

Microsoft upgrades Windows 11 with Bluetooth LE Audio: Crisp sound, stereo microphone support

Microsoft announced a major upgrade to Windows 11 with Bluetooth LE Audio, bringing high-quality stereo sound, microphone support, reduced latency, and improved gaming, Teams calling, and spatial audio experiences.

Bluetooth audio quality has improved over time, to the point where most average users have trouble distinguishing between the sound coming from a wireless Bluetooth device and a wired headset. However, the technology is still limited and needs improvement. Microsoft says it is preparing to bring significant improvements to Bluetooth audio in upcoming releases of Windows 11.

The reason for the limited quality of Bluetooth audio is that Bluetooth Classic Audio currently only supports two protocols. The first is A2DP (Advanced Audio Distribution Profile) - which prioritizes sound quality but does not allow the use of a microphone. The second is HFP (Hands-Free Profile) - which allows the use of a microphone but sacrifices quality, supporting only low-fidelity mono audio. This means that the old technology cannot both provide high sound quality and keep the microphone active.

To address this, Microsoft announced that Windows 11 will support the new Bluetooth Low Energy (LE) Audio standard, which allows peripherals to play high-quality stereo audio while still using their microphones. This is a modern architecture that completely replaces A2DP and HFP, with better compression, supporting "super wideband" audio at a sampling rate of 32kHz for two-way calls - meaning the sound will no longer be "muffled". Meanwhile, the old wideband standard only reached 16kHz and was only one-way.

According to Microsoft, this will bring sharper audio experiences in games, clear dialogue on Teams, as well as better support for spatial audio. The company also said that it will cooperate with PC partners and Bluetooth Audio device manufacturers to widely popularize this technology.



To take advantage of Bluetooth LE Audio with super wideband for voice/voice, users will need to be running Windows 11 version 24H2 or later (not all LE Audio features require 24H2). PC and audio device manufacturers will also need to release driver updates supporting this standard in the near future.

Microsoft expects PCs released by the end of 2025 to have the technology built in. The company began testing Bluetooth LE on Insider builds earlier this year, but now we have more clarity on when it will be available.

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