MobilDrTech
Expanding access to healthcare

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PCP-USB Setup Guide

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PCP-USB Setup

1. Plug the USB Stethoscope into the patient side computer

   NOTE:(Leave it plugged into the computer during the entire patient encounter. Unplugging it while still in a videoconference may require a restart of the video conferencing software to restore function.)

2. **Important:** Verify that the audio settings in windows are optimized for the PCP-USB. See Windows 10 Audio Setup Instructions, or Windows 11 Audio Setup Instructions as appropriate.

3. Start Video Conference Software

4. Configure the Video Conferencing software to relay the original audio for the PCP-USB stethoscope (if you do not see a PCP-USB microphone listed refer to Debugging: PCP-USB does not show up in the microphone list). We have detailed instructions for the following platforms (reach out if your platform is not listed here and you need help)
   a. Zoom Setup Instructions

5. At this point you should be ready to go. Join a VC, when you need to use the stethoscope select the PCP-USB as the audio source, complete the auscultation and switch the microphone back to your normal microphone for voice communication.

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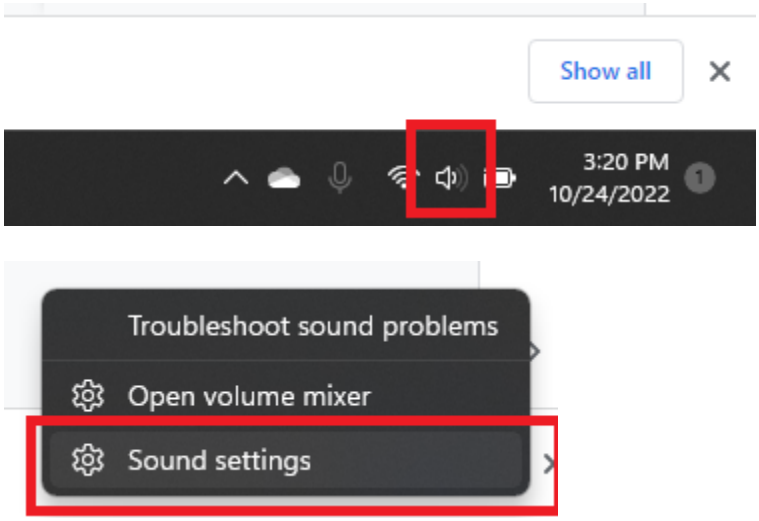
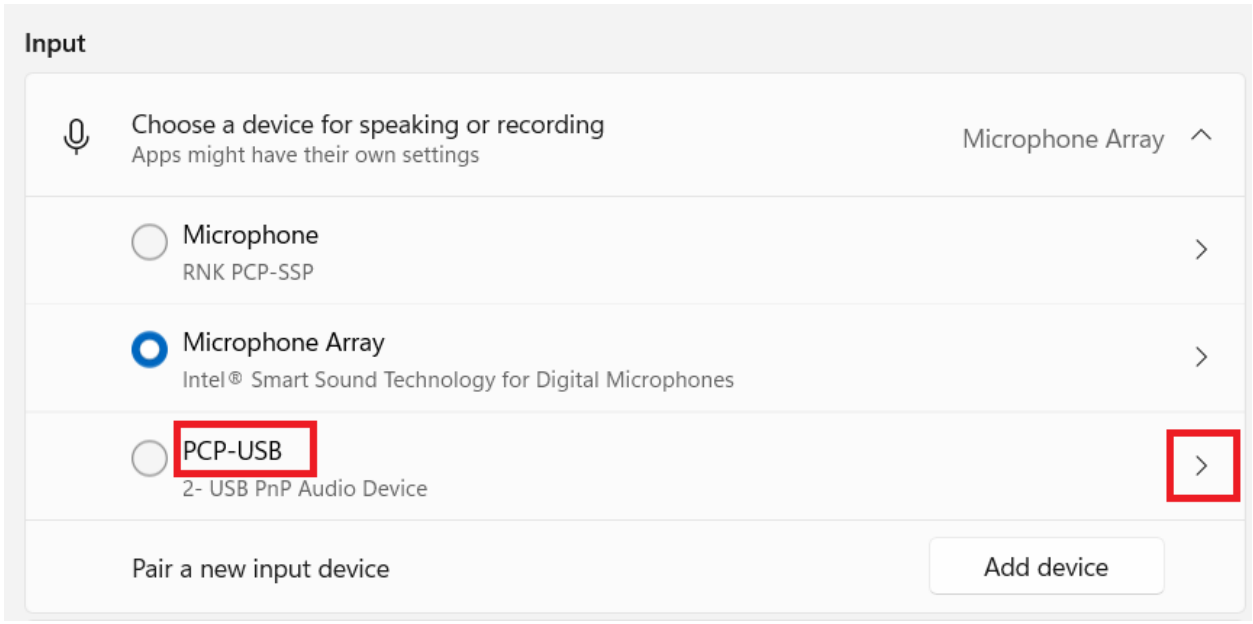
Audio Setup

Windows 11 Audio Setup Instructions

1. Open the sound settings, you can do this by right clicking on the speaker icon next to the clock on the windows bar(by default it is in the lower right hand corner, but may vary with your setup), and selecting sound settings.



2. Under the inputs click the arrow for the PCP-USB audio device to expand the settings.
Do NOT click the circle selector next to the PCP-USB, this will change your default microphone and will prevent your standard microphone from being used by default when joining a video conference.



