

# Why do expensive wireless headphones produce worse sound quality on Windows?

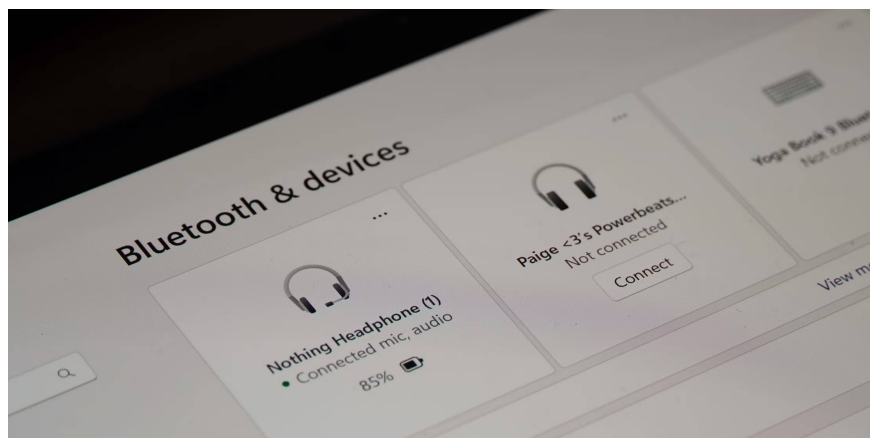
Wireless headphones are convenient for use on a variety of devices, including phones, tablets, or computers. However, you may find that the sound quality of the headphones varies depending on the device connected.

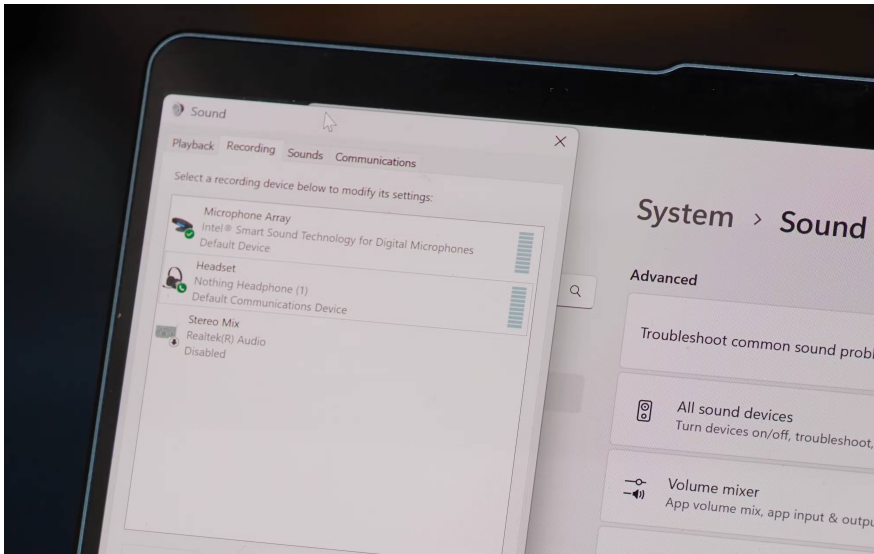
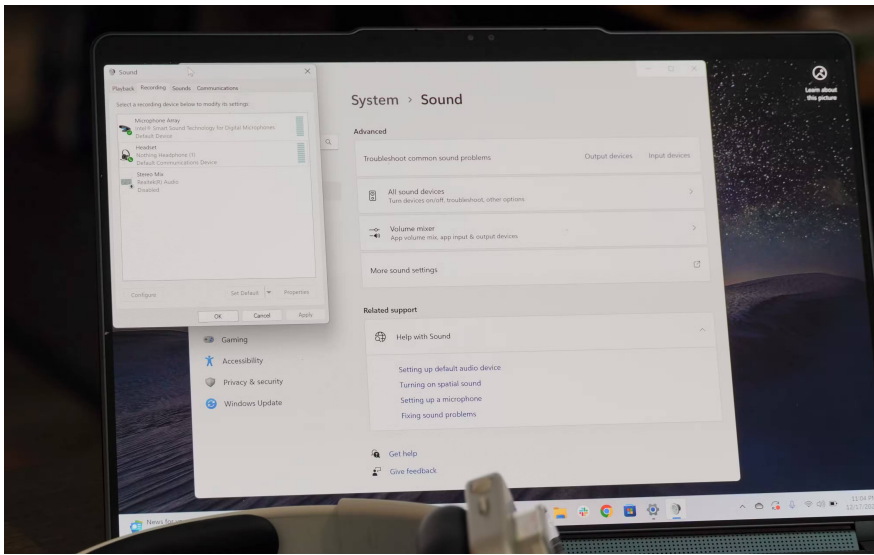
Wireless headphones are convenient for use on a variety of devices, including phones, tablets, or computers. However, you may find that the sound quality of your headphones varies depending on the device connected. Relying solely on a wireless connection between your headphones and a Windows computer can lead to surprisingly poor sound quality. If your wireless headphones sound worse on Windows than on other operating systems, you're not alone.

