

Volume Logic and Sound Check

Introduction

It is a music industry standard to adjust levels for songs of differing loudness. For example, when a professional CD is released a “mastering engineer” uses advanced dynamics processing techniques to make all the songs sound like they belong together. When releasing an album, audio engineers have the time to tweak all the songs so they sound great together.

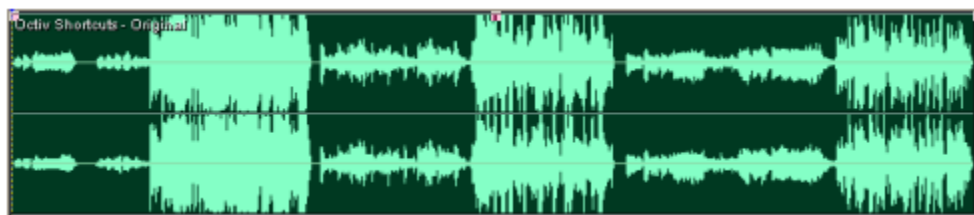
However, with a personal audio library that can play any song in any order on your desktop or portable device, there is the need for the same mastering process to adapt and work on the fly. Apple® has tried to fix this problem with Sound Check, available to iTunes users since Version 3.

According to Apple:

Sound Check is a feature introduced in iTunes 3 that allows you to hear all of your songs at approximately the same volume. You can turn Sound Check on and off in the Effects pane of iTunes preferences. When Sound Check is on, iTunes scans the songs in your library and computes characteristics of their playback volume. As new songs are added, iTunes computes this information in the background. This data is stored in either the "normalization information" ID3 tag or the iTunes Music Library database.¹

The trouble with the approach taken by Sound Check is that it tries to make one adjustment for the entire length of the song. What if the song changes in volume or has peaks and transients? These are not handled well by Sound Check and, in fact, cause undesirable clipping and distortion that detract from the listening experience.

Below are three sets of waveforms taken from a single set of six short cuts first played without any adjustment, the second using Apple Sound Check and the third using Octiv Volume Logic.



Original - 20dB Difference

¹ *<http://docs.info.apple.com/article.html?artnum=61655>



iTunes® Sound Check - 20dB Difference



Octiv Volume Logic - 4.5 dB Difference

The first stereo pair displays the original selections with a difference of about 20dB between the loudest song and the quietest song. The second stereo pair is after Sound Check has been applied. The difference is still about 20 dB although the total loudness for all the cuts has been reduced by about half. The last stereo pair has been “Octivated” using Volume Logic. The difference among songs is now about 4.5 dB, which is less than 2:1. Volume Logic preserves the impact and contrast of varying volume levels while eliminating the need to manually adjust the volume.

When there is time, it is great to have a “mastering engineer” who tweaks each collection of songs on an album to make all the tunes sound great together. However, with your personal audio library you need something automatic. Volume Logic does it for you – real-time digital remastering using the same tools and techniques as the pros.

None of your files are scanned or modified. This all takes place real-time using thousands of adjustments every second while the audio is sent to your speakers or headphones. The other advantage of this approach is that everything you listen to using iTunes is remastered to taste whether it is MP3s, AACs, Internet Radio, CDs or even while browsing for new tunes at the Apple iTunes Music Store.

NOTE: Volume Logic iTunes plug-in is available for Macintosh OS X. We recommend turning off the Sound Check feature in iTunes and relying solely on the Volume Logic plug-in.