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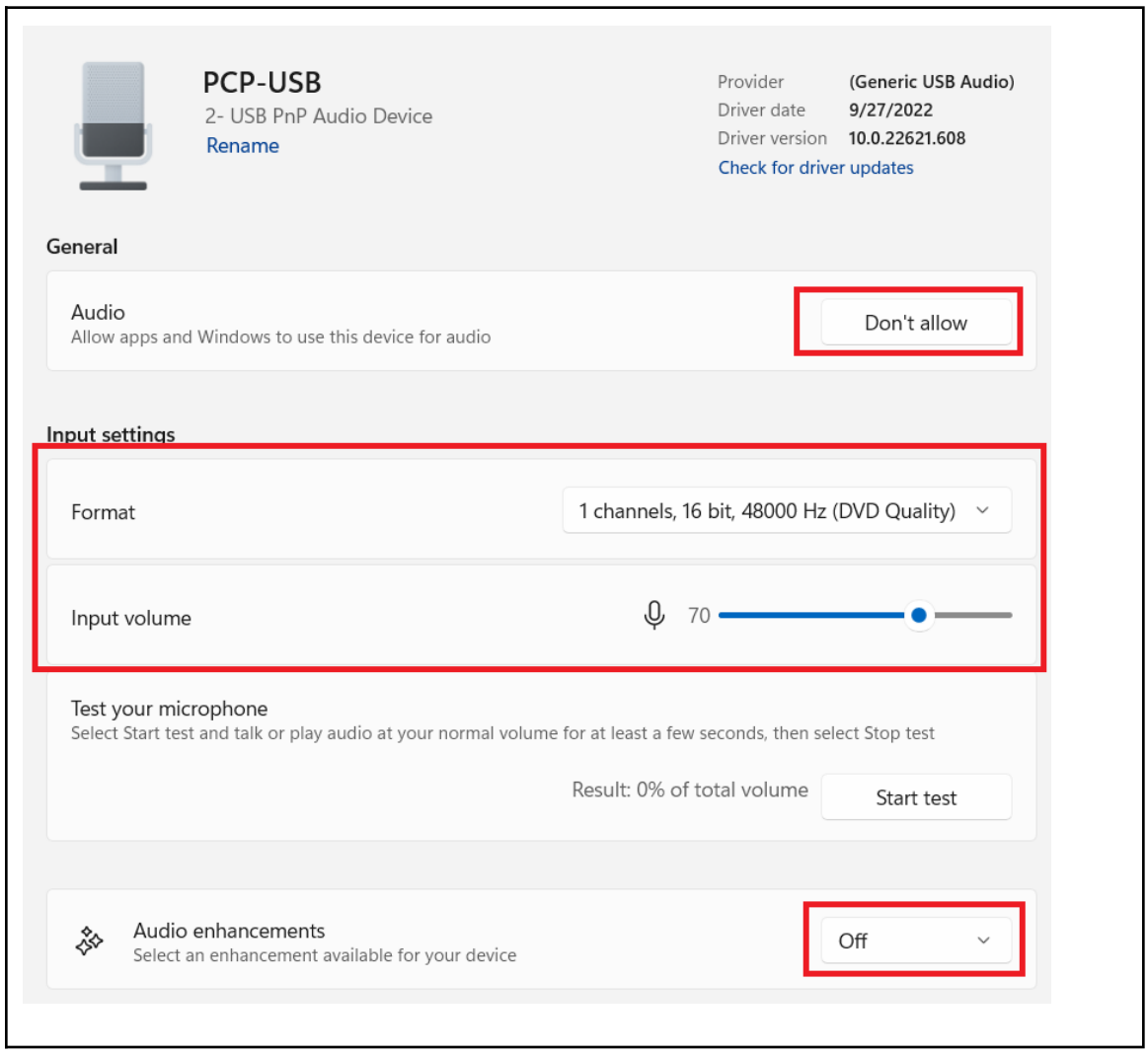
3. Ensure the following settings match:
    a. General->Audio apps must be allowed to use the device(note the button is labeled “Don’t allow” when set correctly)
    b. Format must be set to DVD Quality
    c. The optimum “Input Volume” setting will vary based on your specific computer and sound card. A setting of 70 works well for most users, but adjust it as needed. See Crackling sound or static sound when listening to heartbeat.
    d. Audio Enhancements must be disabled.



4. Once all these settings have been configured, you should not have to adjust them again unless someone changes them. If you find yourself needing to reconfigure these settings often, you should contact your IT department, they may have software that periodically resets these settings.

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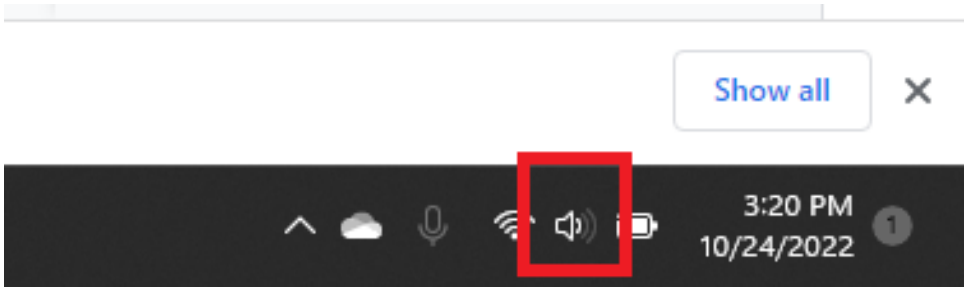
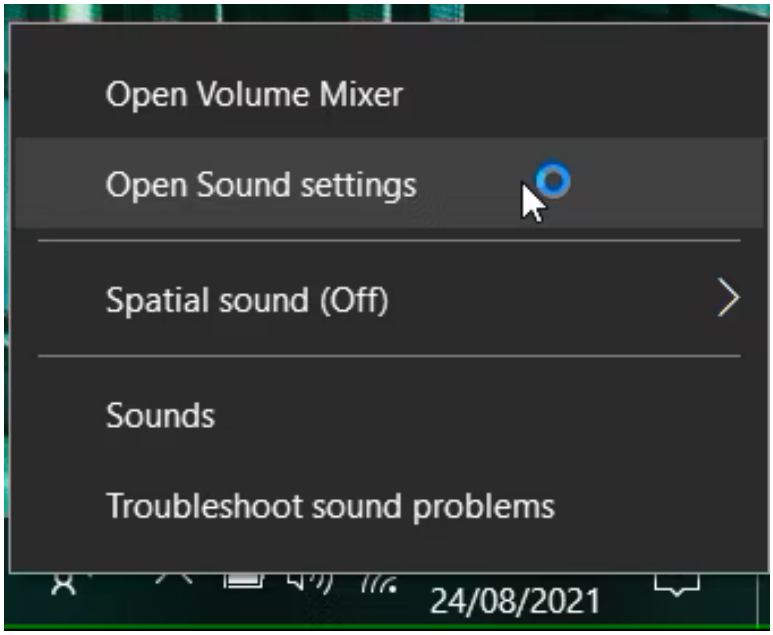
Windows 10 Audio Setup Instructions

1. Open the sound settings, you can do this by right clicking on the speaker icon next to the clock on the windows bar(by default it is in the lower right hand corner, but may vary with your setup), and selecting sound settings.





