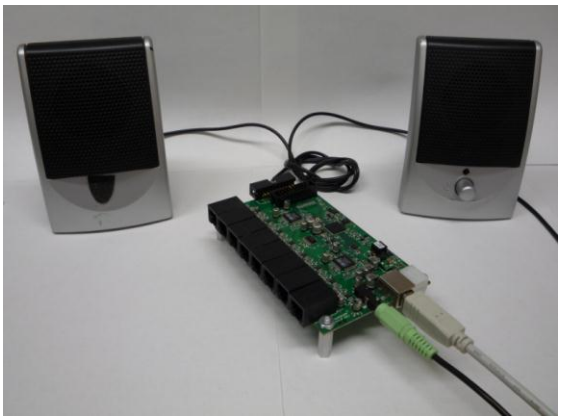


Analog output, Stereo jack female 3.5 mm



Stereo jack male 3.5 mm

- With an audio system that has an amplifier with a volume control, connect the end with the Stereo jack male 3.5 mm in the output analog 3.5 mm stereo jack of sound card. It is not advisable to plug headphones with no amplifier directly into the sound card.



Installation of hardware

This card can be installed on differents operating systems like windows, mac and linux operating system. This section is a guidance to install the hardware on differents platforms .

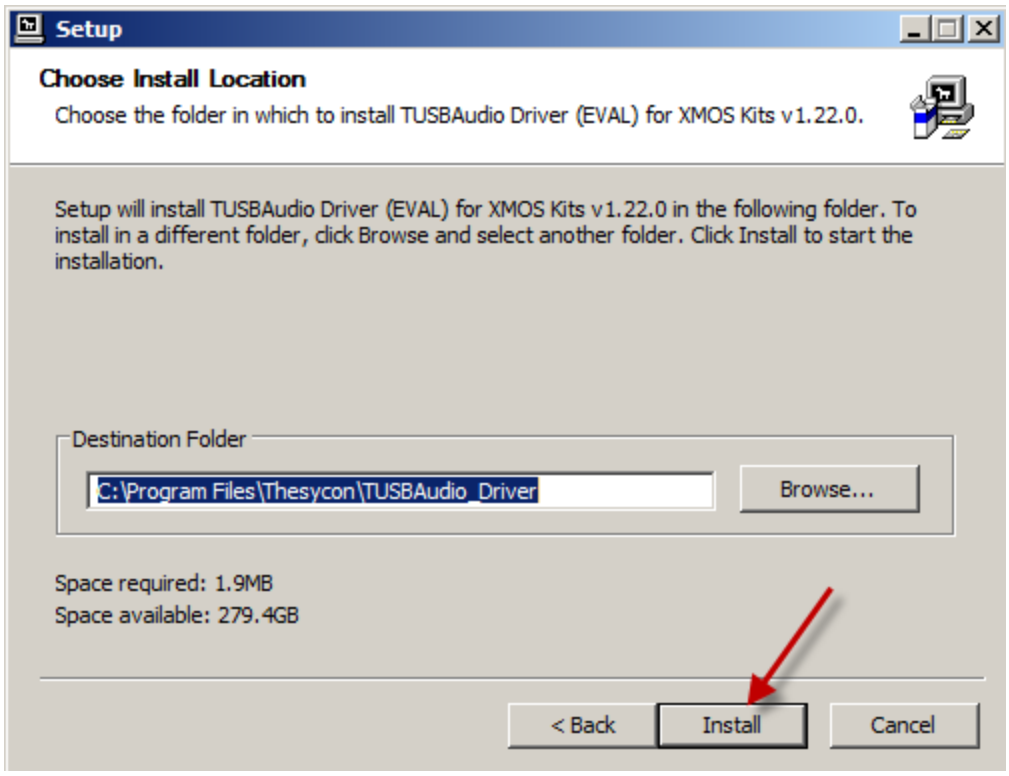
Windows operating system

On Windows platform, do the followings step to install the card.

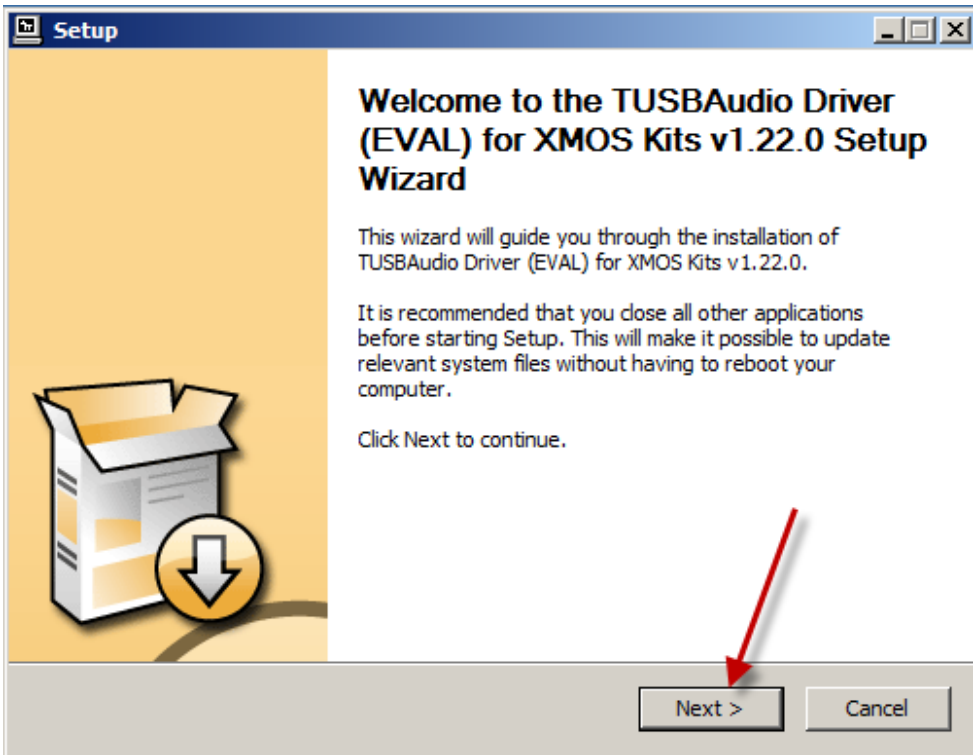
1. Plug the card to the computer via usb port.
2. Once the card is plugged, an icon showing a new device detected flashes in the taskbar but the card will not be installed. In the device manager windows, a yellow sign will be displayed showing that the card is not propely installed

