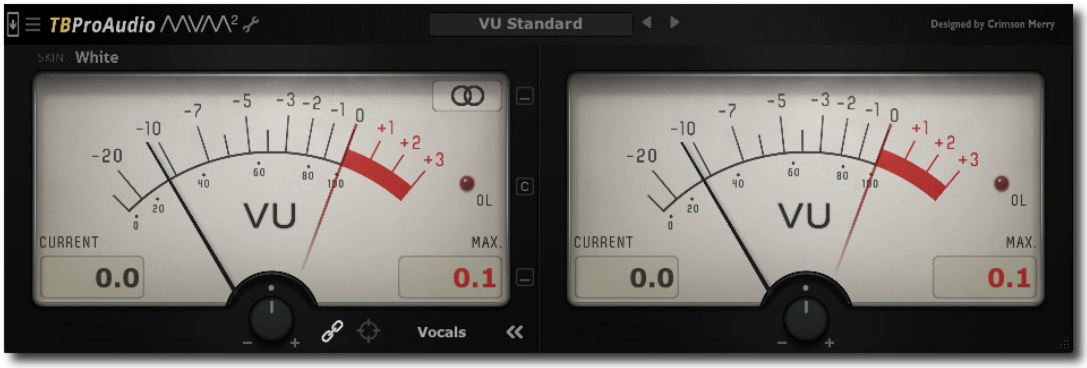
mvMeter2

Manual



TBProAudio 2022

1 Introduction

Welcome to mvMeter2, a multivariable meter including RMS, EBUR128, VU and PPM measurement.

2 Features

mvMeter2 offers following features:

- behavior of classic analog VU and PPM meters
- multiple measurement modes: PEAK, RMS, EBU R128, VU and PPM
- multi channel metering: stereo, left, right, mid, side
- single and dual meter display
- adjustable reference level
- adjustable meter delay
- adjustable meter hold
- adjustable OL level
- preset management
- adjustable pre-gain, gain matching
- instance label
- large and accurate live meters
- 64-bit internal processing
- 5 different meter themes
- Free GUI scaling up 400%, ready for 4k displays

3 Design

mvMeter2 combines multiple meters into one plugin framed by a classic VU/PPM meter design:

- RMS: 600ms integration time
- RMS+3dB: 600ms integration time, +3dB compensation according to AES-17
- EBU R128-2014: ML and SL loudness measurement
- Classic VU meter with dB and VU scale
- Classic PPM Meter with BBC and EBU scale
- Hold needle
- Current and max value readout
- Overload LED

4 Minimum System Requirements

- Windows 7, OpenGL 2 GFX card
- Mac OS X 10.11, Metal GFX card
- SSE2 CPU
- Win: 32/64 Bit VST, 32/64 Bit VST3, 32/64 Bit AAX
- OS X: 64 Bit VST, 64 Bit VST3, 64 Bit AU, 64 Bit AAX
- Tested with: Cockos Reaper, Steinberg Cubase/Nuendo/Wavelab 6+, FL Studio 12+, PT2018+, Reason 9.5+, Studio One, Ableton Live
- For latest information please visit www.tbproaudio.de

5 Features

Preset menu: click to enter the preset menu, displays current preset and click to select previous or next preset.

Plugin menu: Get more information about the plugin, online version check, open the online manual, change log and fixed GUI scaling

Config page: meter settings

Theme Selector: White, Classic, Dark, Retro or Deluxe

Channel Selector: click to select the channel mode.
Single meter display: stereo, left, right, mid and side channel.
Dual meter display: left/right, and mid/side channel.

Note for single meter display (stereo channel mode):
Meter modes RMS, RMS +3, VU and PPM: channels are averaged.
Meter modes Peak: channel max.
Meter modes EBU ML, EBU SL: channels are summed (as described in EBUR128 spec)

Current Meter Value: readout of current meter value

Max. Meter Value: readout of max. meter value, click to reset value,

Meter Modes:
Peak:
RMS: 600ms integration time, -20/+3 scale
RMS+3dB: 600ms integration time, +3dB compensation according to AES-17, -20/+3 scale
EBU R128: ML and SL loudness measurement, -20/+3 scale
Classic VU meter with dB and VU scale
Classic PPM Meter with BBC and EBU scale

Pre-Gain: depending on the Channel Selector it controls the volume of the channel, click with right mouse button for numerical input. Double click resets value.

