Peaks		
Loudness		

Peak normalisation | **Loudness normalisation**

R128 Definitions	
Programme Loudness:	The integrated loudness over the duration of a programme -Programme Loudness Level is the value (in LUFS) of Programme Loudness
Loudness Range (LRA):	This describes the distribution of loudness within a programme
Maximum True Peak Level:	The maximum value of the audio signal waveform of a programme in the continuous time domain

R128 Recommendations:

- The measures 'Programme Loudness', 'Loudness Range' and 'Maximum True Peak Level' characterise an audio signal;

- The Programme Loudness Level shall be normalised to -23.0 LUFS;

- The tolerance is generally ±1.0 LU for live mixed programmes where an exact normalisation is not achievable practically;

- The measurement shall be done with a meter compliant with ITU-R BS.1770-2 and EBU Tech Doc 3341 ('EBU mode' – amongst other things summarising the gating method described in BS.1770-2);

- The measure Loudness Range shall be used to help decide if dynamic compression is needed (dependent on genre, target audience and transmission platform);

- The Maximum Permitted True Peak Level in production is -1 dBTP; To avoid any Intersample Peaks above 0 dBTP Output Limiters require a Look Ahead functionality with Look Ahead Values higher than attack times. Recommended settings are 5 ms Lookahead with 0 ms Attack time. the Maximum Permitted Short-term Loudness Level (measured in compliance with EBU Tech Doc 3341) should be −18.0 LUFS (+5.0 LU on the relative scale); Loudness Metadata shall be set to indicate -23 LUFS (for programmes that have been normalised to that level, as is recommended); loudness Metadata shall always indicate the correct value for programme loudness even if for any reason a programme may not be normalised to -23 LUFS.
  - To avoid any Intersample Peaks above 0 dBTP Output Limiters require a Look Ahead functionality with Look Ahead Values higher than attack times. Recommended settings are 5 ms Lookahead with 0 ms Attack time.

- The Maximum Permitted Short-term Loudness Level (measured in compliance with EBU Tech Doc 3341) should be −18.0 LUFS (+5.0 LU on the relative scale);

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