



What is Dolby Volume?

Dolby® Volume is a sophisticated new technology that improves the TV listening experience by leveling the volume across all program content and sources, while also providing the listener with the same vibrant audio performance at all playback levels, loud or soft.

Does Dolby Volume do more than level volume?

Yes. Dolby Volume is actually composed of two powerful technologies that together provide the listener with a more consistent and satisfying listening experience.

First, Dolby Volume features a unique leveling solution. It continually measures the perceptual loudness of audio content and, using a powerful perceptual processing engine, dynamically applies multiband gain modifications so that the perceived loudness remains consistent. This allows audio from different television channels and different external sources, such as a DVD player or gaming console, to have the same perceived loudness level. It also keeps the perceived loudness constant throughout any given program.

In addition, Dolby Volume modifies the audio depending on both content and playback level to replicate the way it would sound at the reference playback levels used in cinemas and studios*. The result is improved imaging, intelligibility, and audibility of the low-level content at normal home listening levels, which are typically considerably lower than professional reference levels.

How is Dolby Volume different from conventional automatic gain control (AGC) or audio compressor technologies?

Typical AGC or audio compressor technologies monitor only an audio signal's amplitude level and not its perceived loudness, so they do not properly compensate for perceived differences between reference and actual playback levels. In other words, typical AGC and compressor technologies do not have anything like Dolby Volume's cognitive model.

In addition, typical technologies affect one or a small number of audio bands, dramatically fewer than the perceptual audio bands of human hearing. Because of their lack of sophistication, conventional solutions can introduce audible and annoying artifacts such as pumping and breathing. Dolby Volume, on the other hand, introduces no audible artifacts or side effects.

Can Dolby Volume be turned on and off by the user?

The technology that maintains reference-level performance at lower levels is intended for constant operation for ultimate audio quality. The volume leveling function is user selectable.

What is the processing latency?

The processing latency for Dolby Volume is dependent upon the block size for the algorithm: 16 ms for a 512 sample block and 32 ms for a 1,024 sample block.

When used with other audio postprocessors, where should Dolby Volume go in the chain?

Dolby Volume should follow other audio postprocessing functions such as a virtualizer or EQ.

Does Dolby Volume run on floating- or fixed-point architectures?

Dolby Volume runs on both architectures.

How many channels, sample rates, and bit depths does it support?

Dolby Volume can support any number of audio channels, all standard sample rates (32, 44.1, 48, 88.2, 96, 176.4, and 192 kHz), and bit depths of 16, 20, and 24.

How does it deal with bad/noisy signals?

Dolby Volume has been carefully designed to work with all audio signals.

What is the minimum number of bands to save on processing?

While 40 bands are preferred, 20 bands still provide an excellent listener experience.

How does the user control Dolby Volume?

We are providing guidelines for both remote controls and onscreen menus. The goal is for the user to switch Dolby Volume on or off with the touch of a button.

Do products with Dolby Volume require calibration, and if so, how is it performed?

For Dolby Volume to accurately maintain the same quality at the user's preferred level as reference playback level, reference level needs to be established in the user's room. Products such as television sets and home-theater-in-a-box systems that come with their own speakers can be precalibrated at the factory based on the performance of production prototypes. Products such as A/V receivers (AVRs) can be equipped with built-in default calibration settings based on typical speaker efficiencies, or easily calibrated by the user if the AVR incorporates an automated speaker balancing feature.

What audio input format does Dolby Volume handle?

Dolby Volume accepts PCM audio (after any other form of postprocessing).

Does Dolby Volume process content such as music, movies, or news shows differently?

Dolby Volume's powerful perceptual loudness engine and cognitive model continually monitor and automatically adapt to the audio signal regardless of content.

Does Dolby Volume need to know where the user has set the volume control?

Yes, the user's volume control setting, derived from the product's DSP or electronic volume control circuitry, is necessary for Dolby Volume to precisely maintain reference-level performance at the user level. As a result, with Dolby Volume, the volume control adjusts not only the level of the sound but also how it is perceived.

Does Dolby Volume affect the performance of virtualizer technologies?

No. Dolby Volume works well with virtualizer technologies.

** This feature is generally disabled for set-top box applications.*



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