QUANTIZER

Manual

MOSAIC

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MOSAIC

For more information, visit www.mosaic1u.com

THINGS TO KNOW

What is 1U?

1U is a measurement of height in the 19" rackmount standard. Eurorack modules adhere to 3 rack units, or 3U. Mosaic tiles adhere to 1 rack unit in height, and require appropriate rails to mount in a rack or modular case.

What 1U format are Mosaic modules?

We ship our modules with [Intellijel 1U formatted front panels](#). If you use the Pulp Logic format, don't worry! You can purchase Pulp Logic replacement front panels on our [Replacement Panels page](#).

Mosaic Color Guide

Each color indicates a function across the Mosaic lineup.

Green: Audio Signals

Purple: Gate Signals

Blue: Control Voltage

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OVERVIEW

Description

Craft melodic sequences out of random voltage, LFOs, and more with the Mosaic Quantizer.

Don't have a voltage source? Enter Arpeggiator mode to create a sequence from your current scale or note pattern, and modify it on the fly using the chromatic note interface. Pull musicality out of the unknown with Quantizer!

- Pitch quantizer with chromatic note interface

- Ability to add slew, create/choose scale, and transpose octaves

- Arpeggiator mode allows for arpeggiating quantized pitch, advanced via the Trig In

- Save and Load settings on the fly

Tech Specs

- Width: 20HP

- Depth: 38mm

- Front Panel: Ships in Intellijel format. Pulp Logic replacement panels available here.

- Current Consumption: +12V = 39mA, -12V = 8mA

Installation

To install, locate space in your Eurorack case for your 1U module, and confirm the positive 12 volts and negative 12 volts sides of the power distribution lines. Plug the connector into the power distribution board of your case, keeping in mind that the red band corresponds to negative 12 volts. In most systems, the negative 12 volt supply line is at the bottom. The power cable should be connected to the module with the red band facing the front of the module.

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USER INTERFACE

How It Works

The Quantizer will take an input signal, and limit the output voltages to musical intervals. This allows any voltage source to become a source of melodies, bass lines, and more. The basic interface for the module is the keyboard style layout. The "C" note at the left side of the module will be the "root" note. The actual note value will depend on the tuning of an oscillator.

Each illuminated LED will indicate that that chromatic step is enabled, and will be included in the output voltage. Any step can be enabled or disabled to create custom scales. There are are also a number of built-in, traditional scales available. Any time a change in notes is detected by the module, it will emit a 6ms gate output. This is connected to the gate input when no cable is patched to that jack. The quantizer will only update it's output voltage to the selected note when a gate signals is detected on the gate input jack. By default, the normalization will ensure that the note updates everytime a change is detected.

Front Panel

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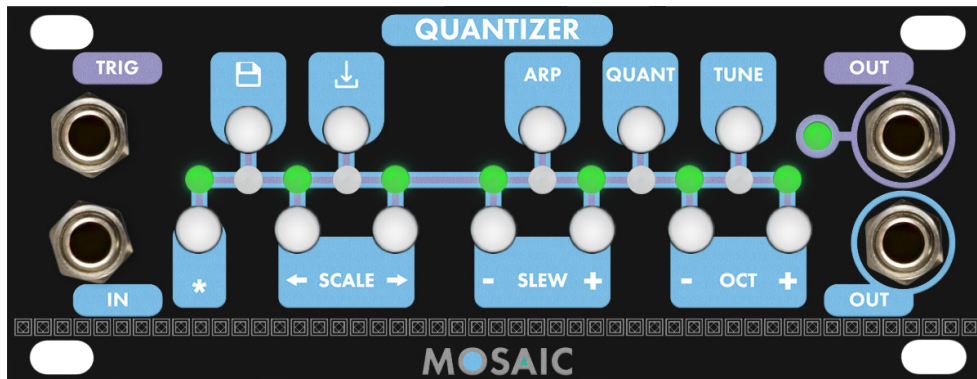
USER INTERFACE

A number of other features are packed into this tiny package. To access any of the secondary button functions you must first hold the SHIFT button (far left, indicated by the asterick).

NOTE: When using SHIFT with any button except the Mode buttons, it will first show the modification's current state to prevent unwanted changes. Pressing a second time will change the button state.
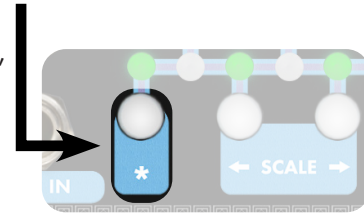
Scale Storage

There are a number of traditional scales that come built into the Quantizer. Visual references are available in the appendix.

