



## 1 – Loudness is the audio level people ‘hear’

*Loudness refers to the perceived strength of a piece of audio (music, speech, sound effects ...) Amongst other things, loudness depends on the level, frequency, content and the duration of the audio.*

## 2 – Viewers and listeners complain about loudness jumps

*Viewers looking at television programmes with advertising breaks often get annoyed with having to turn down the level for every commercial break. Television commercials are infamous for their high compression and loud play-out.*

## 3 – Current peak audio meters do not reflect loudness

*Audio metering in broadcasting typically is based on peak metering (PPMs). Augmenting audio metering with a loudness meter is a step closer to the best measurement tool: the human ear.*

## 4 – Dynamic range has decreased dramatically because of the “loudness war”

*Peak metering has resulted in strong dynamic range processing to facilitate one broadcast element being louder than the competition. This leads to audience listener fatigue and overall lower audio quality. By introducing loudness normalisation, we might be able to counteract this.*

## 5 – Audio dynamics is a creative tool – honestly!

*Compression should only be used for artistic reasons (e.g. conquering too much level variation in a voice or giving ‘punch’ into musical instruments). Just wanting to ‘be the loudest’ takes the life out of the program. By moving to loudness metering and normalisation, audio production can use dynamics as a creative tool once again.*

## 6 – Loudness normalisation provides the solution

*We all recognise the problem and that the current situation must change. The basic solution is to change the metering paradigm in order to mix to a common loudness level.*



## 7 – A Loudness metering standard exists: it's called ITU-R BS.1770

*This ITU recommendation provides the basis for many new audio loudness meters. Broadcasters and manufacturers are already starting to work in this direction...*

## 8 – The EBU P/LOUD Group lends a hand

*The EBU P/LOUD Group's 100 (!) experts are helping fill in important details on how to measure loudness. The aim is to internationally harmonise the way we measure and produce audio.*

## 9 – Peace can be brought to the loudness war by changing the reference

*Loudness wars should not exist between broadcasters or programmes. The audience doesn't like it. Instead there should be competition on the content and general quality of the sound.*

## 10 – Loudness normalisation needs to be the standard in the whole broadcast chain

*The Loudness problem cannot be solved by broadcast stations alone. Loudness normalisation should be anchored in the workflow of production, play-out, distribution and playback to be successful. P/LOUD includes essential aspects of all parts of the chain in the upcoming EBU Loudness recommendation.*

*For more information, meet us at the meter (IBC '09 stand 10.D21) or visit: <http://tech.ebu.ch/loudness>*