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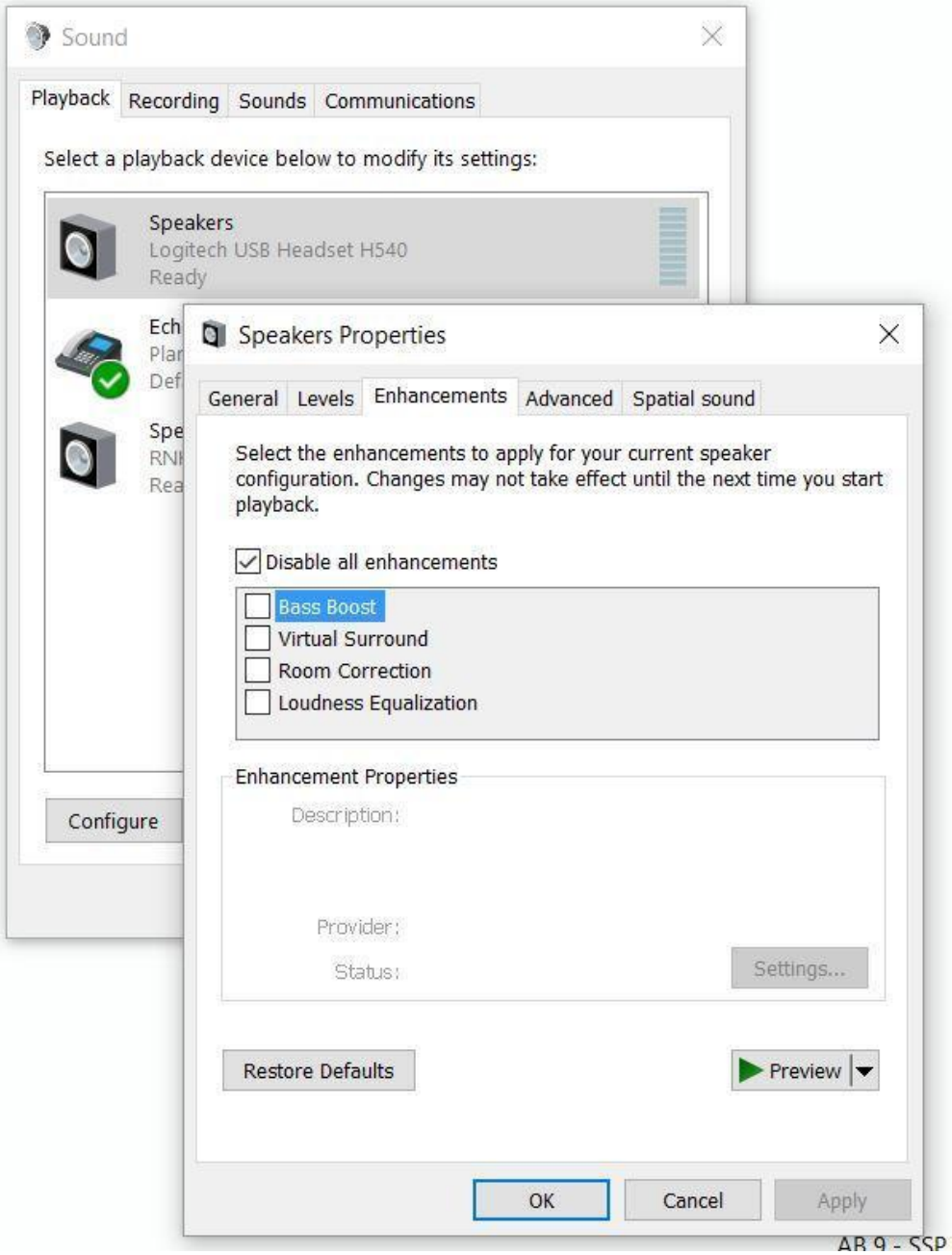
2. Select the speakers or headset being used to listen to the Stethoscope, if there is an “Enhancements” tab make sure all enhancements are disabled. Automatic gain control and volume leveling will have a negative effect on the stethoscope sound.



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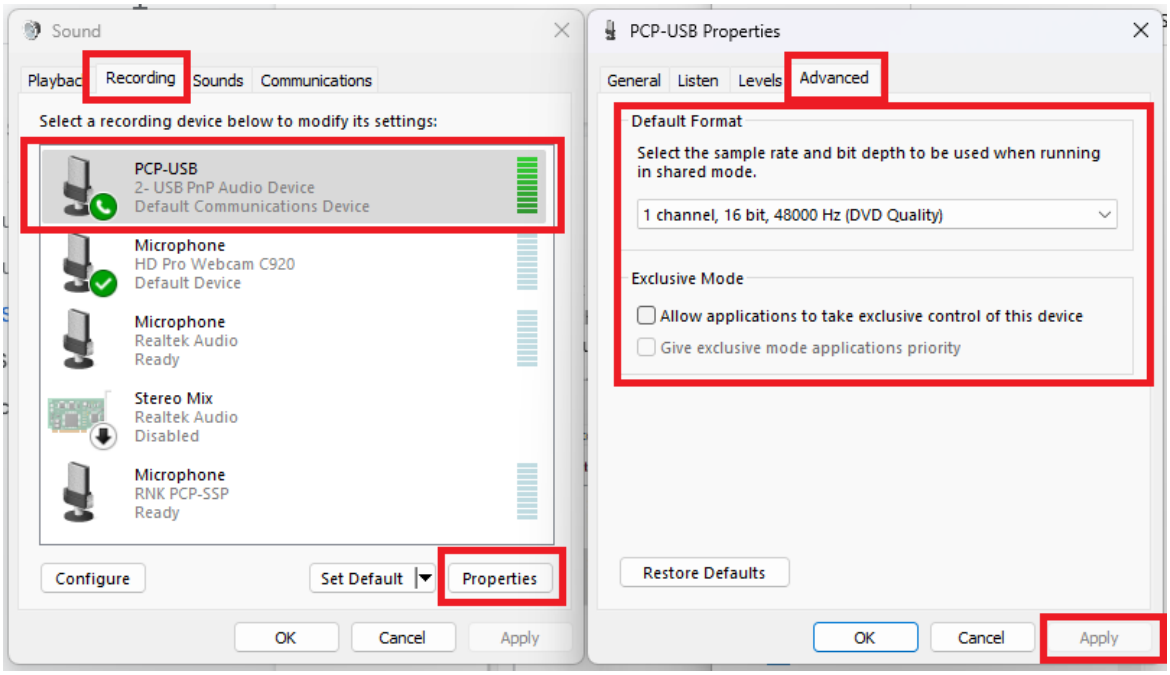
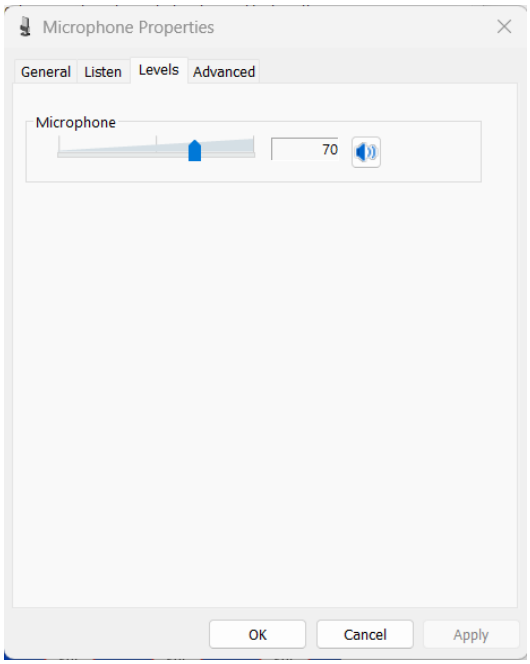
3. Next, select the PCP-USB Microphone in the **recording** tab. Click on Properties and the "Advanced" tab and make sure the settings are set to 1 channel, 16 bit, 48,000Hz (DVD Quality). Also, make sure the check boxes under "Exclusive Mode" are not checked. Press "Apply" to save any settings changes.



