



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

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

## 2 – Viewers and listeners complain about loudness jumps

*Viewers watching television programmes often get annoyed when the audio loudness jumps at every commercial break. Television commercials are unfortunately infamous for their high compression and loud play-out.*

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

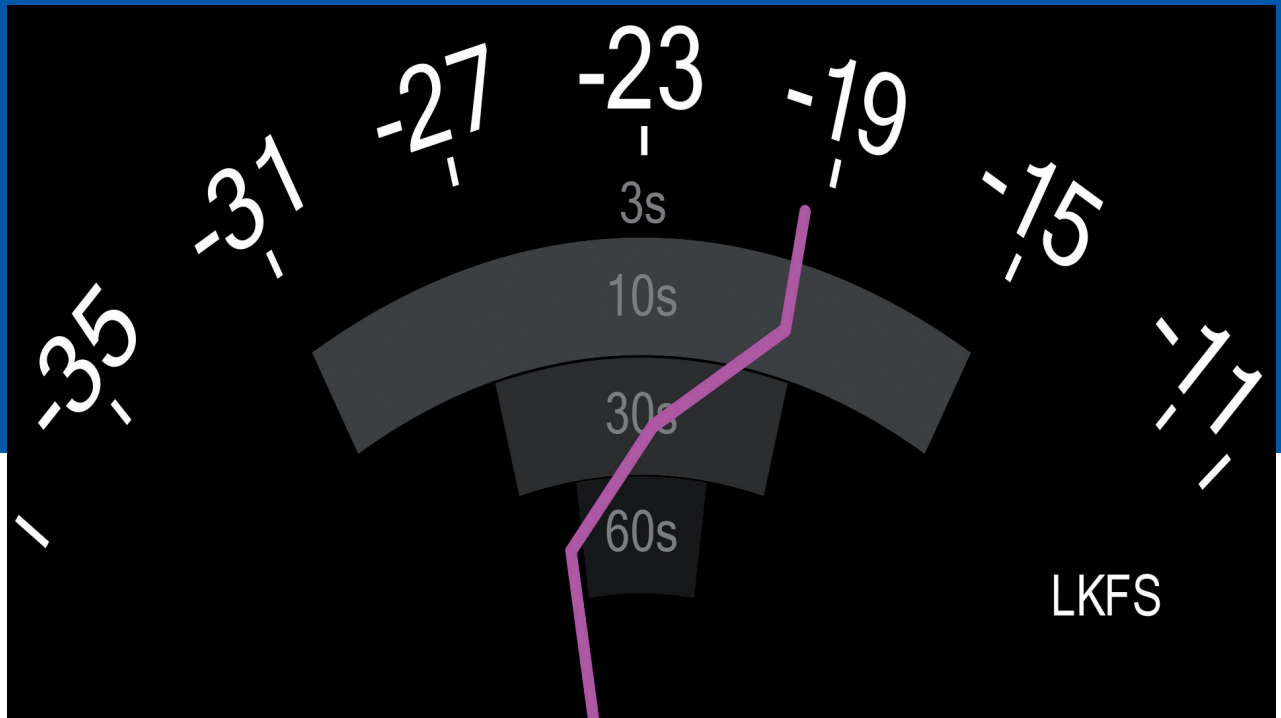
*Audio metering in broadcasting today is based typically on peak programme metering (PPMs). Improving audio metering with the addition of a loudness meter is a step closer to the best measurement tool: the human ear.*

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

*Peak metering has encouraged powerful dynamic range processing to make one broadcast element louder than the competition. This processing leads to audience listener fatigue and reduces audio quality overall. By introducing loudness normalisation, we believe we can counteract this.*

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

*Dynamic range compression should only be used for artistic reasons (e.g. conquering too much level variation in a voice or giving ‘punch’ to a musical instrument). Using compression just to ‘be the loudest’ takes the life out of the programme. By moving to loudness metering and normalisation, audio production can look forward to using dynamics as a creative tool once again.*



**6 – Peace can be brought to the loudness war by changing the reference**

*Loudness wars between broadcasters or programmes should be abolished. The audience doesn't like them. Competition should be on content and sound quality.*

**7 – Loudness normalisation provides the solution**

*All recognise the problem, and accept that the current situation must change. The solution is to change the metering paradigm and mix to a common loudness level.*

**8 – EBU PLOUD lends a hand**

*The EBU PLOUD Group (with over 160 participants including creative and technical experts) is currently completing its recommendations on the target loudness, the use of a loudness range indicator and practical guidelines for the use of loudness meters. The aim is to harmonise the way we produce and measure audio internationally.*

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

*The ITU-R BS.1770 recommendation provides the basis for the EBU's work. The meter manufacturers in the PLOUD Group have agreed to implement an 'EBU mode of the ITU recommendation' to make sure their meters' readings will be aligned.*

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

*The Loudness problem cannot be solved by broadcast stations and equipment manufacturers alone. Loudness normalisation should be anchored throughout the workflow of production, play-out, distribution and reproduction. To be successful PLOUD has considered the essential aspects of all parts of the chain in developing the EBU Loudness recommendations.*

*The PLOUD Group is part of the EBU Expert Community on Audio (ECA).  
For more information, visit: <http://tech.ebu.ch/loudness>*