

# **PCP-USB** Setup Guide

### Table of Contents

Table of Contents	1
PCP-USB Setup	2
Audio Setup	3
Windows 11 Audio Setup Instructions	3
Windows 10 Audio Setup Instructions	5
Troubleshooting:	9
Unable to configure audio settings	9
Audio settings keep changing after they have been configured	9
Cannot hear heart or lung sounds through the stethoscope	9
Disabling 3rd Party Audio Software	9
Crackling sound or static sound when listening to heartbeat	10
Audio Quality just isn't good	10
PCP-USB does not show up in the microphone list	11
Windows 10 Instructions	11
Windows 11 Instructions	13
Video Conferencing Setup	17
Zoom Setup Instructions	17



## 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 <u>Windows 10 Audio Setup Instructions</u>, or <u>Windows 11 Audio Setup Instructions</u> 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 <u>Debugging: PCP-USB does</u> 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.



## 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.



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.

Input			
Ŷ	Choose a device for speaking or recording Apps might have their own settings	Microphone Array	^
	Microphone RNK PCP-SSP		>
	Microphone Array Intel® Smart Sound Technology for Digital Microphones		>
	2- USB PnP Audio Device	[	>
	Pair a new input device	Add device	



- 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.

-	PCP-USB 2- USB PnP Audio Device Rename	Provider Driver date Driver versior <b>Check for driv</b>	(Generic USB Audio) 9/27/2022 10.0.22621.608 ver updates
eneral			
Allow apps an	d Windows to use this device for audio		Don't allow
iput settings			
Format		1 channels, 16 bit, 48000 Hz	(DVD Quality) V
Input volum	e	<b>Q</b> 70	<b>—</b> • <b>—</b>
Input volum Test your mi Select Start te	icrophone st and talk or play audio at your normal volume	P 70 e for at least a few seconds, then see Result: 0% of total volume	elect Stop test Start test

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.



### 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.







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.

Select a p	olaybac Spea	k device b	elow to n	nodify its setting	gs:		
	Read	ech USB H ly	leadset H	1540			
	Ech	Spea	kers Pro	perties			×
~	Def	General	Levels	Enhancements	Advanced	Spatial sound	
	RNI Rea	Select config playba	the enha uration. ( ack. able all e ass Boos firtual Sur coom Corri oudness	ancements to ap Changes may no enhancements rround rection Equalization	ply for your t take effec	current speaker t until the next time y	you start
		Enhar	icement F	Properties			
Config	ure		Descripti	un:			
			Provid Stat	er: us:		Settin	gs
		-		1			



 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.

Sound	ording Sounds Communications	PCP-USB Properties
	PCP-USB 2- USB PnP Audio Device Default Communications Device	Select the sample rate and bit depth to be used when running in shared mode.           1 channel, 16 bit, 48000 Hz (DVD Quality)
	Microphone HD Pro Webcam C920 Default Device Microphone Realtek Audio Ready	Exclusive Mode  Allow applications to take exclusive control of this device  Give exclusive mode applications priority
	Stereo Mix Realtek Audio Disabled	
Configure	MICrophone RNK PCP-SSP Ready	Restore Defaults
comgare	OK Cancel Apply	OK Cancel Apply

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.

General Listen	Levels Ad	vanced		
Microphone			70	



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.

3	Microph PCP-USE Ready	none	
<i>~</i>	Ec 3	Microphone Properties	>
3	Ri Yo Ri M fe	ou can listen to a portable music player or other licrophone jack. If you connect a microphone, y edback.	r device through this ou may hear
	Pla	Listen to this device ayback through this device:	
	Pla D	Listen to this device ayback through this device: Default Playback Device	~
Config	Pla D ure	Listen to this device ayback through this device: vefault Playback Device Power Management	~
Config	Pla D ure F	Listen to this device ayback through this device: befault Playback Device Power Management Continue running when on battery power Disable automatically to save power	~

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.



## 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 <u>Video Conferencing Setup</u> 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 <u>Disabling 3rd Party Audio Software</u>, and see if this resolves the issue.
    - ii. If you can't hear anything at all contact <a href="mailto:support@mobildrtech.com">support@mobildrtech.com</a>
  - 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.



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 <u>support@mobildrtech.com</u> 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: <u>https://www.asus.com/support/FAQ/1046946</u> Dell: <u>https://www.dell.com/community/Inspiron/How-to-disable-background-noise-supp</u> <u>ression-for-the-microphone/m-p/8310362#M154984</u> HP: <u>https://support.hp.com/lv-en/document/c07914107</u>

#### 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.

 Open the audio settings and adjust the "input volume" to a lower level (refer to <u>Audio</u> <u>Setup</u>), 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.



