Wheatstone Corporation
Technical Documentation

Help With USB Audio

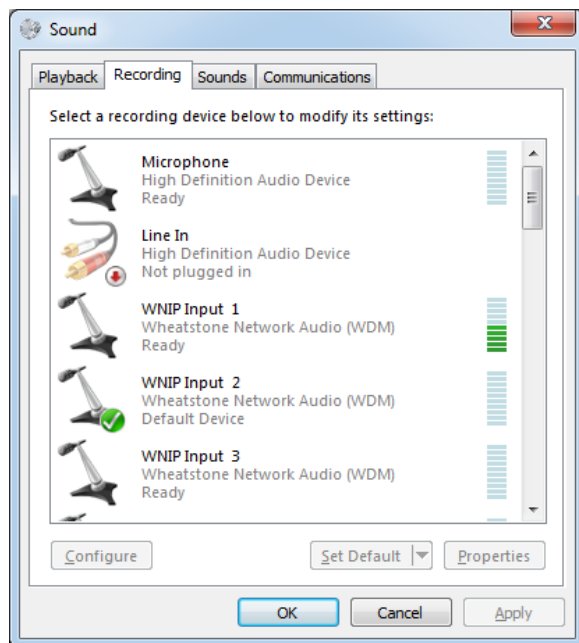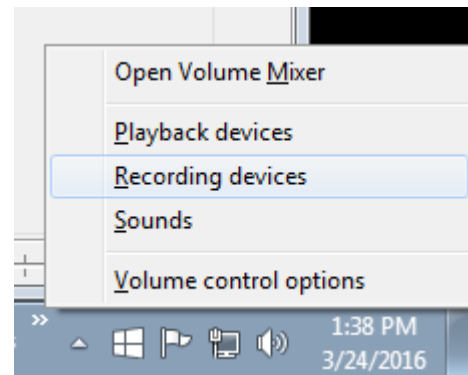Using USB Audio in Windows 7

1. The Problem

You are trying to record audio from a device to a computer running Windows 7. You have the USB output of the device connected to a USB port on the computer. When you watch the meters in your recording software you notice that they are in the red most of the time, and the playback is highly distorted. Sure, you can use the recording software level controls to bring the level down to a usable spot, but it's hard to nudge the controls to just the right position. Furthermore, if you can get a playback that has low enough distortion so you can bear to listen to it, you notice that playback is in mono, even though the original audio source was stereo. If you can still locate a computer running Windows XP, or if you have a MAC around, you find that those computers don't have this problem.
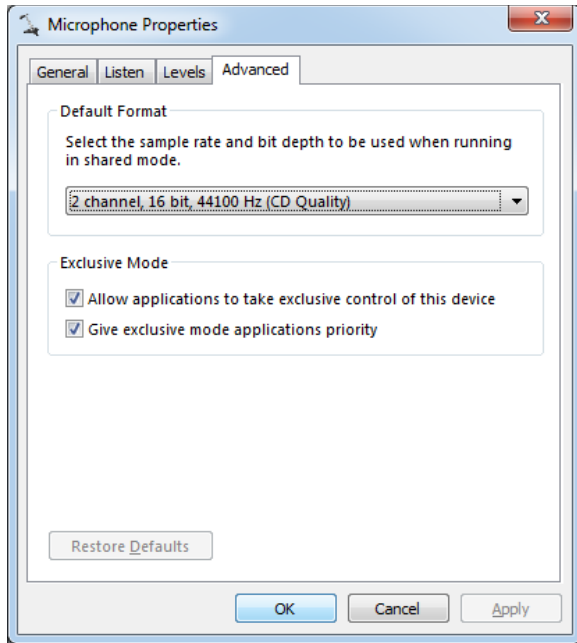
2. The Cause

Windows 7 changed the way it looks at audio coming in on the USB port. The generic USB audio driver for Windows 7 assumes that the audio coming in will be a mono signal at a low microphone level, rather than a stereo signal at line level as was the case in earlier versions of Windows.