4. Next goto the "Levels" tab. The optimum "Input Volume" setting will vary based on your specific computer and sound card. A setting of 70 works well for most users, but adjust it as needed. See Crackling sound or static sound when listening to heartbeat.



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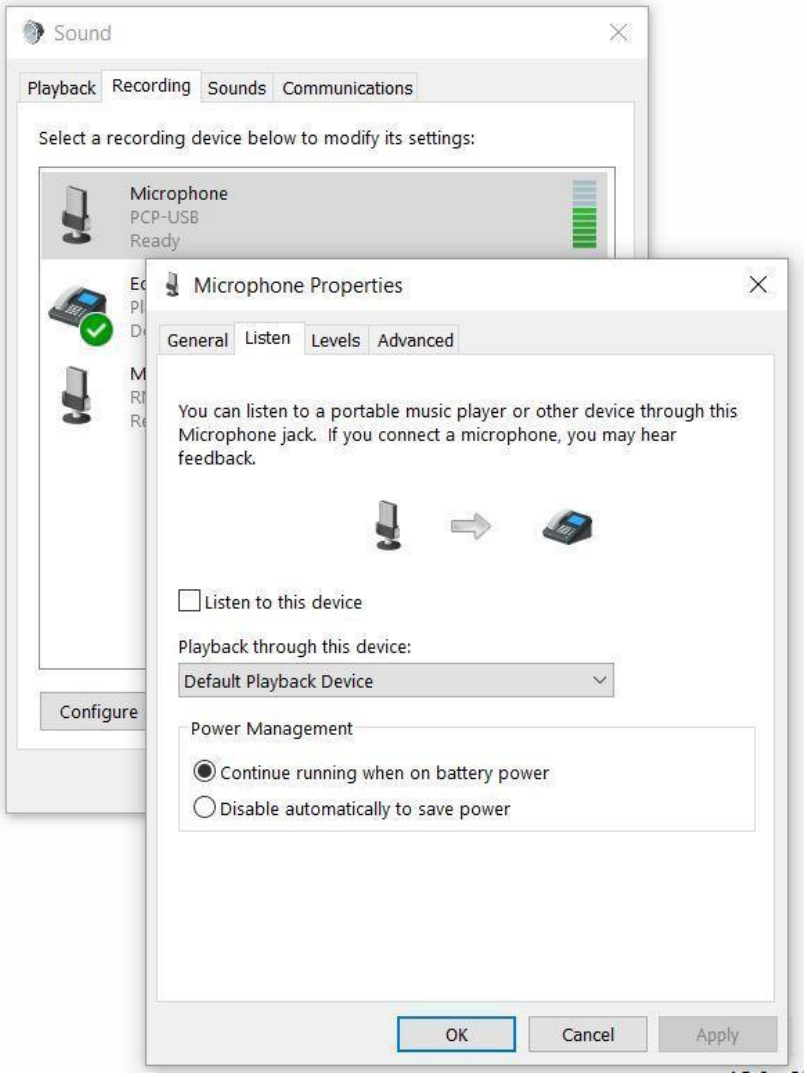
5. Next goto the “Listen” tab. Make sure the “Listen to this device” box is NOT checked, and that “continue running when on battery power” is selected.



5. Once all these settings have been configured, you should not have to adjust them again unless someone changes them. If you find yourself needing to reconfigure these settings often, you should contact your IT department, they may have software that periodically resets these settings.

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Troubleshooting:

Unable to configure audio settings

If you are unable to change audio settings, the account you are using has insufficient privileges. Login to an account with elevated privileges, or contact your IT department so they can properly configure the audio setting.

Audio settings keep changing after they have been configured

There are two reasons this may occur:

1. Your IT department has software installed to automatically reset user changes.

   Contact your IT department to resolve this issue.

2. You have moved the PCP-USB to a different USB port of your computer.

   Windows doesn't necessarily recognize the stethoscope as the same device when it is plugged into a different port, and it may be necessary to reconfigure the audio settings after plugging it into a new USB port. We recommend having a dedicated USB port for the stethoscope, and not changing it.

Cannot hear heart or lung sounds through the stethoscope

1. First ensure you've followed the setup instructions in Audio Setup.
2. Ensure you've followed the setup instructions for in Video Conferencing Setup for your video conferencing platform.
3. If you are still unable to hear heart and lung sounds ensure you've selected the stethoscope as the input.
   a. Can you hear any audio through the stethoscope? Try tapping the bell, and talking into it.
      i. If voice comes through relatively clearly but nothing else does proceed to Disabling 3rd Party Audio Software, and see if this resolves the issue.
      ii. If you can't hear anything at all contact support@mobildrtech.com
   b.

Disabling 3rd Party Audio Software

Recently many computer manufacturers have been including pre-installed audio software which is intended to improve video conferencing audio, this software uses a combination of software and hardware to enhance voice audio and filter out everything else, including the desired stethoscope audio. This software/hardware must be disabled to use the stethoscope properly.

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These software features go by a number of different names, but is commonly referred to “background noise suppression”, “AI Noise canceling”, “Smart Audio”, “Enhanced Audio”, or similar.
Since we don’t supply this 3rd party software and typically do not supply the computers used with the stethoscopes, and the software comes preinstalled by computer manufacturers. We can’t provide detailed instructions for every make and model of computer that has it installed, as the list is constantly changing. However the following links provide instructions for several major computer manufacturers, and will be periodically updated.

You can contact support@mobildrtech.com to see if we have instructions for a specific make and model of computer. We’ll provide support for disabling this software on a best effort basis. If we’re unable to figure out how to disable the software for your specific make and model you will need to contact your computer manufacturer for support in disabling these audio features.

Instructions for:

ASUS: https://www.asus.com/support/FAQ/1046946
Dell: https://www.dell.com/community/Inspiron/How-to-disable-background-noise-suppression-for-the-microphone/m-p/8310362#M154984
HP: https://support.hp.com/lv-en/document/c07914107

Crackling sound or static sound when listening to heartbeat

First make sure you’ve followed the setup instructions in Audio Setup.

If you still hear a crackling or popping type sound at the peak of the “thump” of the heartbeat it is usually indicative of the stethoscope audio is saturating.