Figure 7: device with yellow sign.

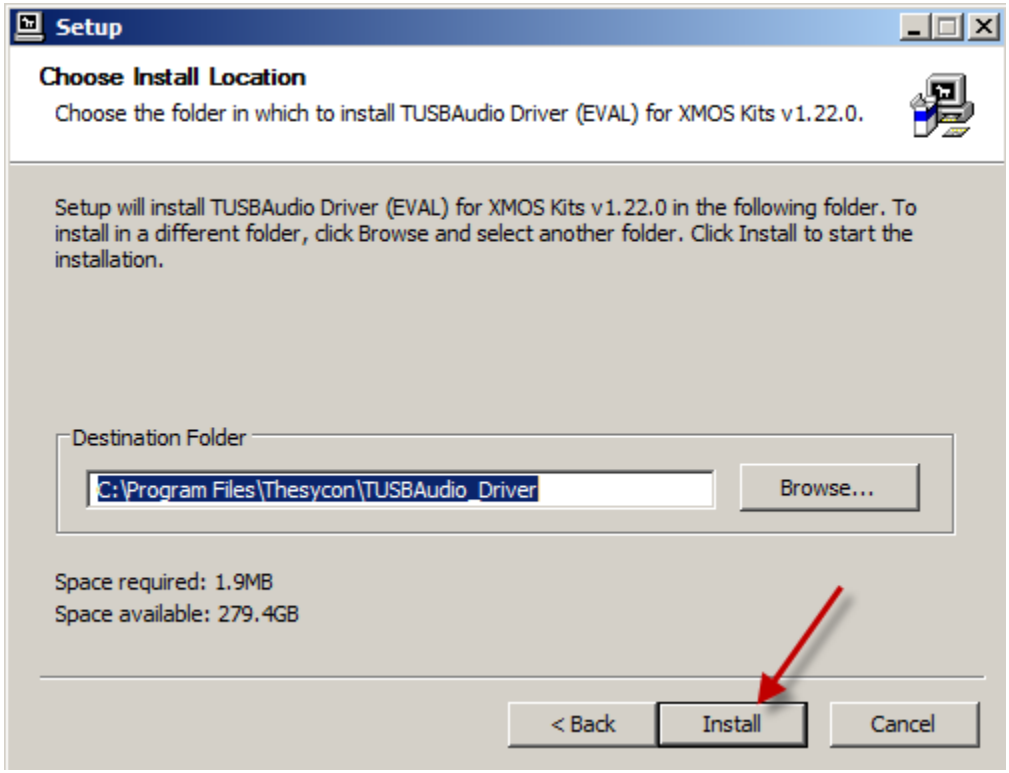
3. Go to the following link to downloag the driver to your computer : https://www.xmos.com/licensed/thesycon-usb-audio-20-windows-evaluation-driver-xs1-l2?support=1
4. Once on the website, download the last version to a specific location.
5. Unzip the file
6. Install the program, by following these steps