3. The Solution

There are some steps you can take to alleviate this issue. Begin by right-clicking on the speaker icon in the Task Bar and selecting *Recording devices*.

This will bring up the *Sound* panel with the *Recording* tab selected. This tab will have the available recording devices listed. Scroll down until you find the USB device representing the USB source you are recording from. In our example we will use the device named **Microphone**.
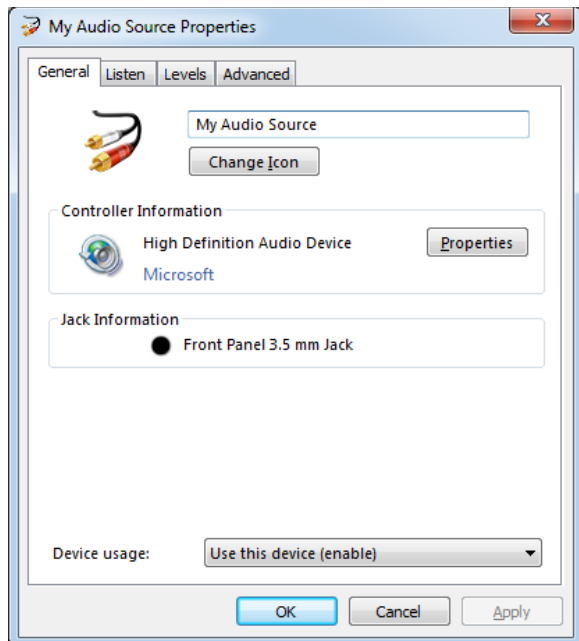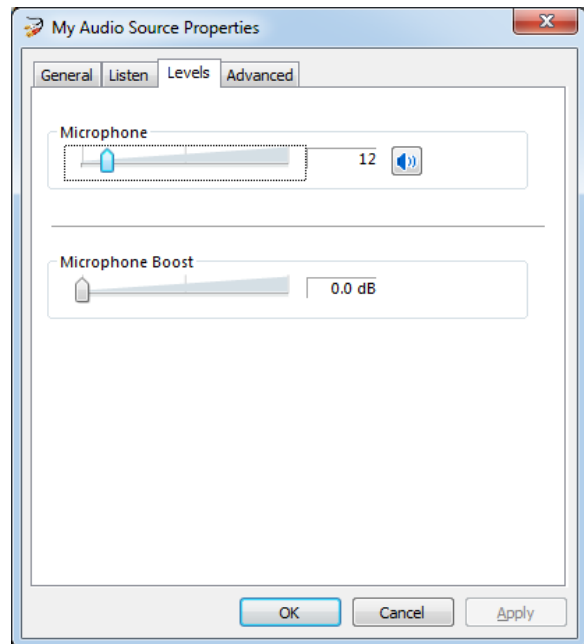
Double-click on the device to bring up its *Properties* window.

Switch to the *Advanced* tab.

The *Default Format* option should be selected for the appropriate setting that will give the best sound quality at the sample rate you expect to be using. In a normal radio situation you would select 2 channel, 16 bit, 44100 Hz. If there is an option for 24 bits you might choose that instead.

On the *Levels* tab you can set the gain or level of the incoming signal. You will need to set this low so that the recording program is not overloaded by the signal coming into it.

On the *General* tab you can change the name of the device as it shows up in the list. Here we have renamed the device **My Audio Source** and changed its icon as well.

4. Playback

On the *Sound Playback* tab you can double-click an output device to find a similar dialog for setting the properties of the audio going back to the USB device from the computer. Generally, you will find the default settings for playback to be much more user friendly, but the controls are there if you need to adjust them.

5. Summary

There you have it! By making a handful of simple changes in the Windows *Sound* panel, you've made the difference between a frustrating and sometimes difficult recording process on the one hand and one that is easy to do and gives you good results on the other hand.