



## Frequently Asked Questions about Final Check Metering

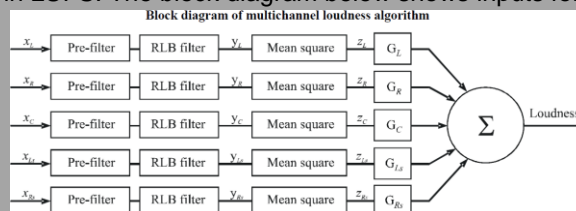
### What are Loudness and EBU-R128 ?

More and more, loudness is becoming the standard for transmission ready mixes for TV and is a requirement now in most territories to conform to a LUFS level.

EBU-R128 is the new recommendation of the EBU (European Broadcasting Union) about Peak and Loudness normalization. It specifies the requirements for program loudness and true-peak level.

### What is the Loudness Algorithm ?

The goal of the loudness measurement is to give a numerical expression of the overall loudness that the listener feels. It is expressed in LUFS. The block diagram below shows inputs for five main channels.



The pre-filtering accounts for the acoustic effects of the head. The RLB-filter is a LEQ (Loudness equivalent) frequency-weighting curve that delivers much more precise results than previous LEQ-curves. The G-factors account for different weighting of different channels.

### What is LUFS ?

Loudness Unit Full Scale is the unit used for Loudness measurement. To match the EBU recommendation, a mix shall have an overall Loudness of -23 LUFS. This unit is dB-like, in the sense that a variation of 1 dB in a mix will produce a variation of 1 LUFS in its loudness as well.

For calibration : a full scale sine wave on one non-surround channel shall read -3.01 LUFS.

### Does it support LKFS ?

Yes. LKFS (Loudness K-Weighting Full Scale) is the old name for the Loudness unit, which is now called LUFS instead, as recommended by the EBU. These two units are strictly the same, though.

### Does it support Dolby Dialnorm™ and Dolby AC3?

Yes. LUFS are the same unit as Dolby Dialnorm™ unit, and you will therefore get the same results as long as Dolby's automatic speech detection is disabled.

### Does it support LEQ(A) ?

No. With the new Loudness algorithm described above, old-fashioned LEQ-curves are now widely obsolete, and are therefore not included in this plugin.

### What is a true Peak Detector?

Unlike traditional digital peak detectors that merely check if the input samples are close to digital full scale, a true peak detector first performs an oversampling operation. This means that it is able to detect peaks that would occur between samples, possibly with an amplitude larger than 0dBFS (which traditional digital peak detectors cannot detect). With heavily compressed audio material it is not uncommon for a true peak detector to show values up to +3 dBFS (or even worse) while a standard digital peak detector would only show +0 dBFS.