



## Personalized Surround Sound Redefines PC Audio

The personal computer is at the center of the digital lifestyle. At home or on the go, consumers use their laptops to watch videos, listen to music, and even play games. That said, most PCs have lacked the ability to produce truly rich and dynamic audio—until now. The Dolby® PC Entertainment Experience v4 (PCEE v4) delivers high-quality surround sound that takes the laptop listening experience to the next level. A unique new suite of audio technologies, PCEE v4 gives consumers vibrant, enveloping sound as it has never before been heard on a PC.



## The Ultimate Surround Sound Listening Experience on a PC



People are increasingly using PCs to enjoy entertainment everywhere they go. Yet creating a high-quality audio experience on a PC presents many challenges.

To begin with, PCs receive media from a variety of sources, and as a result the quality and production of this content can differ greatly. Volume levels vary across content and applications, and dialogue is sometimes difficult to hear and understand. Also, a lot of content is only available in stereo. On top of that, laptop speakers are small and therefore often deliver audio that is unnatural, colored, and typically not loud enough. The speakers may even distort the audio if the volume is turned up.

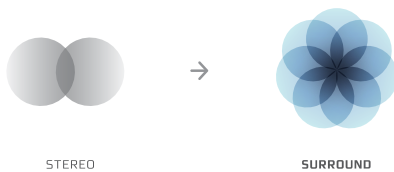
The Dolby PC Entertainment Experience v4 offers state-of-the-art audio tools to improve the quality of content and boost the capabilities of PC hardware. The result is vibrant, immersive surround sound consumers can enjoy through PC speakers, headphones, or even by connecting to a home theater system.

## Improving Content Quality from Any Source

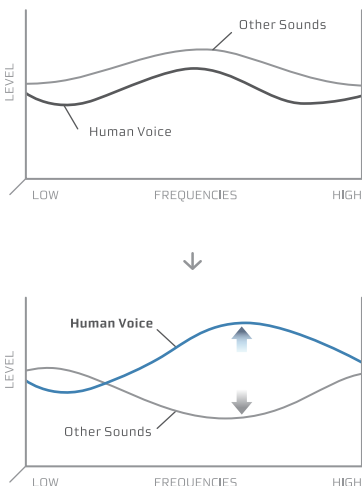
The quality of audio content on a PC varies depending on where the content is coming from. PCEE v4 optimizes every piece of audio—whether on a disc, downloaded, or streaming—to produce rich, cinematic surround sound.

### The Surround Sound Upgrade

To create an enveloping surround sound experience, PCEE v4 introduces the Surround Decoder, which adds depth and spaciousness to content from any source. The Surround Decoder converts stereo music or two-channel movies to 5.1 or 7.1 channels. Also, when connecting a PC to a 7.1 external speaker system, content that is already in 5.1 is upmixed to 7.1 channels for an additional layer of realism.

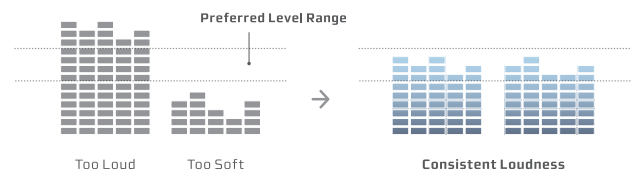


PCEE v4 also addresses the issue of when movie and video dialogue can't be heard clearly. The Dialogue Enhancer accentuates dialogue and specifically suppresses the sounds that interfere with the dialogue without disturbing the overall integrity of the original recording. Listeners can hear and understand everything from quiet conversations to excited calls-to-action in a crowded room.

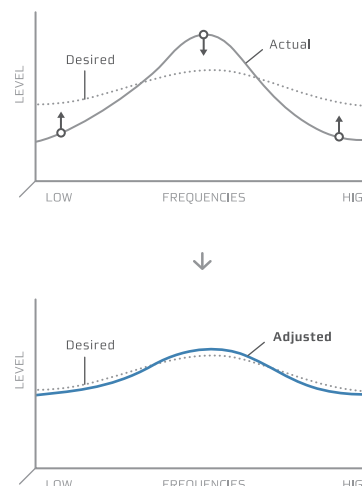


### Consistently Incredible Sound

The Volume Leveler allows listeners to set the volume at a level they're comfortable with. Then when they switch between applications or between content within the same application, the volume stays where they set it. For example, if the user switches from listening to music in iTunes® to watching a movie in Windows Media® Player to having a video conference call on Skype™, the volume doesn't jump up or down.



While the Volume Leveler provides consistency in loudness, the Intelligent Equalizer provides consistency in tone. A new concept in audio processing, the Intelligent Equalizer listens to the user's content and dynamically adjusts the audio to match the user's chosen presets. If a song or video already has the desired tone, the equalizer makes no adjustments.

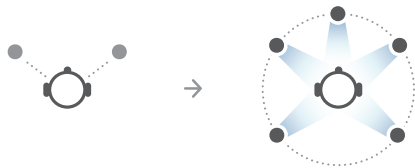


## Enhancing the PC Playback System

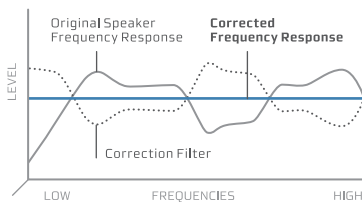
Each PC model equipped with PCEE v4 is custom tuned by Dolby professionals, so the speakers and the PC itself can produce clearer, more dynamic audio.