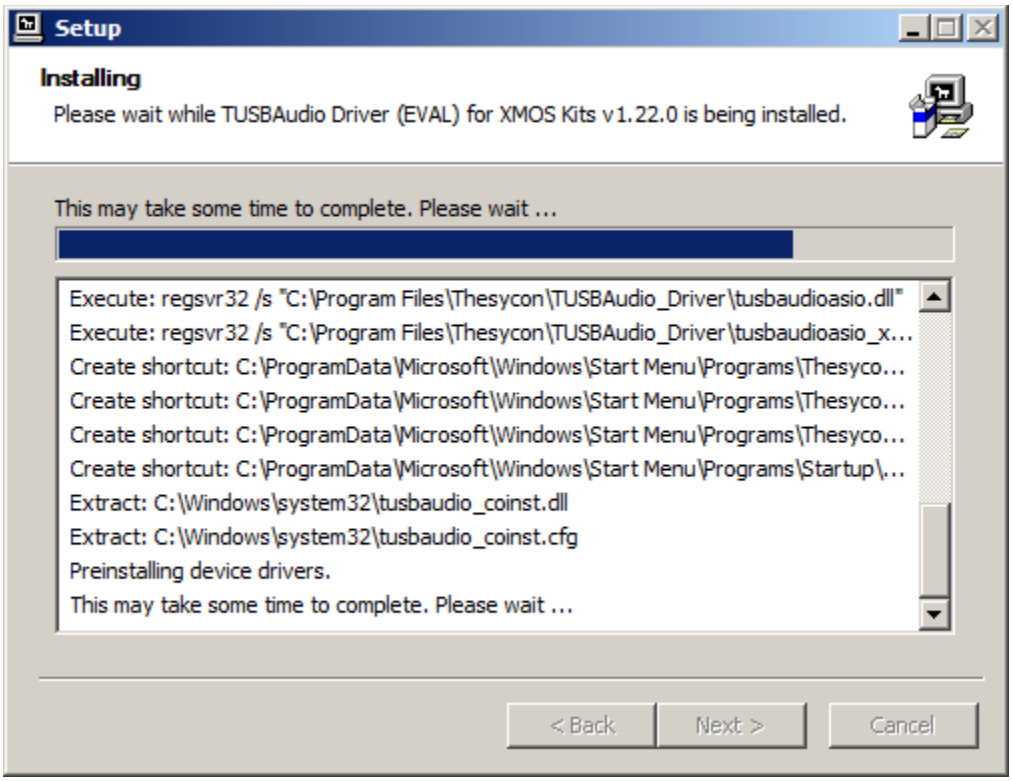
Click on install

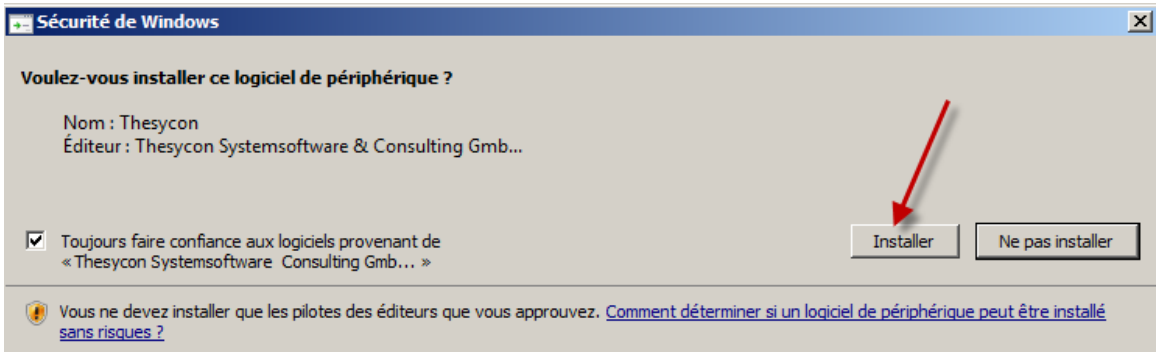


Click next

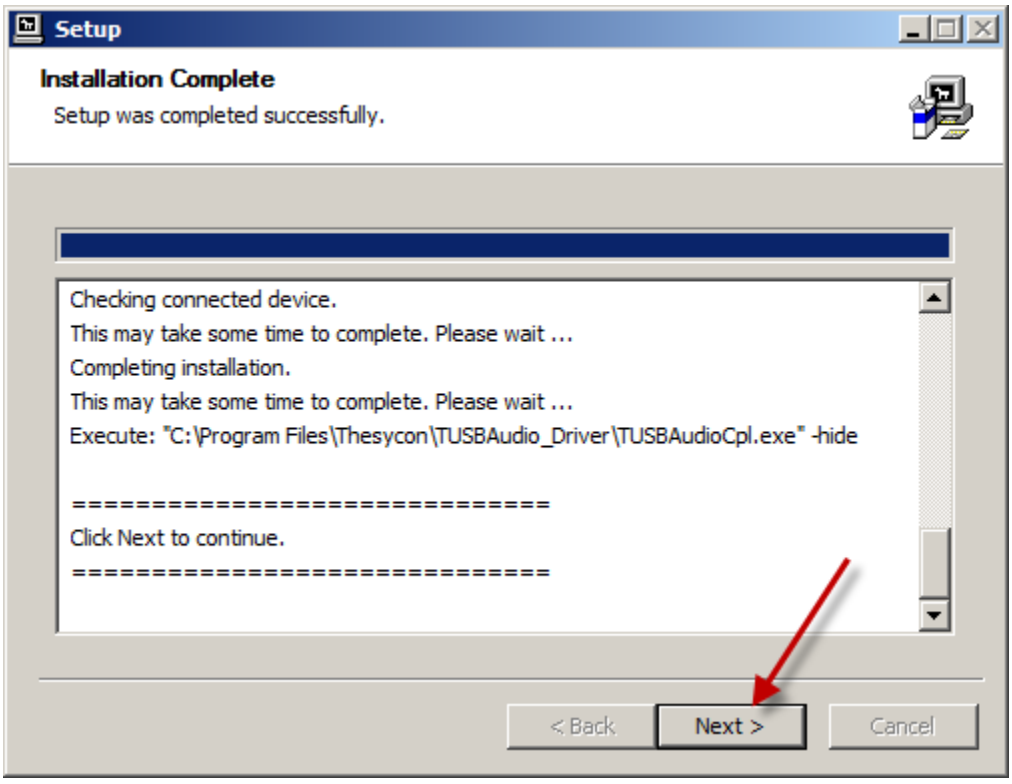


Click Install

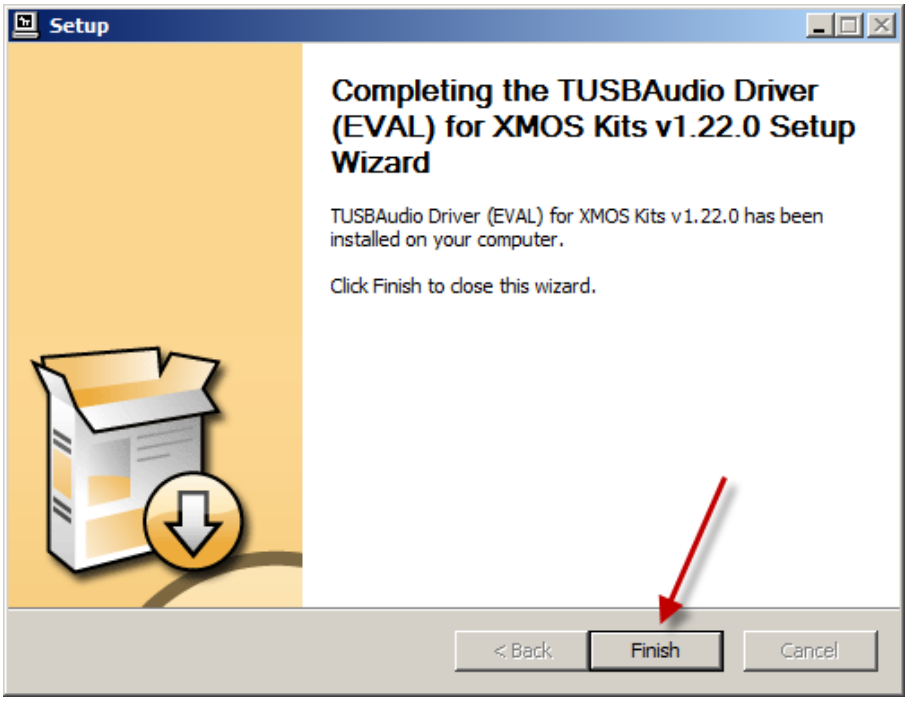




Click install

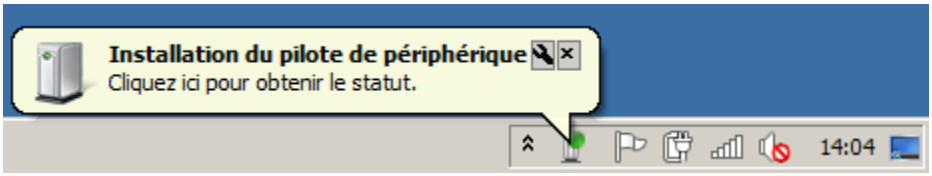


Click next

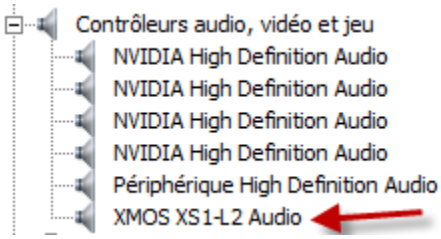


Click finish

After installation of the software, an icon will flash in the windows taskbar showing that driver is correctly installed.



