



VU Meter

User Guide



Waves VU Meter

User Guide

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Welcome

Thank you for choosing Waves! In order to get the most out of your VU Meter plugin, please take some time to read this user guide. We also suggest that you become familiar with Waves Support at www.waves.com/support. There you will find an extensive answer base, the latest tech specs, detailed installation guides, new software updates, and current information on licensing and registration.

Sign up at the support site and you will receive personalized information about your registered products, reminders when updates are available, and information on your authorization status.

Chapter 1 Introduction

VU meters have been around since the 1930s, and their specifications have gone largely unchanged for decades. They're still found in mixing consoles, analog recorders, playback machines, and certain outboard gear. VU meters are the cornerstone of analog level monitoring.

As audio production began its passage from analog to digital in the 1980s, engineers became increasingly concerned with peak level: the amount signal that can be squeezed into a digital word. Full-scale peak meters took on a huge role in the mix room and in mastering. They became indispensable tools for keeping track of the highest peaks in a signal, with



one-sample accuracy. After all, if a signal surpasses 0 dBFS, there's a good chance that trouble will follow. Full-scale meters are very fast and they typically have peak and clip indicators that present this ever-changing data in a way that makes sense. What more could you need?

The very characteristics that make a full-scale peak meter so attractive (e.g., speed of response and focus on the very loudest moments) don't necessarily provide all of the information you need when you're recording or mixing. This is where VU meters come in to play. A VU meter is slow by design, as is human hearing, which behaves more like a VU meter than a peak-level meter. A VU meter's relatively slow attack (300 ms from infinity to 0 dB VU) averages out many of the short peaks, resulting in a more real-world expression of dynamics. Of course, you need to know just how loud the signal is. That's why a VU meter needs to be calibrated to your digital reference level. If you know, for example, that a -20 dBFS test signal is displayed as 0 dB VU on the meter, then you have 20 dB of headroom. This is how much room you have to play with.

DAWs normally assign first-priority processing to audio-related tasks (e.g. plugins and mix busses) and give graphics updates a lower priority. While this is obviously sensible, it can render ever-changing graphics, such as meters, jumpy and are hard to read accurately. Waves has developed a way to assign the VU meter's graphics a high priority. This results in a high refresh rate so that needle movement accurately reproduces the action of an analog VU meter.

VU meters remain popular with engineers because they make sense. You measure what you care about rather than endless peaks. This gives you a more realistic understanding of the dynamics of your mix. Trust your VU meters and your levels will be comfortable—and there will be ample headroom which makes for better mastering. This doesn't mean that you can forgo full-scale metering; you still have to avoid clips. For that, you need peak meters. But try a mix with only VU meters and you'll likely experience a new, intuitive relationship with the dynamics of your mix.



Chapter 2 Components

Waves VU Meter has two components:



VU Meter Mono Component



VU Meter Stereo Component



Chapter 3 Controls and Displays

Display Size

Reference Adjustment

Graphic Delay Adjustment



Clip Indicator

dB Scale

VU Scale



Display Size (Stereo Component)

There are three display sizes: small, medium, and large. Click on the button to select a view size.

Headroom Adjustment

This calibrates the VU meter to the DAW's reference level. When Headroom is set to "18," then a -18 dBFS reference tone will equal 0 dB VU on the meter. Therefore, there will be 18 dB of headroom between 0 dB VU and digital clipping. Raise or lower the Headroom setting by clicking and sliding vertically over the small up/down arrows. You can also double-click on the current value to directly enter a headroom setting.

Range: 4 dB–26 dB

Default: 18 dB

Graphic Display Adjustment

Meter activity can be delayed so that meters on different busses will appear time-aligned, even if those busses exhibit different latencies.

Range: 0 ms–1000 ms

Default: 0 ms

Clip Indicator

This LED lights up when the signal reaches -0.009 dBFS.

Click on the LED to clear.



Meter Scales

VU Meter displays two measurement scales.



The **top** scale refers to **dB units**, with 0 dB representing the signal's reference level (when Reference Adjustment is set correctly).

The **bottom** scale is gauged in **Volume Units**: the percentage of power of the signal.