- Major "Ionian"
- Dorian
- Phrygian
- Lydian
- Mixolydian
- Minor "Aeolian"
- Locrian
- Major Pentatonic
- Minor Pentatonic
- Harmonic Minor
- Whole Tone
- Chromatic
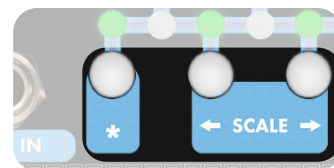
Each of these scales can be overwritten with your own data.

To select a scale to load or replace hold the shift (✱) button, and press the corresponding "←" and "→" buttons to select a scale.

To load the scale from a given position, press the load (⤓) button while still holding shift (✱). You will know if the scale loaded once the load LED pulses. To save over the scale in a given position, press the save (🖫) button while still holding shift. The save LED will pulse once completed. To reload the original factory scale to a given position, hold the load button until that scale step begins to blink. *You must hold SHIFT during the duration of scale selection in order to successfully load and save new scales. Letting go of SHIFT will bring you back to the selected or original scale.*
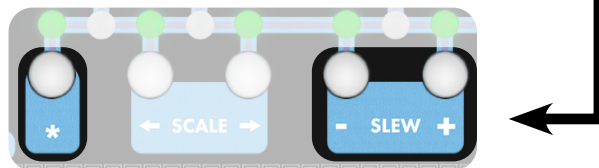

PRESS

HOLD

4

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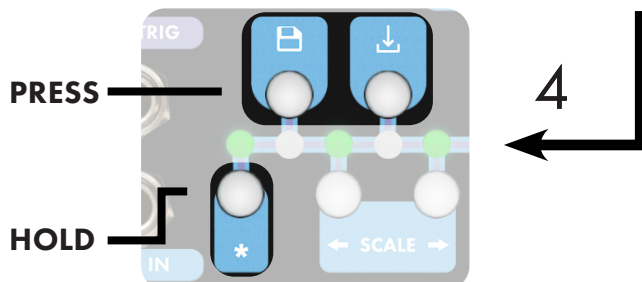
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Slew (Glide)

The slew setting will cause the signal to slide from note to note.

Hold the shift (✱) button and press either SLEW button to show the current setting. To adjust the setting tap the corresponding "+" or "-" button while viewing the current setting.

The setting will go all the way to showing all LEDs as OFF when slew is disabled (default), and have all 12 LEDs illuminated when increased to its maximum.

Octave Offset

The octave offset setting will transpose the scale starting point up to 4 octaves up. Hold the shift(✱) button and press either OCT button to show the current setting.

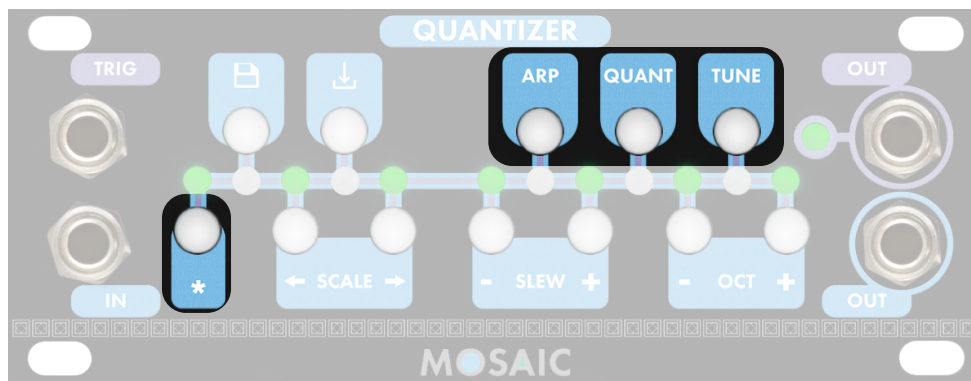To adjust the setting tap the corresponding "+" or "-" button while viewing the current setting.