To confirm the installation of the driver, verify the device manager the yellow sign has disappeared and the device is recognized.



Mac and linux operating systems : no drivers is needed to install 8soundUSB board
When the 8soundUSB board is plugged to a Mac or Linux, the board is immediatly recognized.

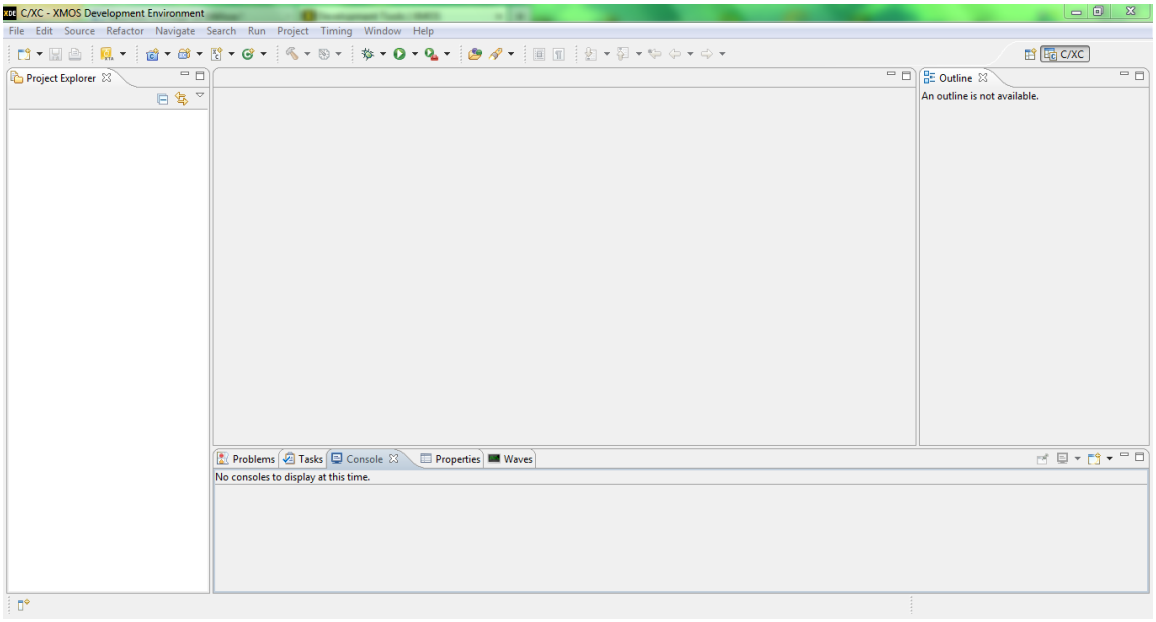
Programming 8SoundsUSB

What you need to programm the 8SoundUSB board.

