

# UtiliKit v1.0 by NOISS COKO

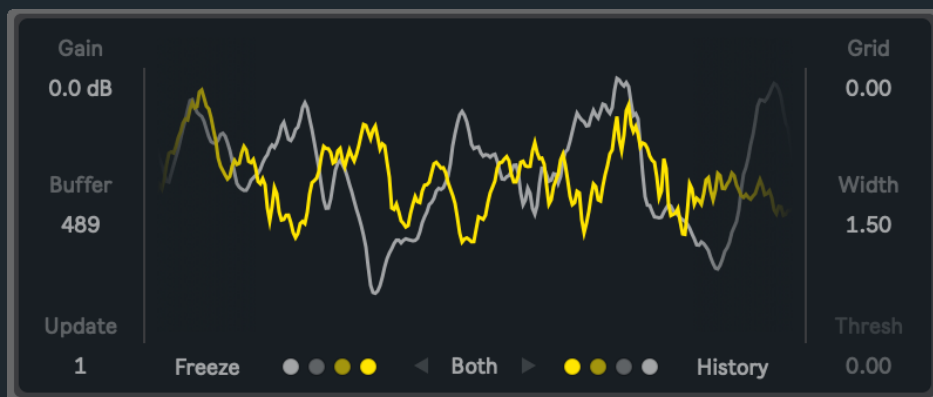
This pack features a compact oscilloscope for detailed signal analysis, a simple tone and noise generator for calibration, fine-tuning, and measurement, and a third utility that converts note and rate values into frequency, period, and length equivalents. Together, they form a handy toolkit for testing and analyzing signals within Ableton Live.

## Oscilloscope

Scope provides a high-resolution oscilloscope for visualizing audio signals in real time. It offers adjustable buffer size, refresh rate, input gain, display grid and line width, as well as flexible mode selection between History and Trigger, with a configurable threshold for precise waveform capture. The main display can also open a floating high-resolution window, allowing detailed observation of left, right, or both channels.

Ableton Live's audio settings also define the oscilloscope's overall performance. The waveform display will flow smoothly

at smaller buffer size values, resulting in more responsive visual feedback. Higher frequency content and larger buffer settings can influence the perceived resolution and stability of the display.



### Gain

Controls the gain of the input signal, only adjusting its volume before it is displayed on the oscilloscope.

### Buffer Size

This parameter uses samples to set a window size for the display. High-frequency signals might require smaller values, while lower frequencies need larger numbers to display a full cycle.

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### Update

Controls how frequently the input signal is refreshed on the main display, similar to frames per second in a video display.

### Freeze

Captures and holds a snapshot of the input signal at a specific moment.

### Mode

Sets the drawing mode for the oscilloscope. There are two modes: History and Trigger. History displays the last N samples (defined by the Buffer Size), while Trigger operates based on a threshold level (active only when this mode is selected). Whenever the signal exceeds that threshold, the oscilloscope begins capturing and displaying the input signal.

### Grid

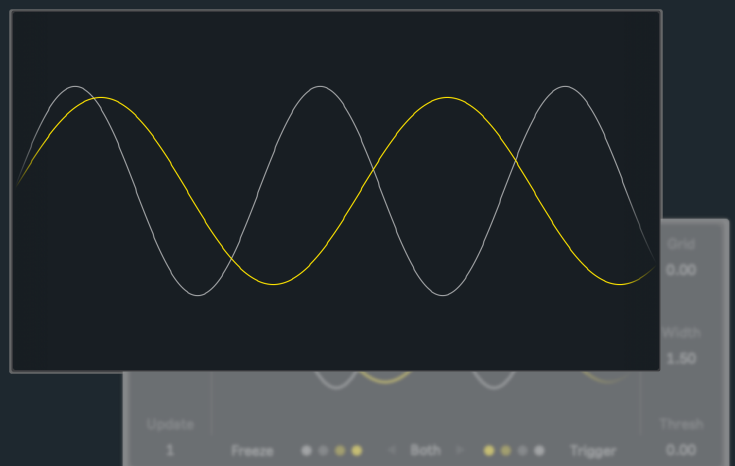
Adjusts the opacity of the display grid, allowing control over its visibility and making it more or less prominent on the oscilloscope display.

### Width

Controls the width of the waveform displayed by the oscilloscope. This value adjusts its thickness for better visibility.

### Threshold

This parameter sets the trigger threshold value, active only when Trigger mode is selected. This is the value the input signal must pass in order to trigger a new waveform drawing.



## Display

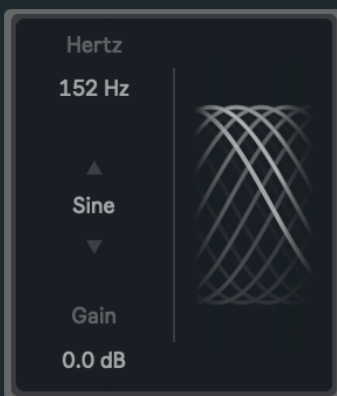
The left and right arrows at the bottom center select which side of the signal is displayed: left, right, or both. The dots indicate the color assigned to each side. The display also functions as a button, opening a floating window with a high-resolution version of the oscilloscope.

## Tone

Tone provides both sine waves and white noise signals for calibration and measurement tasks. It offers frequency control in notes or hertz, adjustable output gain, and filtered noise, making it useful for level matching, signal testing, and fine-tuning.

## Note/Hertz

Defines the unit style for the sine wave frequency. Click the parameter's name to toggle between notes and hertz, ranging from 20Hz to 20kHz.



## Cutoff

Sets the lowpass cutoff frequency for the white noise signal. The filter is disabled when Sine is selected as the sound source.

## Source

The source can be either a sine wave or white noise. This parameter switches between the two.

## Gain

Controls the gain of the source signal in decibels. It is recommended to turn this value all the way down before enabling either source, then gradually increase the output level until reaching the desired amount.

## Translator

Translator is a simple utility designed to convert MIDI notes into their equivalent frequency and period, expressed in hertz and milliseconds, as well as note rate values into corresponding length values, also measured in milliseconds.

It can be used to set compressor attack and release times, reverb decay or predelay times in sync with the song tempo, boost or attenuate frequencies using specific notes as a reference, or tune delay times using period values to achieve resonance with selected notes.

## MIDI Note

Sets the root note to be reflected as frequency and period values. This can be set manually or by sending MIDI notes to the Translator's input.

## Frequency

MIDI note measured in hertz. Frequency values can then be used to tune percussion sounds, or boost certain frequencies related to the harmonic context.

## Period

MIDI note period (one cycle of its frequency), measured in milliseconds. Delay times based on the period value will create a resonator effect tuned to the reference note.

## Note Value

Sets the note value to be translated into milliseconds. This allows for the conversion of note durations into precise time-based measurements.

## Length

Measures the length of a note value in milliseconds. Useful for setting reverb decay times or compressor release times using these values as a reference.

MIDI Note	—	C3
Frequency	—	262 Hz
Period	—	3.82 ms
Note Value	—	1/4
Length	—	500 ms

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# ABOUT DEVICES

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UtiliKit v1.0

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