

AccessiblePeakMeter3 Audio Plugin

by Queen Mary University of London/TBProAudio

Peak level meters, along with other components which rely on the sense of sight for their use, are **inherently inaccessible** to people living **visual impairments**. Our [AccessiblePeakMeter](#) is the first plug-in which makes these **previously inaccessible meters completely accessible**. It uses **real-time sonification** to deliver information to the user about audio levels and peaks in audio signals, and so supports core activities in audio production.

AccessiblePeakMeter3 is an enhancement of [AccessiblePeakMeter](#) and adds RMS, EBU R128, VU, PPM., DialNorm and DR metering.



The AccessiblePeakMeter3 comes as a **VST2/VST3, AU, AAX and RTAS plug-in**, the main industry standards for the deployment of digital audio effects into professional DAWs (e.g. Cakewalk Sonar, Cockos Reaper, Ableton Live). The plug-in can be run on both Windows (32/64) and Mac platforms and it is [free for download!](#)

WHY IT IS NEEDED

Digital Audio Workstations (DAWs) are computer programs used by professional audio producers to record and edit digital audio. Many audio production tasks now heavily rely on the visual feedback that DAWs display on the computer screen in the form of graphs, colors, blinks, and so on. This makes them very difficult, often impossible to use by users with visual impairments.

Monitoring audio levels is a key task for audio production and is nowadays carried out using **computer based level meters** - gauges that display audio levels in real time, and possibly blink when the audio reaches critical levels that cause the sound to distort (called clipping). Monitoring audio levels plays an **essential role** when recording new audio material or during the mixing and mastering phase of audio post-editing, for example.

ABOUT

AccessiblePeakMeter3 is based on AccessiblePeakMeter and is an audio plug-in that makes (peak) level meters accessible to visually impaired people.

It uses real-time sonification to deliver information to the user about audio levels and peaks in audio signals, and so supports core activities in audio production.

AccessiblePeakMeter was developed in 2014/2015 at Queen Mary University of London as part of the Design Patterns for Inclusive Collaboration research project (<http://depic.eecs.qmul.ac.uk>).

More information about the plug-in can be found at <http://depic.eecs.qmul.ac.uk/apm>

Compilation for the plugin formats VST2/VST3/AAX/RTAS for Win and Mac and loudness meter extension done by TBProAudio, <https://www.tb-software.com/>

USAGE

The plug-in comes with the following tweakable parameters:

1. **Sonification Type:** to switch between [continuous mode](#), [clipping mode](#) and clip tone mode. “Clip tone” sonificates as soon level is above threshold.
2. **Dry:** controls the level of the input audio, namely the audio content you want to analyze;
3. **Wet:** controls the level of the sonification;
4. **Tone:** controls height of the sonification tone in clip tone mode;
5. **Threshold:** sets the threshold for the [clipping mode](#), it has no effect on the continuous mode
6. **Decay:** this only affects the [continuous mode](#) sonification. The value ranges from 1 second down to 0.05 seconds. This is the time the meter would take to decay from 0 db to -inf after an impulse. These numbers don't give a real feeling of how the sonification will sound - it is easier to think that when set to 0.05 the sonification will stop pretty immediately when you stop the audio; whereas if the value is set to 1, it will take longer to decay. In general, though, the latter sounds cleaner and normally the audio level doesn't go all the way down to silence, as during the decay it encounters other peaks that bring it back up. So it's up to you to find the right trade off.
7. **DAW sync:** if set to “on”, meter reset is synced with DAW start playing. Only applicable for program loudness modes like RMS/EBU/DialNorm IL and PLR
8. **Meter Mode:** sets the meter modes. Please to note that all meter modes are calibrated to 0 dBFS, 0 dBTP, 0 LUFS, 0LKFS, 0 VUFS and 0 PPMFS
 1. **Peak:** same as AccessiblePeakMeter, dBFS
 2. **TruePeak:** based on ITU BS1770.4, dBTP
 3. **VU:** peak meter, 300ms integration time, VUFS
 4. **PPM:** peak meter, target, PPMFS
 5. **RMS:** 600ms integration time, AES-17, dBFS
 6. **EBU:** EBU R128, target level -23 LUFS, LUFS
 7. **DialNorm:** gated, target level -24 LKFS, LKFS
 8. **DR:** PLR/PSR, dB

Note to DR values: In order to keep the plugin simple and consistent DR values are presented as negative values. So -6.0 means DR of +6.0 dB.

The AccessiblePeakMeter3 provides access to the parameters by exposing them to inspectors - such as ReaAccess plug-in or the Cakewalk Sonar inspector - in a clear and well formatted way.