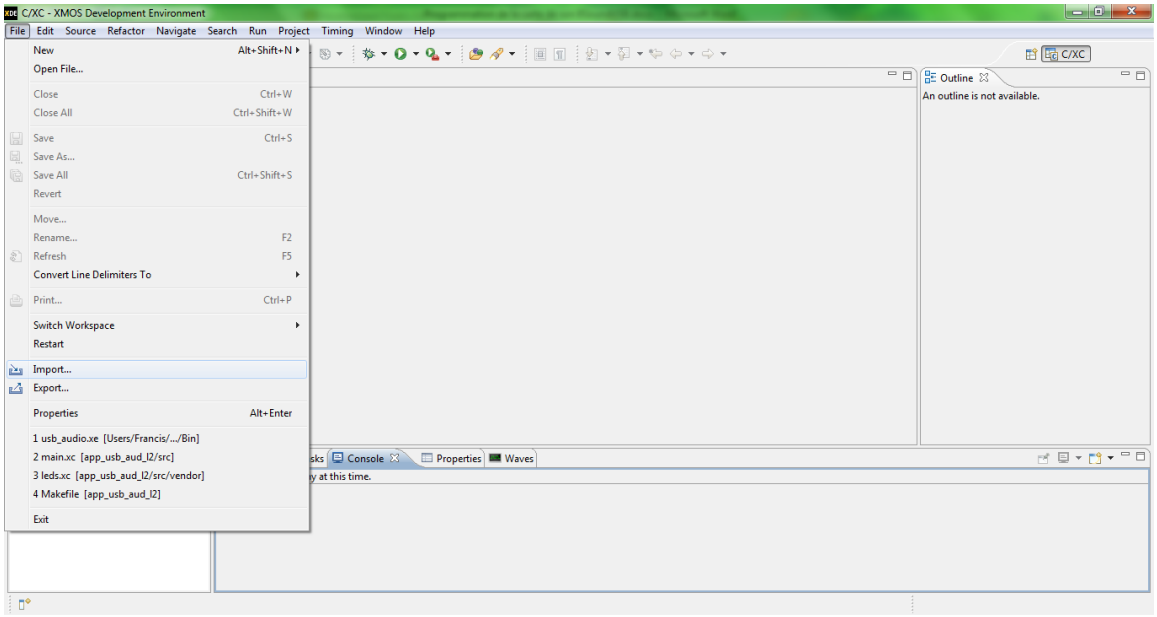
1. 8SoundUSB board
2. XTAG2 debug adapter
3. Binary file XE 8SoundsUSB_REV1.0.xe which contains the software to run the sound card
4. XMOS IDE (interface development Environment)

Here come steps to follow for programming:

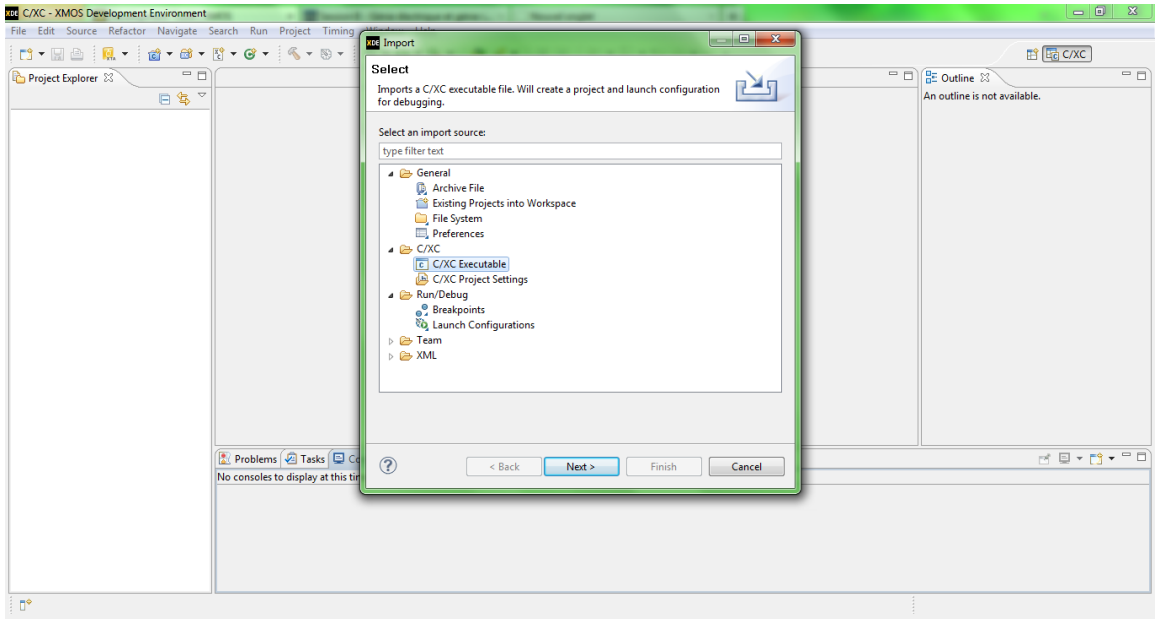
Open the **XMOS interface environment development**