1. Open the audio settings and adjust the “input volume” to a lower level(refer to Audio Setup), usually reducing to 50 will eliminate any saturation but you may need to experiment a bit.

Audio Quality just isn’t good

You can hear the heartbeat but the audio isn’t that good, or you hear rustling from movement of the stethoscope.

1. Unlike with a traditional stethoscope where a “light touch” is recommended, a firmer pressure tends results in better audio quality with this stethoscope.
2. It is recommended the stethoscope be placed directly on the skin for best audio quality.

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PCP-USB does not show up in the microphone list

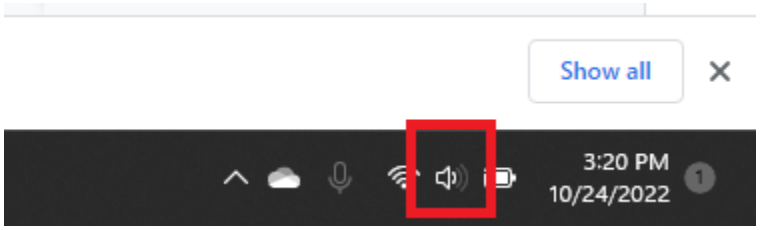
1. Verify that the PCP-USB device is plugged in.
    a. If the Stethoscope is not plugged in then plug it in.
    b. Exit and rejoin the video conference

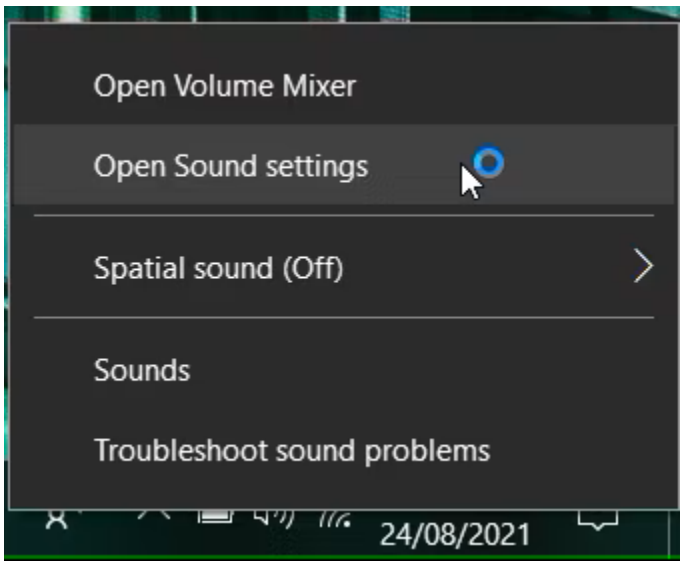
If the Stethoscope is still not appearing in the microphone list for your VC platform proceed to the steps below, otherwise resume the setup as normal.

Sometimes windows will not recognize the PCP-USB with the correct device name, and it will instead appear as "**USB PnP Audio Device**", if this happens the device needs to be renamed. Follow the instructions for your Operating System.

Windows 10 Instructions

1. Open the sound settings, you can do this by right clicking on the speaker icon next to the clock on the windows bar(by default it is in the lower right hand corner, but may vary with your setup), and selecting sound settings.





2. Select the **Input** device labeled "USB PnP Audio Device", from the dropdown menu for Input devices. Note the images below show "Output" devices but the instructions are the same for "Input".

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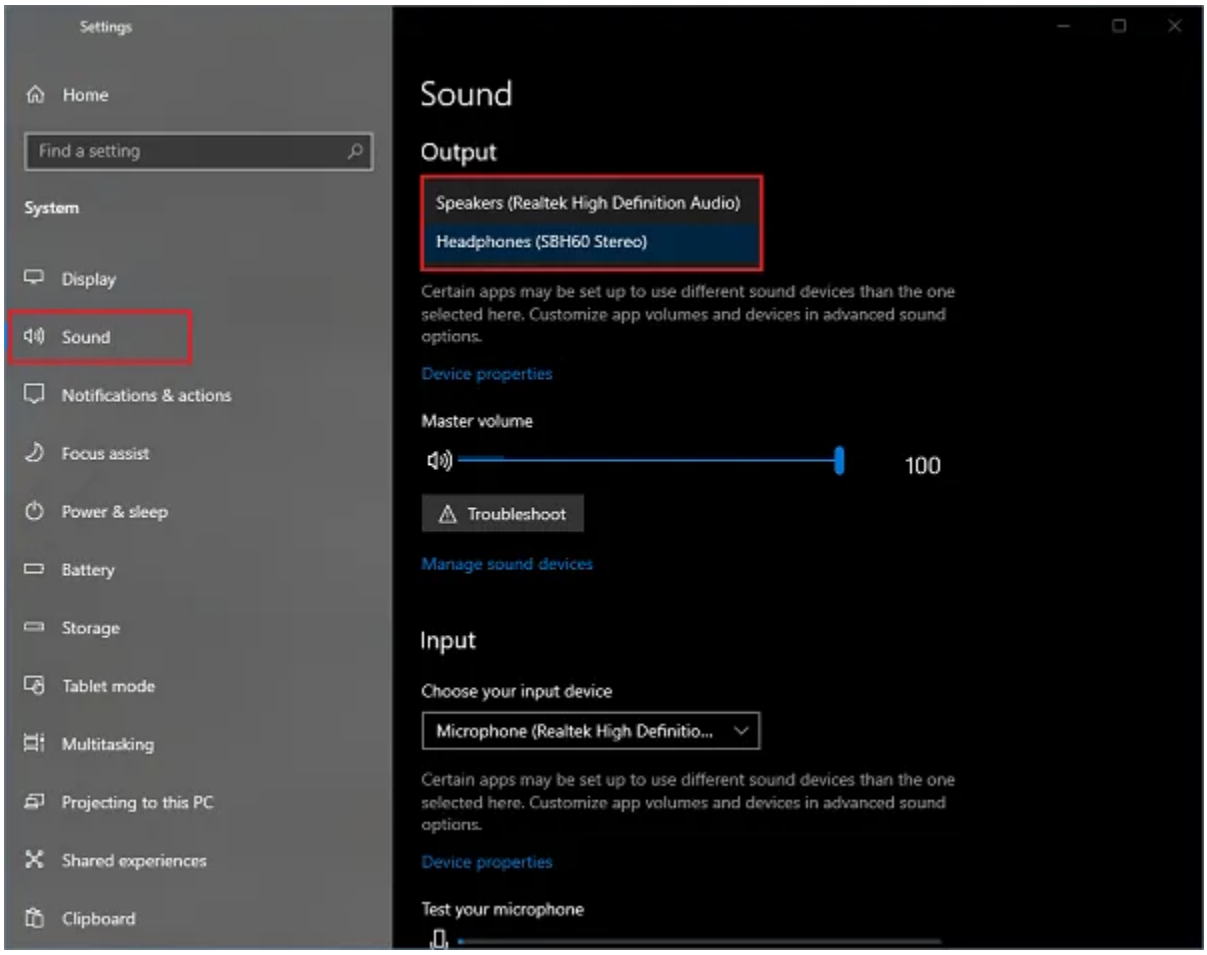