### Small Speakers. Big Sound.

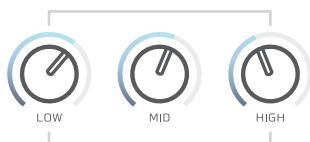
Existing surround sound signals, or ones generated by the PCEE v4 Surround Decoder, are rendered over a PC's built-in speakers or headphones. The Surround Virtualizer enhances those surround speaker channels, so audio sounds larger and more enveloping, as if it's coming from multiple directions.



The Audio Optimizer is a tuning process Dolby experts perform on each PC model to improve the frequency response of the PC's built-in speakers. This process results in natural, balanced audio with more bass and treble, for content that sounds truer to the way its creator meant it to be heard.

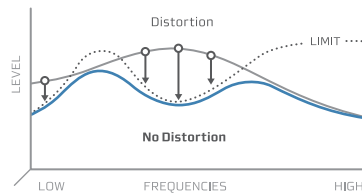


Unlike the static EQ settings found in many PC audio applications, the PCEE v4 Graphic Equalizer lets consumers tailor audio to their exact specifications. For example, the Graphic Equalizer can be adjusted to provide a fixed bass boost while listening over a small pair of earbud headphones lacking in bass reproduction.

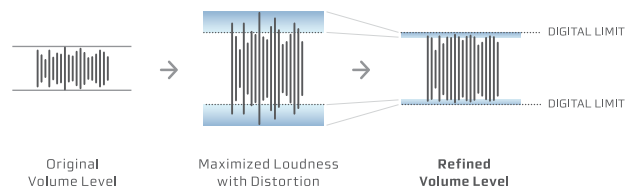


### More Volume. Less Noise.

The Audio Regulator eliminates noise that is caused by the combination of overdriven speakers and amplifiers and the chassis of the PC itself. By applying multiband compression, the Audio Regulator can maintain higher volume levels without causing distortion.

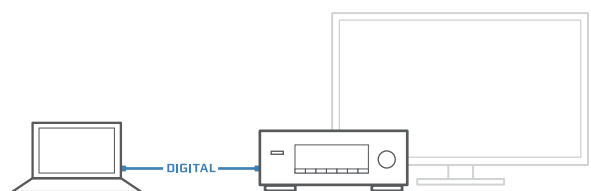


In addition, PCEE v4 delivers the volume that is so often lacking in PC playback. The Volume Maximizer boosts the audio signal so users can turn up the volume without causing noise or clipping. That way users can share music and videos with friends—or even just hear for themselves when they are in noisy places.



### Dolby Digital Output

For even bigger sound, consumers can use S/PDIF or HDMI® connections to plug their laptops into their home theater systems. The Surround Decoder in combination with Dolby Digital lets consumers enjoy a surround sound entertainment experience that fills the room.



## Highlights

- Enables users to enjoy videos, music, and games in Dolby surround sound through PC speakers or headphones
- Applies personalized music/movie EQ profiles for tailoring content playback to the user's exact specifications
- Maintains consistent volume playback levels for hassle-free listening
- Allows maximum volume output without distortion or clipping
- Ensures an optimal listening experience with customized tuning of each PC model
- Enhances dialogue for improved clarity and intelligibility
- Offers connectivity to home theater systems to create an authentic 5.1 surround sound experience

## PRODUCT COMPARISON CHART



			DOLBY HOME THEATER v4	DOLBY ADVANCED AUDIO v2
IMPROVING CONTENT	SURROUND DECODER	Creates a surround sound experience by converting two-channel stereo audio into 5.1 channels	•	•
	DIALOGUE ENHANCER	Allows users to hear and understand every word of dialogue	•	
	VOLUME LEVELER	Maintains the volume across all content and applications according to where the user set the volume level	•	•
	INTELLIGENT EQUALIZER	Monitors and adjusts audio to match the user's chosen preset	•	
ENHANCING PLAYBACK SYSTEM	SURROUND VIRTUALIZER FOR BUILT-IN SPEAKERS	Creates a virtualized surround sound experience of stereo or multichannel content over stereo speakers	•	•
	SURROUND VIRTUALIZER FOR HEADPHONES	Creates a virtualized surround sound experience of stereo or multichannel content over normal stereo headphones	•	
	VOLUME MAXIMIZER	Boosts the audio signal so users can turn up the volume without causing noise or clipping	•	•
	AUDIO OPTIMIZER	Improves the frequency response of the PC's built-in speakers so content sounds truer to the way its creator meant it to be heard	•	•
	AUDIO REGULATOR	Eliminates or reduces noise caused by the combination of overdriven speakers and amplifiers	•	•
	DOLBY DIGITAL OUTPUT	Converts all PC audio signals to Dolby Digital signals, allowing the PC to be connected to a home theater system	•	
	GRAPHIC EQUALIZER	Equalizer lets consumers tailor audio to their exact specifications using high-quality general filtering	•	•

## INTEGRATION

Easy to implement and integrate, the PCEE v4 set of audio tools gives users the quality and control they've always wanted from a laptop.

- Dolby brand links PCs to high-fidelity audio and provides competitive differentiation
- Simple implementation ensures smooth integration into PC platforms
- Customized audio solution ensures an enhanced PC audio experience for the consumer
- Advanced user interface gives consumers greater control over their PC audio