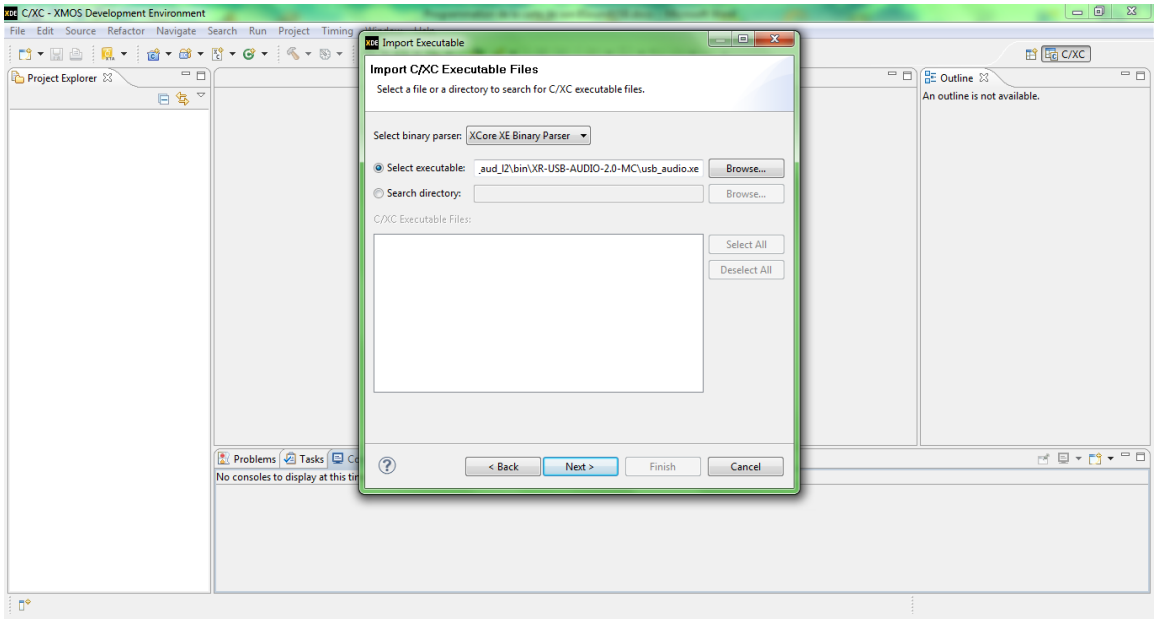
Select **File** in the Menu toolbar and choose **import**



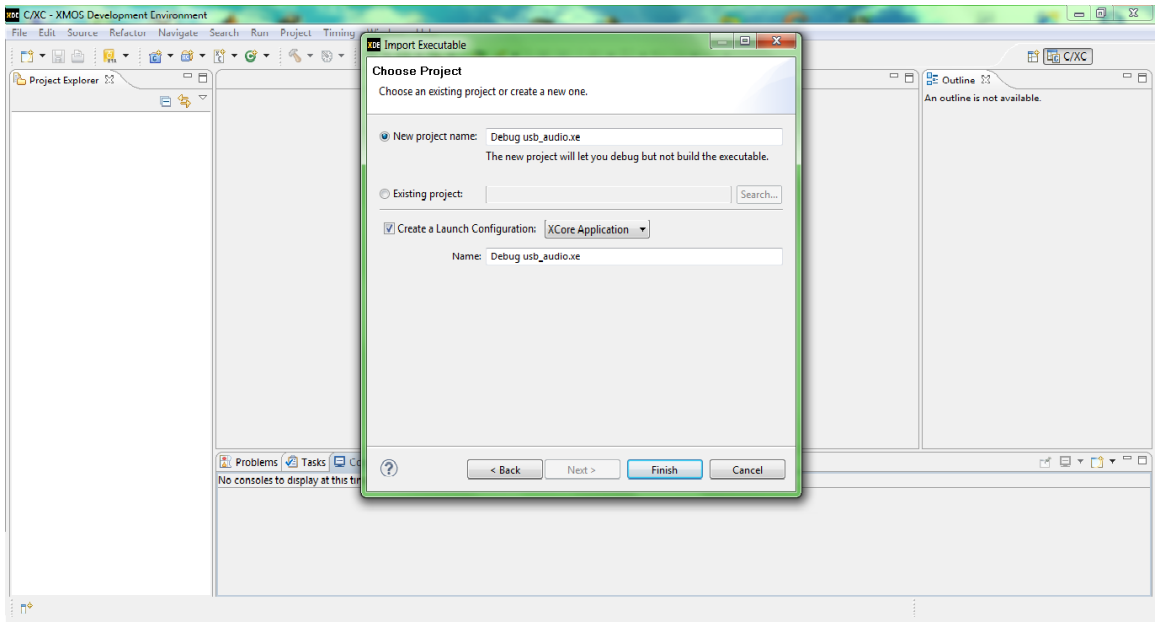
Select **C/XC executable** and push **next button**