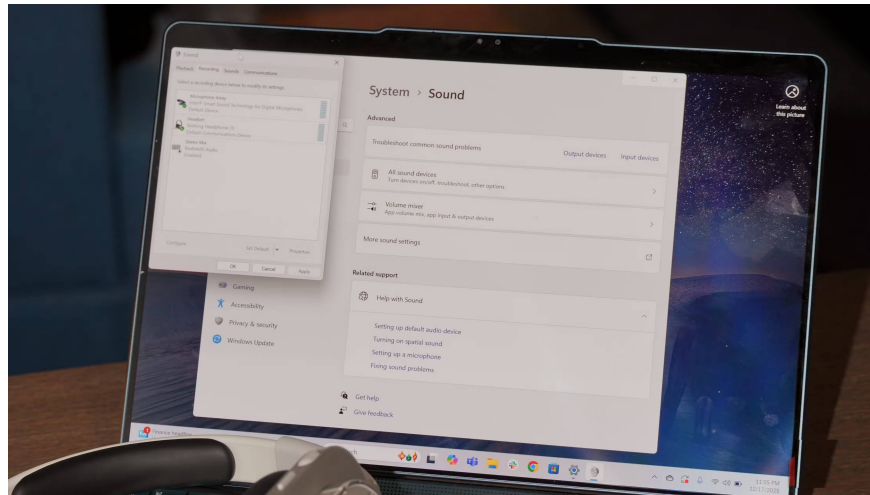
It's all due to the limitations of older Bluetooth standards . Older Bluetooth connections have bandwidth limitations, making it impossible to transmit both high-quality audio and microphone recording simultaneously. If your wireless headphones are mistaken for wired ones, their sound quality will immediately degrade. Fortunately, there are steps you can take now to ensure you get the best possible sound quality.

## Windows uses Bluetooth Classic Audio.

Returning to low-quality mono sound in some cases.







For most devices, Windows uses Bluetooth Classic Audio to connect to wireless headphones. Before Bluetooth LE Audio came along, Bluetooth Classic Audio was simply called Bluetooth. You've probably used it for years to connect wireless devices, as Bluetooth Classic Audio was developed over 20 years ago.

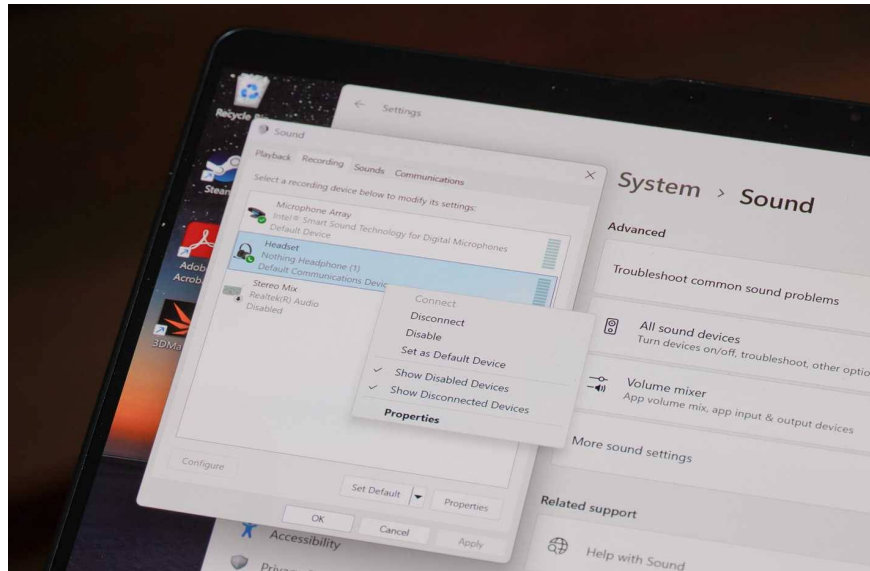
Bluetooth technology is so outdated that it inevitably has limitations. More importantly, Bluetooth Classic Audio uses a lot of data and energy to transmit audio. This means that the standard cannot transmit high-quality audio and record microphone input simultaneously. When used as a headset, Windows 11 uses the Hands-Free Profile (HFP) to operate, allowing for lower-quality audio playback and simultaneous recording.