3. Click “Device properties”

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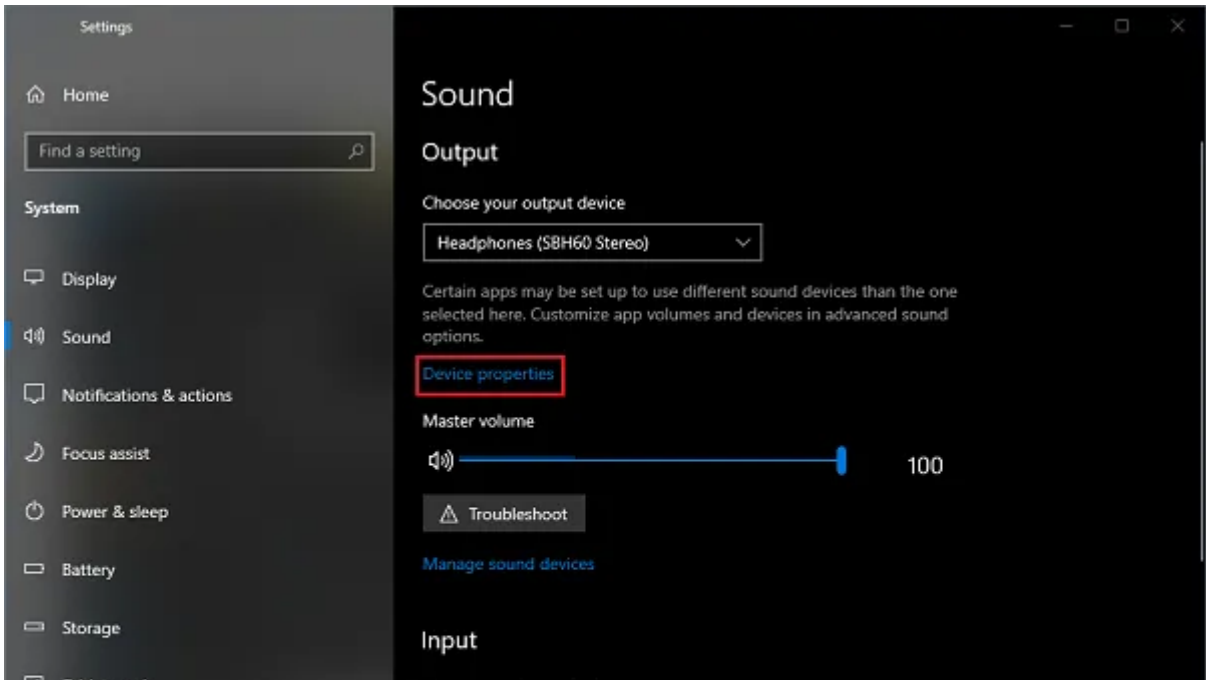
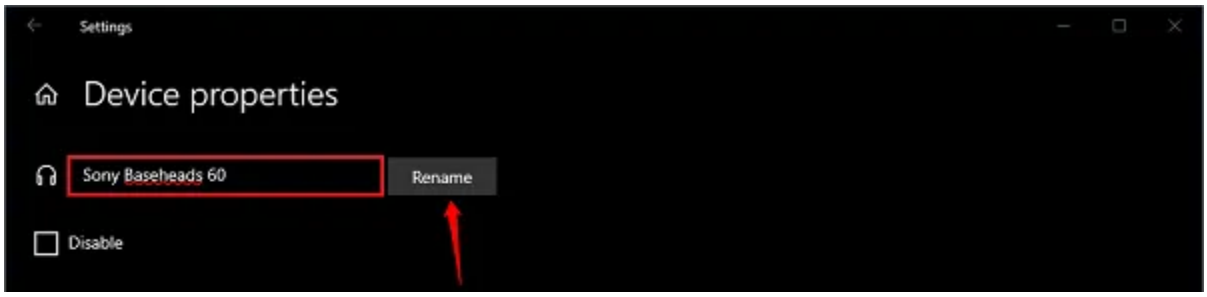


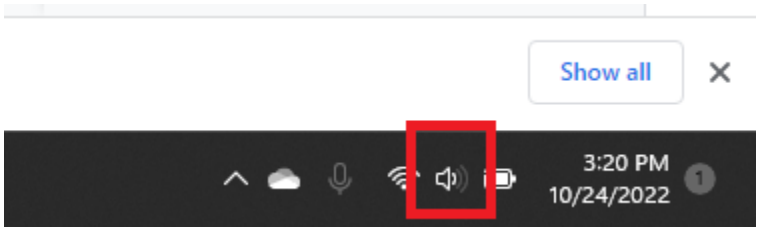
4. Rename the device to “PCP-USB” by typing it in and pressing the Rename button.



5. Close and reopen the PCP-USB software, open settings, and you should now be able to select the PCP-USB device as the Audio Source, and proceed with the remainder of the setup.

Windows 11 Instructions

1. Open the sound settings, you can do this by right clicking on the speaker icon next to the clock on the windows bar(by default it is in the lower right hand corner, but may vary with your setup), and selecting sound settings.



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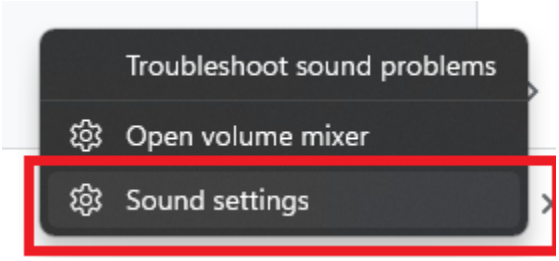

