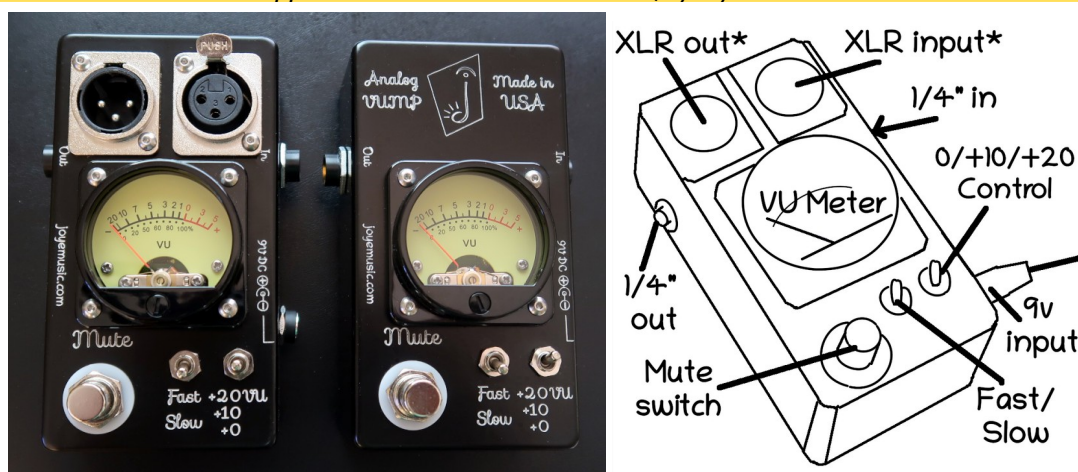


Analog-Voltage Unit Meter Pedal Analog-VUMP, XLR + 1/4", Level Pot

By JoyeMusic.com

Applies to Serial Numbers 005-xxx, 7/15/2023



- Quickstart -

- ◆ Use a **9VDC**, center-negative, 5.5mm plug.
- ◆ **Meter:** Meter read in Voltage Units (VU) from -20VU to +5VU.
- ◆ **XLR In/Out (OPTIONAL):** These are wired "through" so the "in" and "out" designation does not matter.
- ◆ **1/4" input** (Stereo or Mono): The 1/4" jacks should not be used at the same time with the XLR plugs, as doing so could upset the XLR balance. The meters reads only the Left channel (1/4" jack tip), or Pin 2 of the XLR jack.
- ◆ **0/+10VU/+20VU reference level switch:** Adds +10dB or +20dB to your signal level so you can view your signal level in a comfortable range with a typical guitar signal, which is about -20VU.
- ◆ **Fast/Slow response switch:** Change the speed of the meter response. Fast is better for transients, slow is better for gauging the overall loudness.
- ◆ **Mute Switch:** Mutes and Unmutes your signal to the output. The meter will read signal whether muted or unmuted.

WARNINGS:

- > This product contains chemicals known in the state of California to cause cancer and birth defects or other reproductive harm. For more information: www.P65Warnings.ca.gov
- > Opening the device may expose one to hazards such as electrical shock, allergens, toxic materials, and the like.
- > This device is not a toy for children.
- > Do not submerge or allow liquids to enter the device. Liquid ingress voids the warranty.
- > Do not expose to temperature extremes. Temperature may affect the calibration or operation.
- > Clean with a dry or damp cloth only.

INTRODUCTION

The Voltage Unit Meter Pedal ("VUMP") is a guitar pedal-style level indication meter. This unit reads out signal level in the traditional "Voltage Unit" (VU) scale, which is similar to a decibel (dB) scale, but pegged to a reference value of 0 VU=1.23VRMS. Since sound levels span many decades of pressure intensity, it is convenient to express the level in the logarithmic dB scale. An increase of 6 dB sounds about twice as loud as the reference sound level.

The intended use for this device is to be the last "pedal" in a chain of pedals connected to an electronic instrument such as an electric guitar or bass guitar, or microphone. It provides a convenient, local measure of your signal level just before going to the amp or a sound board. You can also precisely equalize the volume settings of your pedals using this device.

This pedal is internally calibrated so that it reads in true VU (0 VU = 1.23 volts RMS). Decibel levels can be calculated as follows:

$$dB = 20 \log_{10} \frac{V}{V_0}$$

where V is the signal level in volts RMS. And V₀ is the reference voltage level in volts RMS. For example,

- if V₀ = 1 VRMS, and V = 2 VRMS, then the signal is **+6 dB**.
- if V₀ = 1 VRMS, and V = 0.1 VRMS, then the signal is **-20 dB**.
- if V₀ = 0.1 VRMS, and V = 0.1 VRMS, then the signal is **0.0 dB**.

The Analog-VUMP also features fast- or slow-metering modes (accessible via front panel switch). The Fast response is more useful to monitor the peak signal level in order to avoid clipping, while slow metering gauges the subjective loudness level.