Meanwhile, when Bluetooth headphones are connected to a Windows 11 PC solely for use as an audio output device, the Advanced Audio Distribution Profile (A2DP) will be enabled. The A2DP protocol supports stereo audio transmission with codecs such as SBC, AAC, or aptX. Any device that supports Bluetooth Classic Audio and A2DP must support SBC as the default audio codec, but hardware manufacturers may add support for codecs such as aptX Adaptive, LDAC, or LDHC.

When using the Hands-Free Profile, wireless headphones switch to low-quality mono audio. You'll only get one audio channel and lose support for high-quality Bluetooth codecs and spatial audio. In a support document, Microsoft itself revealed that when using HFP, "the audio quality is still closer to AM radio than the CD-quality audio that Bluetooth provides when not using a microphone."

## **Here are some things you can do to fix the problem!**

**Manually mute microphone inputs to enable better codecs.**



Windows 11 often has issues with wireless headphones because they typically include microphones, leading the operating system to mistakenly identify them as headphones. Of course, you might want to use wireless headphones as a headset for gaming or video calls. But if Windows 11 identifies your headphones as a headset when listening to music, you'll hear low-quality mono sound.

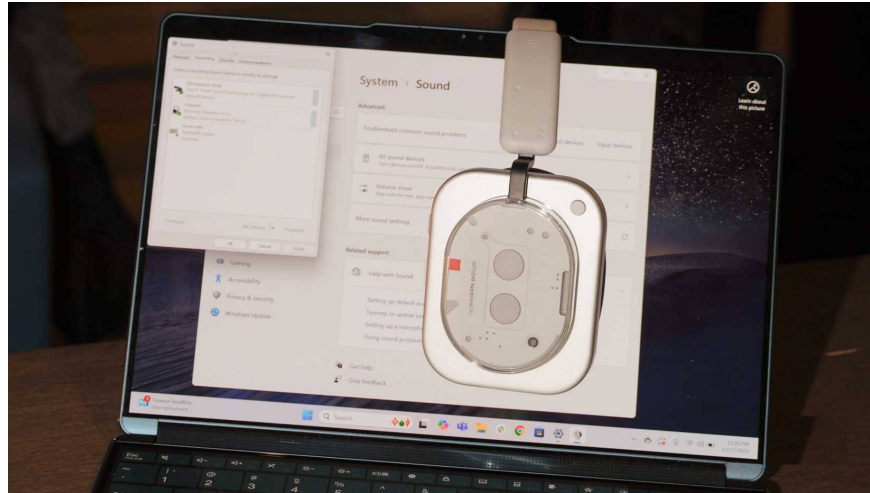
Without completely replacing Bluetooth Classic Audio, there's no perfect solution to how Windows handles wireless headphones. However, there are a few steps you can take. If you're experiencing this issue, you essentially need to force Windows 11 to ignore the headphones' built-in microphone.

To do this, open the Settings app, find the **System** tab -> **Sound**, and click **More sound settings**. From there, switch to the **Recording** tab in the small window that appears and select your wireless headphones. Right-click on the headphone name and click **Disable**. Wait for the headphones to reconnect or manually restart the power to complete the process. This will disable your wireless headphones as a recording device, forcing Windows 11 to use the higher-quality A2DP.

**Note** : Windows 11 often automatically reactivates wireless headphones as a recording device, so repeat these steps if you notice a decrease in sound quality.

## **How Microsoft fixed the problem.**

**Windows 11 currently uses Bluetooth LE Audio.**



For newer devices, Microsoft is fixing this long-standing Windows issue—which existed even before Windows 11—once and for all. Bluetooth LE Audio is an alternative to Classic Audio, leveraging Bluetooth Low Energy transceivers to provide more flexible new audio profiles with lower battery consumption. Instead of A2DP and HFP, Telephony and Media Profile (TMAP) handles high-quality music playback and voice recording simultaneously.

With TMAP enabled, Bluetooth LE Audio in Windows 11 can provide sampling rates up to 32kHz for simultaneous audio playback, allowing for microphone use. Therefore, Windows 11 users no longer need to worry about whether A2DP or HFP is enabled. There's only one condition: You need a computer, a pair of headphones, and a supported version of Windows 11 to use Bluetooth LE Audio.

You can check Microsoft's support documentation to find out if your computer supports Bluetooth LE Audio. Additionally, you should ensure your computer is updated (Windows 11 version 24H2 or later is required) and has the latest Bluetooth audio drivers from your computer manufacturer. Currently, not all Windows 11 computers or wireless headsets support Bluetooth LE Audio.

For some time to come, Windows users will still need to ensure their headphones aren't registered as having a microphone. However, Microsoft says it expects "most new laptops launching starting in late 2025 will have manufacturer support." The long-standing wireless audio issue in Windows may no longer be a major problem in the near future.

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