Compliant Audio Should Still Move the Meters!

Regulations which aim to improve broadcast audio loudness consistency are being implemented worldwide. This is a perfect example of legislators everywhere reacting to an issue that affects all their constituents- broadcast channels with loudness variation that is annoying to viewers. Often attributed to commercials, it is often program-related as well.

This is a case where the old adage "be careful what you wish for, because you may receive it" definitely applies- in some cases the fix for annoying loudness variations has produced unintended consequences. In an effort to satisfy loudness regulations, some broadcasters have reduced audio dynamic range by an extreme amount. Worse yet, the loudness regulations in some regions are actually written to require that very thing. The result in both cases is compliant audio that doesn't sound very good.

This should never be the case!

Maintaining a consistent loudness level does not automatically imply the loss of audio dynamics. There are techniques and equipment settings that can achieve loudness consistency while maintaining appropriate dynamic range and audio quality. Over-processing should never be the result.

Ideally, loudness control begins when audio content is mixed- a skilled operator using a widely available ITU-R BS.1770 loudness meter can produce compliant content from the very start, and do so with artistic skill that automated systems cannot achieve. We often use the comparison of a loudness meter being like a speedometer: glance at it to gauge your relative speed, but don't stare and ignore the surrounding conditions. Content will then require little if any additional downstream processing.

Since there is no way to pre-configure a processor to work in every application, some basic settings need to be checked. Foremost is selecting a preset that matches both the goals of the broadcaster and the consistency of the content – start as light as possible, adjust from there. Using a loudness meter, often included in advanced processors, the output level must then be adjusted to ensure the loudness target is met.

When audio content contains level shifts and inappropriately wide dynamic range, heavier presets are necessary to enable the processor to control loudness variations and can result in unpleasant sounding side effects. Heavier presets result in audio that is denser, i.e. with less level variation and thus less dynamic range. Conversely, audio content that is as close as possible to the required loudness target and with a reasonable dynamic range will allow the lightest preset to be used. Both light and heavy presets can produce identical readings on a loudness meter, but our ears will be able to tell the difference. Leaving more of the original audio intact will result in compliant audio that also sounds good!

In summary, the most important point to remember is that despite any applicable loudness regulations, broadcasters need to make their viewers happy. Focusing solely on a non-varying loudness meter reading will not accomplish this.