OPERATING INSTRUCTIONS

Referring to the figures at right:

◆ Plug the source (guitar or pedal board output) into the “IN” XLR jack (typically Female; if supplied) on the top right of the Analog-VUMP. See diagram at right for recommended configuration. Plug the amplifier or soundboard into the other “OUT” jack (typically Male). NOTE: The Analog-VUMP requires a line-level signal (0.01-1VRMS) in order to cause movement on the meter needle. A passive dynamic microphone is not enough signal to move the meter appreciably.

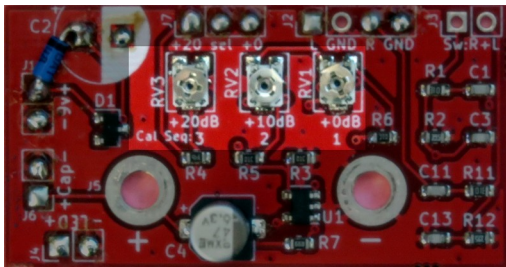
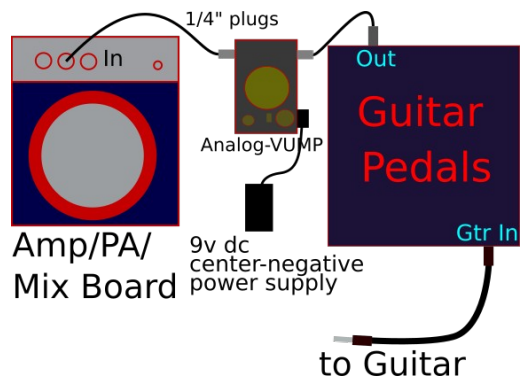
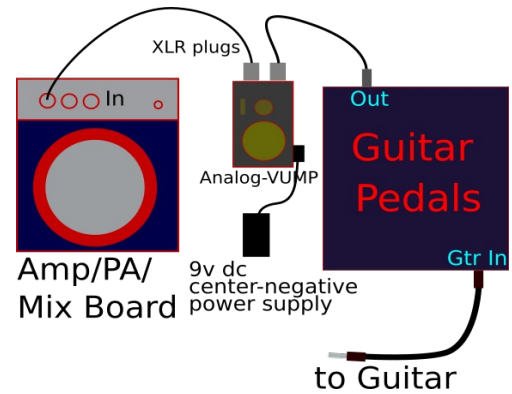
◆ The **Stereo or Mono ¼” jacks**. See diagram right/below for recommended configuration. Use *either* two XLR plugs or two ¼” plugs. Mixing XLR and ¼” can cause the XLR signal to become unbalanced.

◆ **Power jack**: Use only with a center-negative 5.5 mm power plug. The unit is designed to operate from 9V DC, center-negative, but will accommodate a range of 6V up to 12V without sustaining damage. This unit is designed to be compatible with most modern guitar pedals, which run on 9V DC, center-negative. On power-up, the meter back-lights turn yellow to indicate that the unit is on.

◆ The **meter** indicates the present signal level achieved in Voltage Units (VU) based on internal calibration. Select **Fast** or **Slow** metering as desired. When the meter is completely turned off, if the needle doesn't go to the far left tick mark, it can be zeroed using the front panel screw.

◆ Set the **+0/+10/+20 Level switch** to change the range viewed on the meter. The pedal is internally calibrated to +0VU=1.23 VRMS at 1kHz on the +0VU setting, but raw guitar signals are much weaker, around -20VU, so setting this switch to +20VU changes the range on the meter by 20dB so you can see your guitar signal in a comfortable range. If you have it set to +20VU and your guitar signal reads “0” on the meter screen, then your actual signal level seen by a sound board operator is -20VU. This pedal does not change the amplitude of your signal!

◆ When **Muted**, no signal appears on the output. The meter is active in either the muted or unmuted state.



Calibration: If ever required, calibrate the PCB by applying 1.23VRMS at 1kHz with the switch set to +0VU and turn the pot RV1 until 0 VU is reached on the meter. Then use 0.388VRMS with the +10VU switch and turn pot RV2. Finally, use 0.123VRMS with +20VU selected and turn pot RV3. The meter is calibrated.

SPECIFICATIONS

Nominal power supply voltage: 9 VDC, center negative, 5.5mm OD 2.1mm ID plug.

Power supply voltage usable range:

Approx. 6 to 12 VDC, center negative.

Power consumption: <0.2W

Input impedance: 5 Meg-Ohm

Minimum signal number displayed: -20VU

Maximum signal number displayed: +5.0VU

Minimum signal input to move needle:

2 mV RMS (Level knob fully CW)

Maximum input before damage: ~100VRMS

Maximum input to read +5 dB: ~2 VRMS

(range switch set to “+20VU”)

Pedal size: 4.75" x 3.1" x 2.0" (12cm x 7.9cm x 5.1cm)

Weight: XX oz (XX g)

Input/output jacks: XLR male/female (OPTIONAL). Stereo or Mono ¼” plugs.

Environmental exposure rating: IP52 (minor dust or minor drops of water are not expected to affect operation)

WARRANTY

JoyeMusic warrants the Analog-VUMP device for a period of 1-year after the purchase date.

LIMITATION OF LIABILITY AND WARRANTY

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