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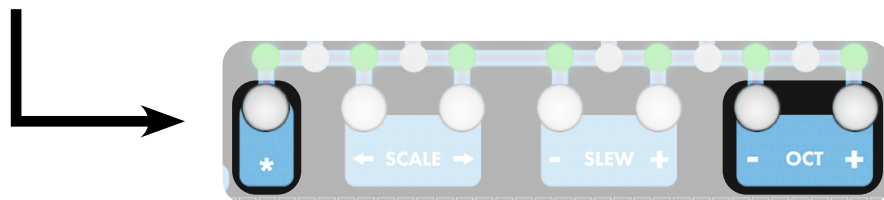
USER INTERFACE

Operating Mode

The module functions in one of three modes at a time.

To set the operating mode, hold the shift button and press the desired mode button.

Arp
In this mode, the trig input will advance the current step in the selected scale. And allow for arpeggiation of a set of notes.

Pressing ARP multiple times will step through different arpeggiation modes (indicated on the furthest left set of LEDs).

- If the first LED is illuminated the direction is from left to right.
- If the second LED is illuminated the direction is set to pendulum, and will go left to right to left, and so on.
- If the third LED is illuminated the direction is from right to left.
- If the fourth LED is illuminated each trigger will jump to a random note.

Quant
In this mode, changes in voltage to the input jack are quantized to selected notes across the keyboard interface. This is the default mode, and is fully described in the How It Works section above.

Tune
In this mode any signal on the In jack is ignored, to allow for tuning oscillators without having to change scale information or unpatching. The output will be even octave increments based on the octave offset setting.

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DETAILS

1. Trig

Trigger sensitive input. A rising edge of voltage greater than 0.3V.

In order to be properly detected by the software, the trigger signal must remain above 0.3V for at least 3ms

2. In

1V/Octave input

Patch anything in, and get musical CV outputs!

Functional within 0-5V

3. Buttons

Tactile push buttons. See the User Interface section above for details on the various alternate functions for each button!

All actions take place on release of the button unless otherwise noted.

4. Gate Output (Purple Out)

0-10V Gate Output signal.

Emits 10ms triggers anytime a change in notes is detected.

The adjacent LED will blink for 40ms anytime this trigger emits.

5. CV Out (Blue Out)

0-5V 1V/Octave signal quantized to the selected scale.

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CALIBRATION

The module is calibrated at the factory. This should only be necessary if you have a specific need to recalibrate (for example, dealing with a different format like Buchla, or an oscillator that doesn't track accurate 1V/octave) To enter calibration mode, hold the shift button while powering up the module. You'll see the first LED begin to pulsate.

If you accidentally enter this mode, you can restart your system without losing any previous calibration data.

After tuning your oscillator to a known note or frequency (e.g. A (110Hz)) and patching Quantizer's CV out to the oscillator's v/oct input, use the SCALE buttons (and the SLEW buttons if necessary) to trim each octave to be at the same note, one octave apart each. Use the OCTAVE buttons to move up and down octaves, and fine tune until each octave is accurately calibrated (For the above example, the octaves would be 220Hz, 440Hz, 880Hz, etc.)

The SCALE buttons are a fine tune, while the SLEW buttons move the notes 10 times as far.

If things get really out of wack, press the load button () to reload the default values.

When you're satisfied that the octaves are accurate, press the Save button () to store this data, and exit calibration mode.

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APPENDIX

Default Scales Reference

Use this reference sheet to reset the default scales that come with Quantizer.

Major (Ionian)
● ○ ● ○ ● ● ○ ● ○ ● ○ ●

Dorian
● ○ ● ● ○ ● ○ ● ○ ● ● ○

Phrygian
● ● ○ ● ○ ● ○ ● ● ○ ● ○

Lydian
● ○ ● ○ ● ○ ● ● ○ ● ○ ●

Mixolydian
● ○ ● ○ ● ● ○ ● ○ ● ● ○

Minor (Aeolian)
● ○ ● ● ○ ● ○ ● ● ○ ● ○

Locrian
● ● ○ ● ○ ● ● ○ ● ○ ● ○

Major Pentatonic
● ○ ● ○ ● ○ ○ ● ○ ● ○ ○

Minor Pentatonic
● ○ ○ ● ○ ● ○ ● ○ ○ ● ○

Harmonic Minor
● ○ ● ● ○ ● ○ ● ● ○ ○ ●

Whole Tone
● ○ ● ○ ● ○ ● ○ ● ○ ● ○

Chromatic
● ● ● ● ● ● ● ● ● ● ● ●

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