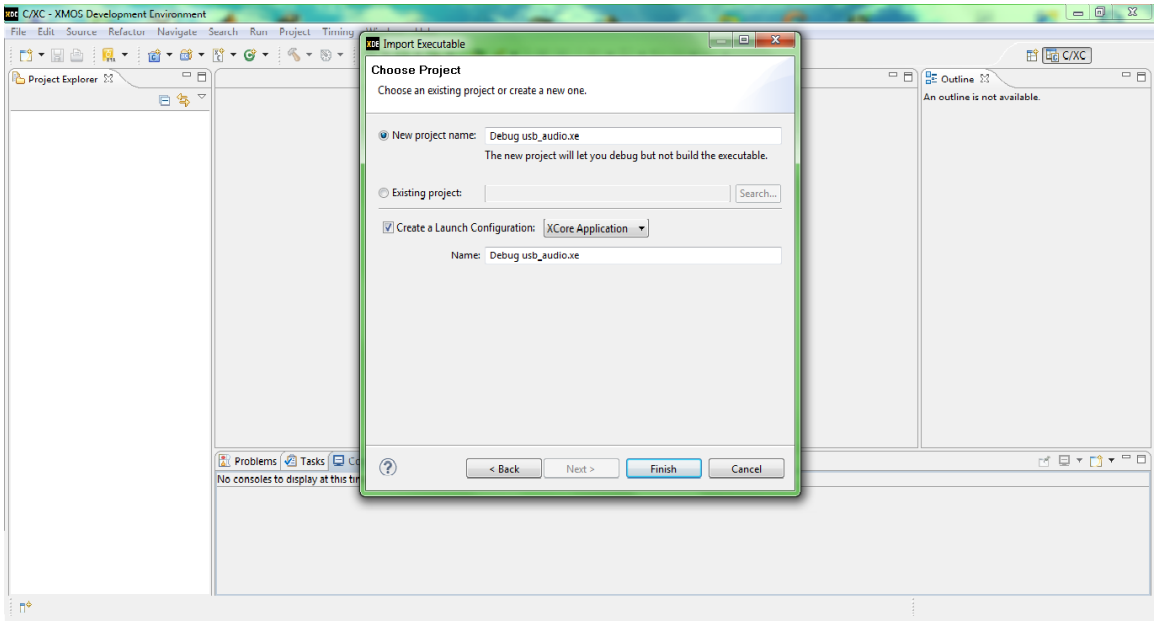
Push **Brown** button and select executable **File binairy XE 8SoundsUSB_REV1.0.xe**. Then, push **next** button



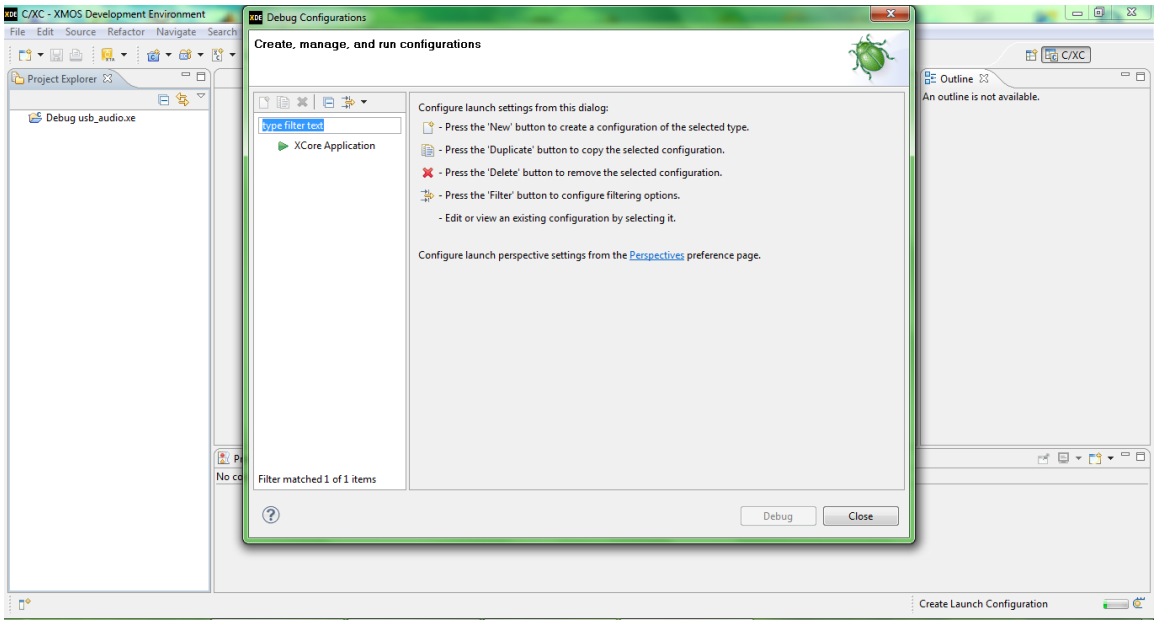
Click to browse button and select the binary file **binairy XE 8SoundsUSB_REV1.0.xe** and click next button