Gain Link: (dual screen only) sets both gain knobs together

Gain Match: matches the max. value with the reference value of corresponding meter mode by adjusting the pre gain value automatically.
single needle mode: pre-gain is calculated based on the max. value
dual needle mode: pre-gain is calculated based on the highest max. value of both channels and set to both pre-gain controls

Instance Label: click on the label to change the name of the plug-in instance.

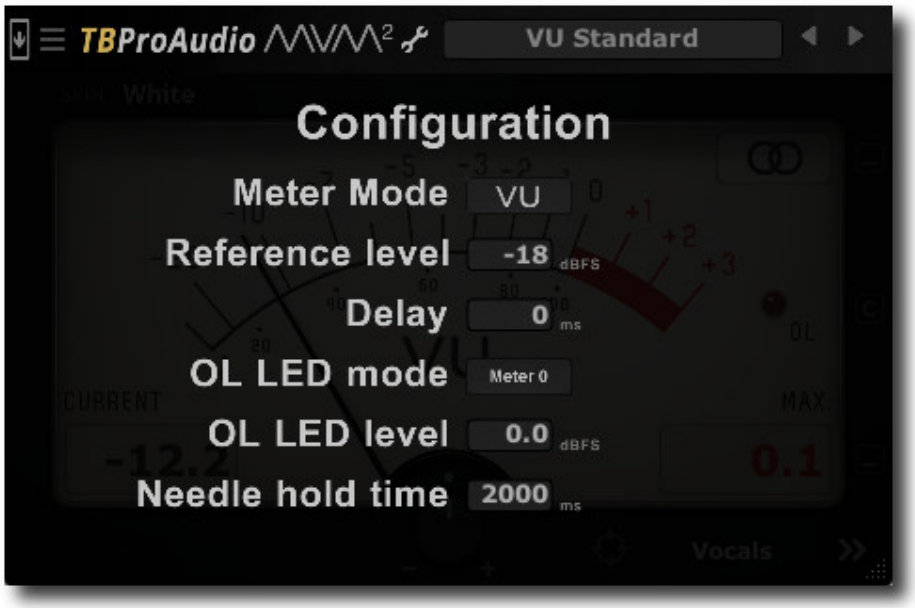
Needle Mode: click to change the function of red needle, off, current or max. value.

Hide/Show GUI Elements: click to show/hide different controls like GUI scale, FPS, channel mode, current/max readouts, gain link/gain match button.

Single/Dual meter display: enables either single or dual meter display.

GUI Scale: mouse click and drag the bottom right scale icon.

Configuration page:



Meter Modes: peak, RMS, RMS+3, EBU, VU, PPM
Reference. Level: sets the reference level in dB(FS) for the current meter mode. E.g. reference level for classic VU meter is -18dbFS
Delay: delays the meter activity so it is time-synced with other busses with different latencies.
OL (overload) LED mode: meter 0 = if needle is above meter zero or digital peak = if above OL LED level (in dBFS)
OL (overload) LED level: LED lights if digital signal level is above value
Needle hold time: determines how long current meter value is held

Presets:

Preset specification

(dbFS)	-43	-40	-38	-34	-32	-30	-20	-18	-17	-15	-11	-9	-6	0	1	2	3
Peak							-20	-18									+3
RMS-20		-20						+2	+3								
RMS-14				-20				-4			+3						
RMS-12					-20			-6				+3					
EBUR128 ML	-20						+3	+5									
EBUR128 SL	-20						+3	+5									
VU Standard			-20					0		+3							
PPM (IIa - BBC)						1		4					7				
RMS Standard							-23	-21									0
RMS +3dB (AES-17)							-20	-18									3

Readout values for 1kHz sinus -18dBFS Peak

Meter Mode	Reference Level dBFS
Peak	0
RMS +3dB	-20
RMS +3dB	-14
RMS +3dB	-12
EBU ML	-23
EBU SL	-23
VU	-18
PPM	-18
RMS	0
RMS +3dB	0

6 Conclusion

So finally if you have any questions or suggestions just let us know. Enjoy our audio tools and visit us here: www.tbproaudio.de.

Your team from TBProAudio :-)