

SEE

## A12 - SEE - USER MANUAL [V2]

units shipped after June 2026

### Overview

SEE is a bipolar LED bargraph voltmeter and audio VU meter for Eurorack synthesizers. It is useful for debugging CV signals. It features 20 LEDs arranged around a center-zero point: 10 blue LEDs for negative voltages and 10 red LEDs for positive voltages. The module has a single signal input with two parallel jacks, allowing passive signal thru without buffering.

LEDs light up approximately 0.1V before the nominal threshold to compensate for minor hardware scaling variations — for example, the 5V LED lights up at around 4.9V.

### Controls

The module has a single button that handles all user interaction through short and long presses.

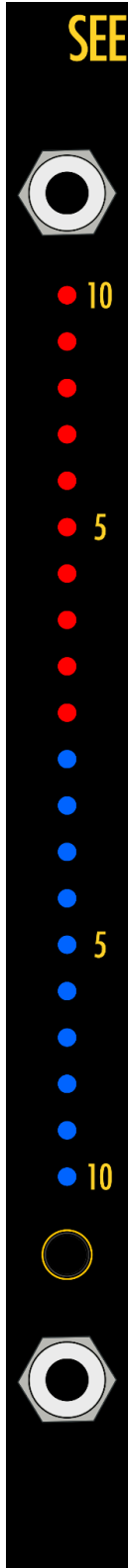
A short press (< 300ms) toggles the display style between bargraph and point dot. In AUDIO mode, this enables peak hold.

A long press (> 300ms) cycles through the three display modes: NORMAL, X2, and AUDIO. Each mode change is confirmed by a distinctive animation.

In NORMAL mode, the animation shows a sweep from the center outward to the edges and back, like a pulse expanding from the middle of the display.

In X2 mode, alternating LEDs light up across the full display for a moment, suggesting the finer resolution of the half-scale.

In AUDIO mode, the animation repeats twice: LEDs expand symmetrically from the center to both edges, then contract back, evoking the dynamic response of a VU meter.



## Display Modes

In NORMAL mode, the module operates as a voltmeter with a range of  $\pm 10V$ . Each LED represents 1V.

In X2 mode, the scale is doubled: each LED represents 0.5V, with a range of  $\pm 5V$ . This provides higher visual resolution for small signals.

In AUDIO mode, the display behaves like a VU meter. The attack is immediate — transients are captured instantly. The decay is gradual, falling back to zero over approximately 20ms per LED step. When used in point dot style, a peak hold function keeps the peak LED lit for about 1 second after the signal drops, making it easy to read transient peaks.

## Audio Scale

At power-on, holding the button for 3 seconds enters the audio scale configuration. The current scale is shown by the animation: expanding bars indicate X1 (full range  $\pm 10V$ ), alternating LEDs indicate X2 (half range  $\pm 5V$ , more sensitive to low-level audio signals). A short press toggles between the two scales. A long press confirms the selection, which is saved immediately and confirmed by three flashes.

## Memory

All settings are saved automatically to non-volatile memory and recalled at every power-on. This includes the display mode (NORMAL, X2, or AUDIO), the display style (bargraph or point), and the audio scale selection (X1 or X2).

## Dimensions / Current Draw

SIZE: 2HP - 26 mm deep (including inserted power connector)

+12V : 27 mA

-12V : 8 mA

+5V : 0 mA

reverse polarity protected