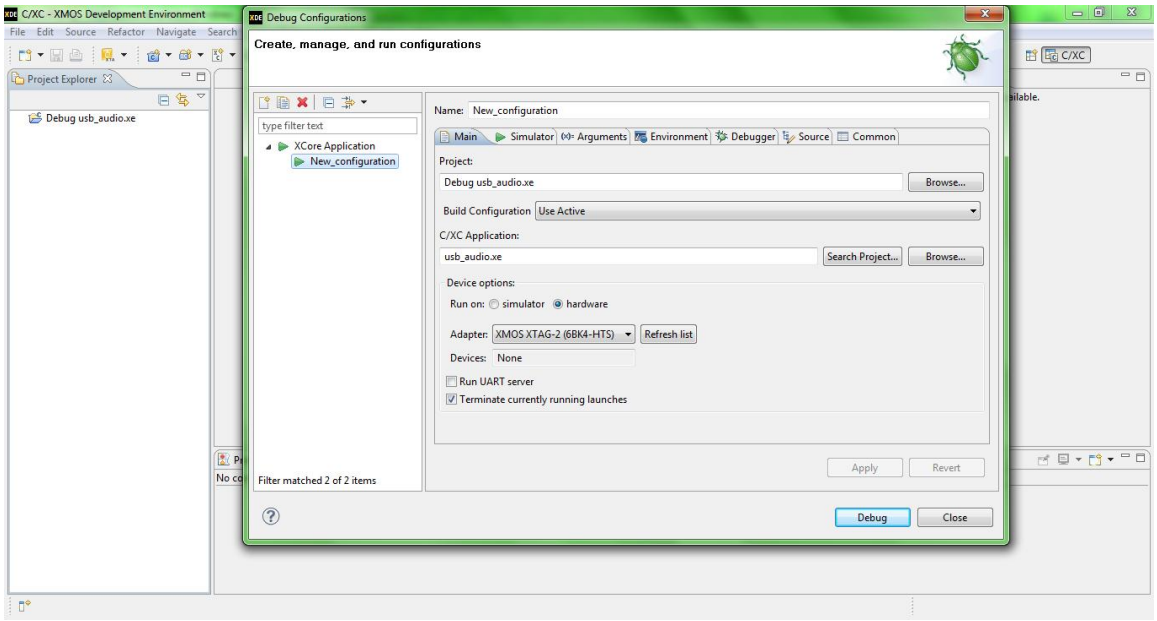
Click **Finish** button



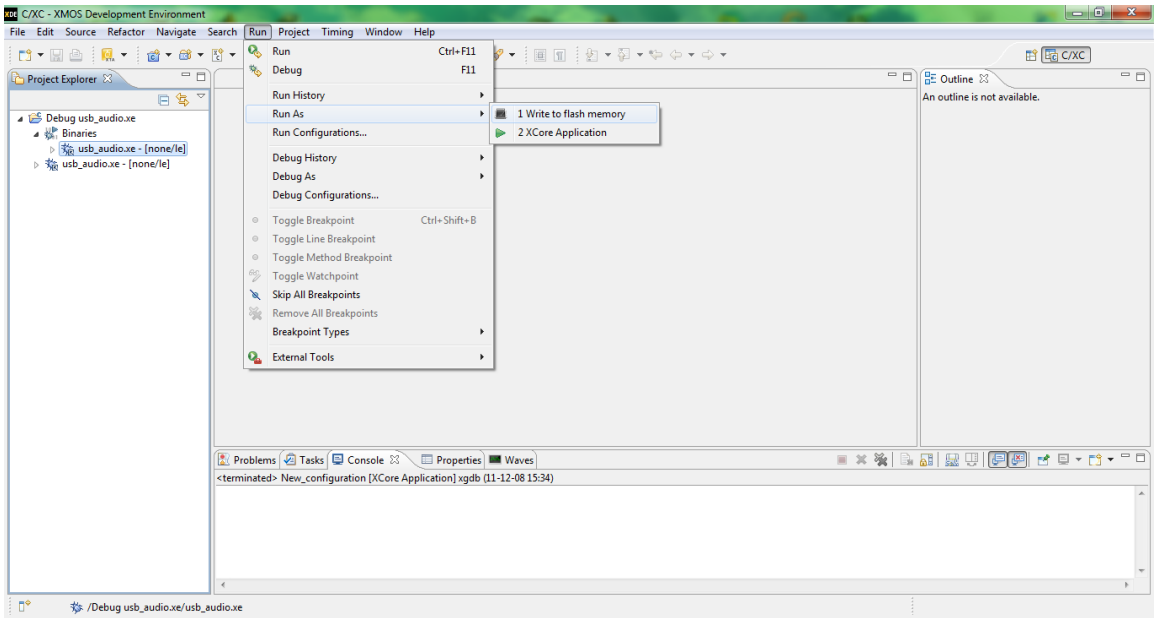
Double click on **XCORE application**



New_configuration appears under **XCODE configuration** for the debug configuration**.** Click **Browse** button and select the project. Choose in device options **XMOS XTAG-2** for adapter type. Then, push **Close** button.



In the left sidebar Project Explorer, select under Binaries **8SoundsUSB_REV1.0.xe.** In the top menu, push **Run**, then select **Run as** and click on **Write to flash memory**



In the bottom menu, select Console. The last line **Site 0 has finished** confirm the success of the programmation in flash memory