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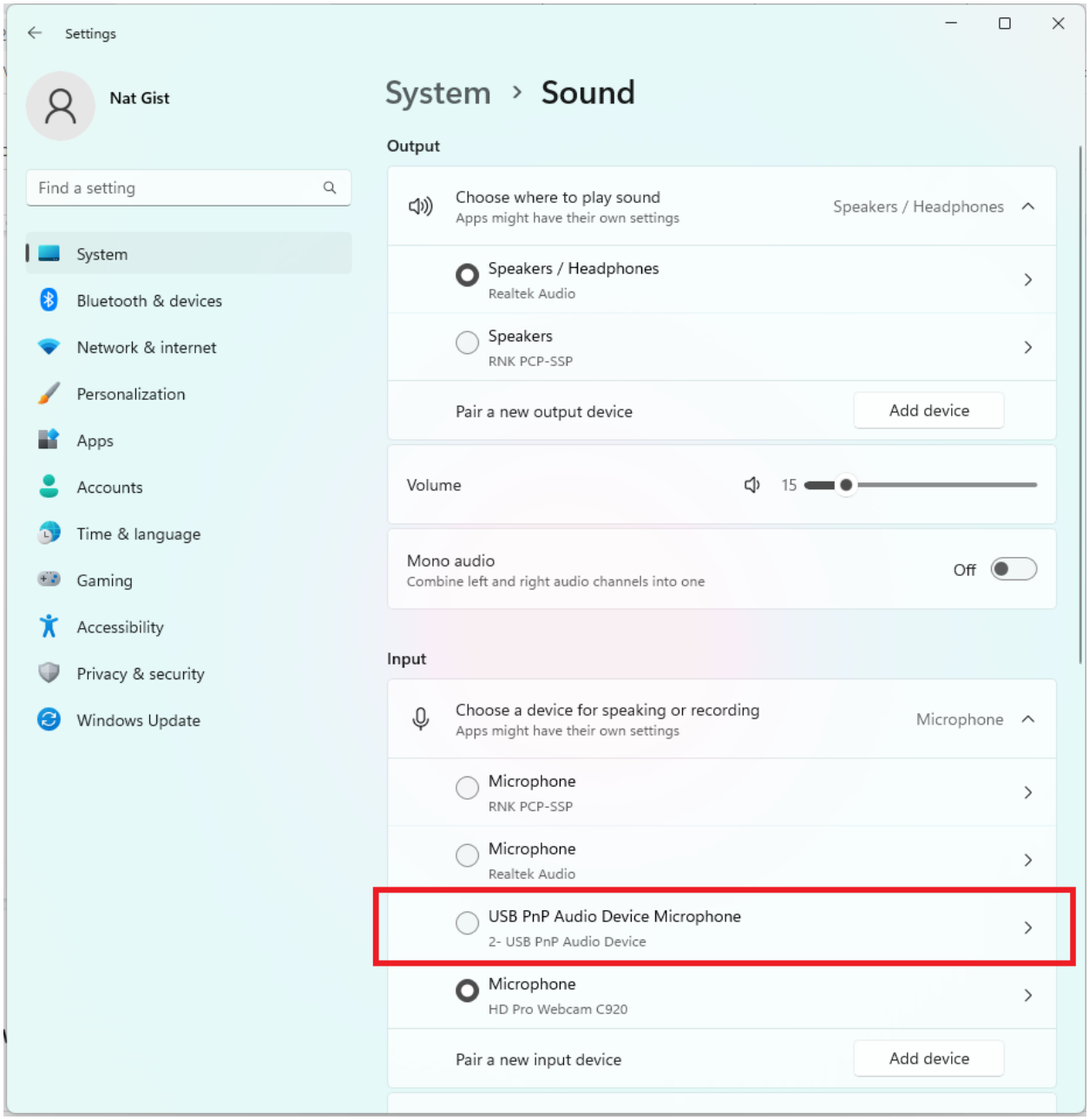
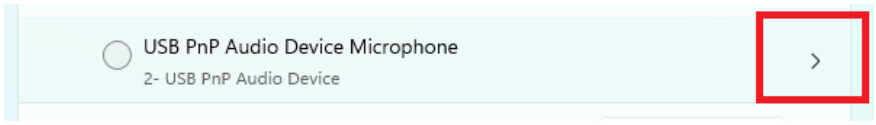
2. Locate the input device labeled “USB PnP Audio Device”, if multiple devices are listed or you do not see a device with that label then unplug the Stethoscope and plug it in again while watching the sound settings, the device that disappears and reappears is the one you want.



3. Click the arrow next to the device to open the settings for it.



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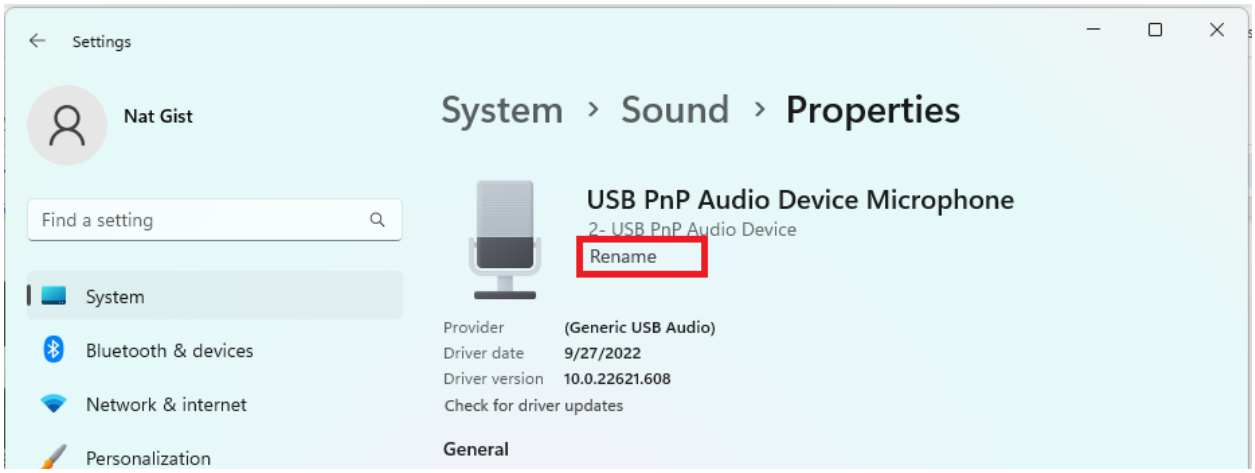
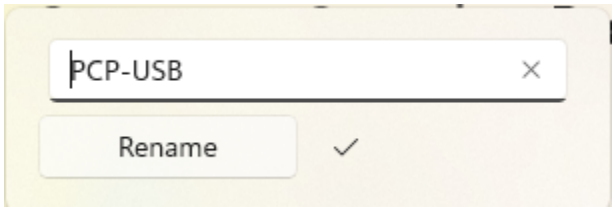
4. Rename the device to “PCP-USB” by clicking “rename” below the device name:



Replace the existing name with “PCP-USB”, and click rename:



5. Close and reopen the PCP-USB software, open settings, and you should now be able to select the PCP-USB device as the Audio Source, and proceed with the remainder of the setup.