#### 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".



Settings	- 0	
යි Home	Sound	
Find a setting $\wp$	Output	
System	Speakers (Realtek High Definition Audio)	
	Headphones (SBH60 Stereo)	
🖵 Display	Certain apps may be set up to use different sound devices than the one	
40 Sound	selected here. Customize app volumes and devices in advanced sound options.	
Notifications & actions	Device properties	
	Master volume	
J Focus assist	¢৩) — 100	
O Power & sleep	▲ Troubleshoot	
🖙 Battery	Manage sound devices	
□ Storage	Input	
A Tablet mode		
	Choose your input device	
🗐 Multitasking	microprone (vealex right behindo	
되 Projecting to this PC	Certain apps may be set up to use different sound devices than the one selected here. Customize app volumes and devices in advanced sound options.	
X Shared experiences	Device properties	
ඩී Clipboard	Test your microphone ,D,	

3. Click "Device properties"



Settings	- • ×
බ Home	Sound
Find a setting	Output
System	Choose your output device
	Headphones (SBH60 Stereo) V
🖵 Display	Certain apps may be set up to use different sound devices than the one
中 Sound	selected here. Customize app volumes and devices in advanced sound options.
Notifications & actions	Device properties
	Master volume
J Focus assist	¢୬) 100
🕐 Power & sleep	A Troubleshoot
Battery	Manage sound devices
G Storage	Input

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

÷	Settings		-	×
බ	Device properties			
ត	Sony Baseheads 60	Rename		
	Disable	Ţ		

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.









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.

← Settings	- (	) X
A Nat Gist	System > Sound	
Find a setting Q	Choose where to play sound Apps might have their own settings Speakers / Headphones	~
System	O Speakers / Headphones	>
8 Bluetooth & devices	Realtek Audio	
💎 Network & internet	Speakers RNK PCP-SSP	>
🥖 Personalization	Pair a new output device Add device	
Apps 📄		
Accounts	Volume 🗘 15 💶 🕘	—
🕥 Time & language	Mana audia	
🕶 Gaming	Combine left and right audio channels into one Off	
🕇 Accessibility		
Privacy & security	Input	
Ø Windows Update	Choose a device for speaking or recording Microphone Apps might have their own settings	^
	Microphone RNK PCP-SSP	>
	Microphone Realtek Audio	>
	USB PnP Audio Device Microphone 2- USB PnP Audio Device	>
	Microphone HD Pro Webcam C920	>
	Pair a new input device Add device	

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





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

← Settings		-	×
R Nat Gist	System > Sound > Properties		
Find a setting Q	USB PnP Audio Device Microphone 2- USB PnP Audio Device Rename		
System			
8 Bluetooth & devices	Provider         (Generic USB Audio)           Driver date         9/27/2022           Driver version         10.0.22621.608		
💎 Network & internet	Check for driver updates		
Personalization	General		

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.



## 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:

Nat Gist L	e Stop Video Security				
	Select a Microphone				
	Microphone (RNK PCP-SSP)				
	Microphone (Realtek Audio)				
	PCP-USB (2- USB PnP Audio Device)				
	<ul> <li>Microphone (HD Pro Webcam C920)</li> </ul>				
	Same as System (Microphone (HD Pro Webcam C920))				
	Select a Speaker				
	✓ Speakers / Headphones (Realtek Audio)				
	Speakers (RNK PCP-SSP)				
	Same as System (Speakers / Headphones (Realtek Audio))				
	Test Speaker & Microphone				
	Switch to Phone Audio				
	Leave Computer Audio				
lat Gist	Audio Settings				
Ų					
Mute	Stop Video Security Participants				

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



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

#### **Audio Profile**

O Zoom optimized audio (recommended for most users) 🧿	
<ul> <li>Original sound for musicians (recommended for studio environments) ⑦</li> <li>Displays in-meeting toggle to switch between Zoom optimized audio and Original sound for musicians</li> </ul>	
<ul> <li>High fidelity music mode ?</li> <li>Echo cancellation ?</li> <li>Stereo audio ?</li> <li>Live performance audio BETA (recommended for multiple instruments or voic</li> </ul>	0

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.

Zoom Meeting	Zoom Meeting
<ul> <li>Original Sound for Musicians: Off</li> </ul>	Original Sound for Musicians: On

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