

EBU

OPERATING EUROVISION AND EURORADIO

R 128 s1

LOUDNESS PARAMETERS FOR SHORT-FORM CONTENT (ADVERTS, PROMOS ETC.)



SUPPLEMENT 1 TO EBU R 128

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Loudness Parameters for Short-form Content (advertisements, promos etc.)

<i>EBU Committee</i>	<i>First Issued</i>	<i>Revised</i>	<i>Re-issued</i>
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Keywords: Audio levels, loudness, normalisation, EBU R 128.

After the introduction of recommendation **R 128** [1], the EBU has studied the practical adoption and its consequences. Especially for short-form content such as advertisements (commercials) and promos (as well as interstitials etc.) there is a need to give guidance using the parameter **Maximum Short-term Loudness** in addition to the basic parameters **Programme Loudness** and **Maximum True Peak Level**.

In compliance with R 128, the EBU recommends the measurement of the average loudness of a short-form programme (*‘Programme Loudness’*) for the normalisation of such audio signals. The measure *‘Maximum Short-term Loudness’* should be used to further characterise and control the audio signal and so avoid overly dynamic short-form programmes, which would lead to audience complaints. The *‘Maximum True Peak Level’* of an audio signal should be used to check compliance with the upper technical limit of the signal chain.

The measure *‘Loudness Range’* is not useful for Short-form Content. It is based on a statistical analysis of the Short-term (3 s) Loudness values. Too few of these data points can be generated for commercials, promos, etc. for a meaningful statistical analysis. Therefore, a maximum and/or minimum value for Loudness Range shall not be specified for programmes of this length/genre.

The EBU recommends (see Summary):

- a) that the measures **Programme Loudness**, **Maximum Short-term Loudness** and **Maximum True Peak Level** shall be used to characterise the audio signal of Short-form Content;
- b) that the **Programme Loudness Level** shall be normalised to a **Target Level of -23.0 LUFS**. For the implementation of Loudness Levelling workflows (for example, in Quality Control environments) a tolerance of **±0.2 LU** is allowed, to take account of measurement errors;
- c) that in special cases the Programme Loudness Level may be normalised to a Target Level lower than -23.0 LUFS on purpose. This exception shall be clearly indicated to ensure that such a lower Programme Loudness Level is not compensated;
- d) that the **Short-term Loudness Level** (measured in compliance with EBU Tech 3341 [2]) should not exceed **-18.0 LUFS** (+5.0 LU on the relative scale). For the implementation of Loudness Levelling workflows (for example, in Quality Control environments) a tolerance of **+0.2 LU** is allowed, to take account of measurement errors;
- e) that the measurements shall be made with a loudness meter compliant with ITU-R BS.1770 [3] and EBU Tech 3341;
- f) that the audio signal shall generally be measured in its **entirety**, without emphasis on specific foreground elements such as speech, music or sound effects;
- g) and that the **True Peak Level** of the programme shall not exceed **-1 dBTP** (dB True Peak)

for linear audio, measured with a meter compliant with ITU-R BS.1770 and EBU Tech 3341. The measurement tolerance is ± 0.3 dB (for signals with a bandwidth limited to 20 kHz). EBU Tech 3344 [4] should be consulted for Maximum Permitted True Peak Levels for different distribution systems.

Summary – Loudness Parameters for Short-form Content (adverts; promos, etc.):

Programme Loudness	-23.0 LUFS
Maximum Short-term Loudness	-18.0 LUFS (+5.0 LU on the relative scale)
Maximum True Peak Level	-1 dBTP
Loudness Range	(not applicable)

Definitions:

- Programme:** An individual, self-contained audio-visual or audio-only item to be presented in Radio, Television or other electronic media.
An advertisement (commercial), trailer, promotional item ('promo'), interstitial or similar item (see "Short-form Content") is also considered to be a programme in this context;
- Short-form Content:** A programme of short duration (typically shorter than 30 seconds but up to approximately 2 minutes). In addition to advertisements (commercials) and promotional items, interstitials, stingers, bumpers and similar very short items also belong to this category;
- Programme Loudness:** The integrated loudness over the duration of a programme - Programme Loudness Level is the value (in LUFS) of Programme Loudness;
- Maximum True Peak Level:** The maximum value of the audio signal waveform of a programme in the continuous time domain.

References

- [1] [EBU R 128](#) 'Loudness normalisation and permitted maximum level of audio signals'
- [2] [EBU Tech 3341](#) 'Loudness Metering: 'EBU Mode' metering to supplement loudness normalisation in accordance with EBU R 128'
- [3] [ITU-R BS.1770](#) 'Algorithms to measure audio programme loudness and true-peak audio level'
- [4] [EBU Tech 3344](#) 'Guidelines for Distribution and Reproduction of Programmes in accordance with EBU R 128'