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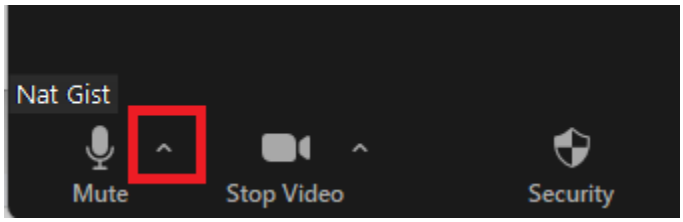
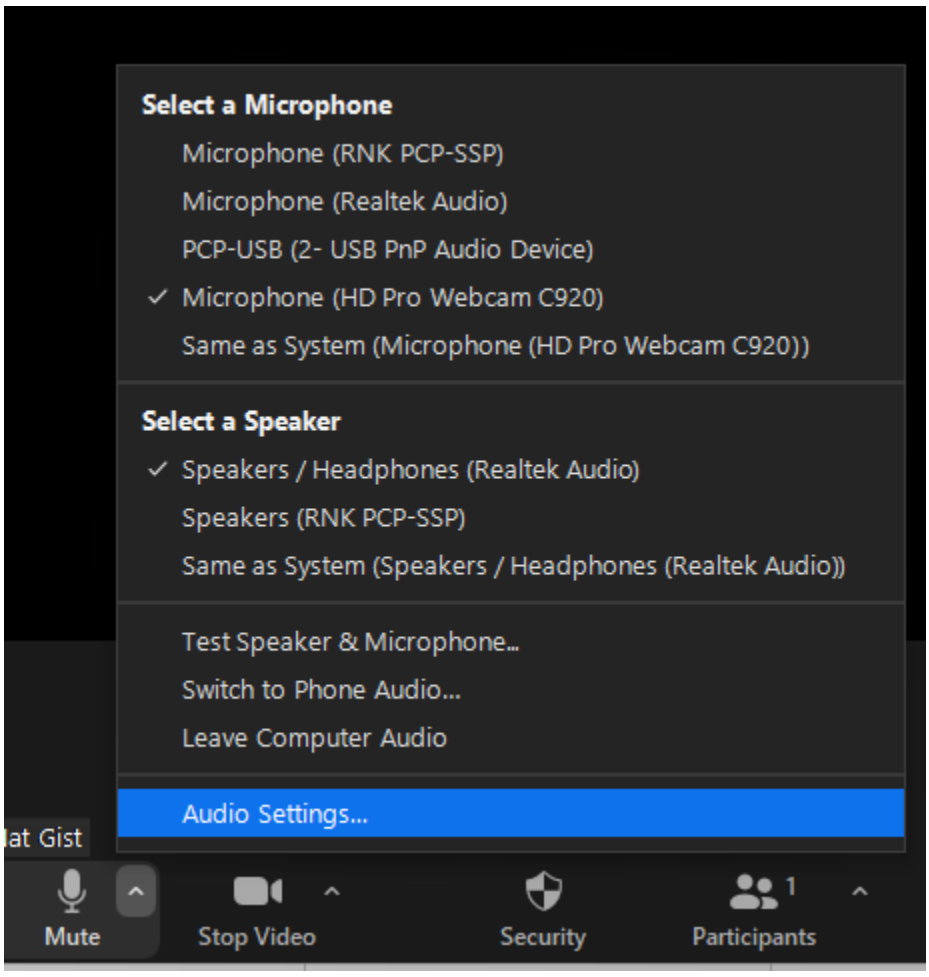
Video Conferencing Setup

Zoom Setup Instructions

If you are using Zoom as your Video Conferencing platform these steps will help you configure it to use the PCP-USB stethoscope.

1. Click the arrow next to the mute button and select audio settings:





2. Within the audio settings goto Audio Profile:
    a. Select “Original sound for musicians”

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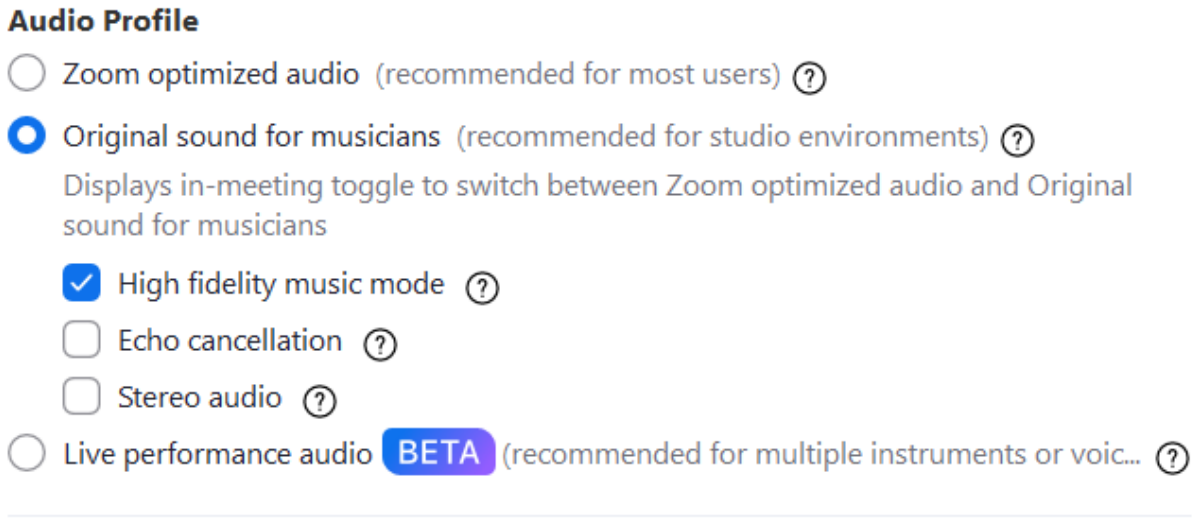
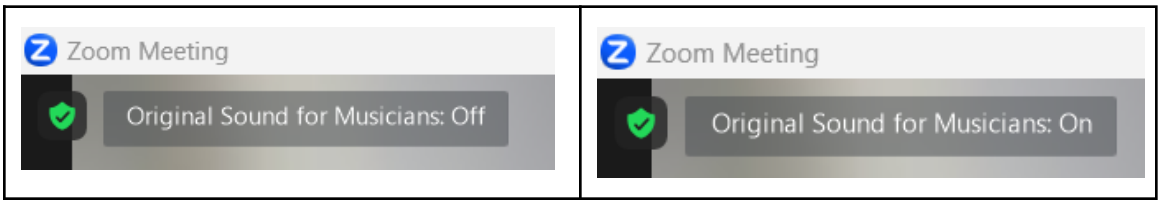
b. Make sure “High Fidelity music mode” is checked.
c. Make sure “Echo cancellation” and “Stereo Audio” are unchecked.



3. After updating the above settings you should see an Original Sound for Musicians toggle button in the upper left corner of the zoom meeting. Which will indicate whether “Original sound” is on or off.



When you are using the stethoscope make sure this is set to “On”.

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