Borsta

Brushed Percussion

Welcome!

This is the user manual for **Borsta**, a brushed percussion instrument plug-in available for iPad (Standalone and AUv3) and Mac & Windows (AU/VST/AAX). It has been designed and developed by Klevgrand, a small studio in Stockholm, Sweden.

Get the iOS version at the App Store

Get the AU / VST / AAX version at klevgrand.se

LICENSING (DESKTOP ONLY)

Until unlocked, the plug-in will output 1 second of silence now and then. To unlock the full version, click the Demo label (top left corner) and type/paste your license key.

Introduction

Borsta is a sample-based virtual drum and percussion instrument. What differs Borsta from other similar instruments is that its audio engine supports a brushing feature that can simulate strokes and brushes with continuous changes in intensity. This makes it possible to create an endless number of brushing phrases and rhythms that can't be done with ordinary sample-based instruments.

Inside, there's a sequencer where one can determine exactly when to start a stroke, how the stroke's pressure/speed should evolve and when to end it. On top of that, each instrument offers a couple of multi-sampled one-shots with advanced choking capabilities.

There are plenty of different instruments available in Borsta, but each instance of the plug-in emulates one single drum instrument at a time. That means the sequences can only be played one at a time. Switching between sequences can be done seamlessly via MIDI, and additional one-shot samples can be triggered using an ordinary MIDI track.

The initial version of Borsta comes with 18 different instruments. Each instrument is structured and MIDI-mapped in an uniform way, which makes it possible to use the same sequence on any instrument; a traditional swing pattern will sound musically correct using a Frame Drum, Tambourine or Snare Drum – it will just sound like the musician changed instrument.

Each instrument is based on more than 400 high quality samples recorded for playing with different velocities and round robins.

INSTRUMENTS OVERVIEW

Rusty Bucket	Guira	Snare Drum 3
Lo-fi Snare Drum	Pancake	Tambourine
Frame Drum	Pizza Box	Cardboard Pipe
Cajon	Pandeiro	Bakestone
Cymbal Chains	Snare Drum 1	Metal Spade
Djembe	Snare Drum 2	Iron Sticks

Basic usage

Borsta playback is controlled via MIDI. The 12 different sequencers are started by note on messages and stopped with note off. The one-shots can be triggered via note on (and/or events inside the sequencer).

Each sequence has two different synchronization modes:

Host Beat
Starts the sequence at nearest beat when triggered (and the host is playing)

Direct
Start the sequence directly when triggered.

External
The brushing envelope (that controls the intensity of a stroke over time) also has the "External" sync mode. This mode allows the intensity to be controlled by MIDI CC.

The sequencers always follow the host's tempo.

MIDI Mapping
Two MIDI octaves are used to trigger the different sounds and sequences. Even octaves (starting with C0, C2, C4 etc) trigger the different one-shots and odd octaves (C1, C3, C5, C7 etc) start the different sequences.

**One Shot triggers (odd octaves):**

C	One Shot 1 - damped
C#	One Shot 1 - open
D	One Shot 2 - damped
D#	One Shot 2 - open
E	Brush Note On
F	Brush Note Off

Note: F# to B triggers the same hits as above.

The even octaves start (and stop) the 12 sequencers. Just press and hold a MIDI note in this rage and the corresponding sequence will start playing. Release the note to stop it.
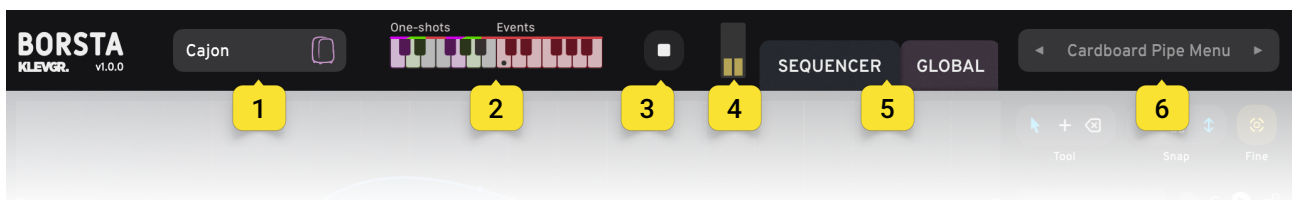
Note that sequencers are monophonic, and cannot be played in parallel. If one sequence is playing and a new one is started, the playing sequence will stop, and the new one will start.

User Interface
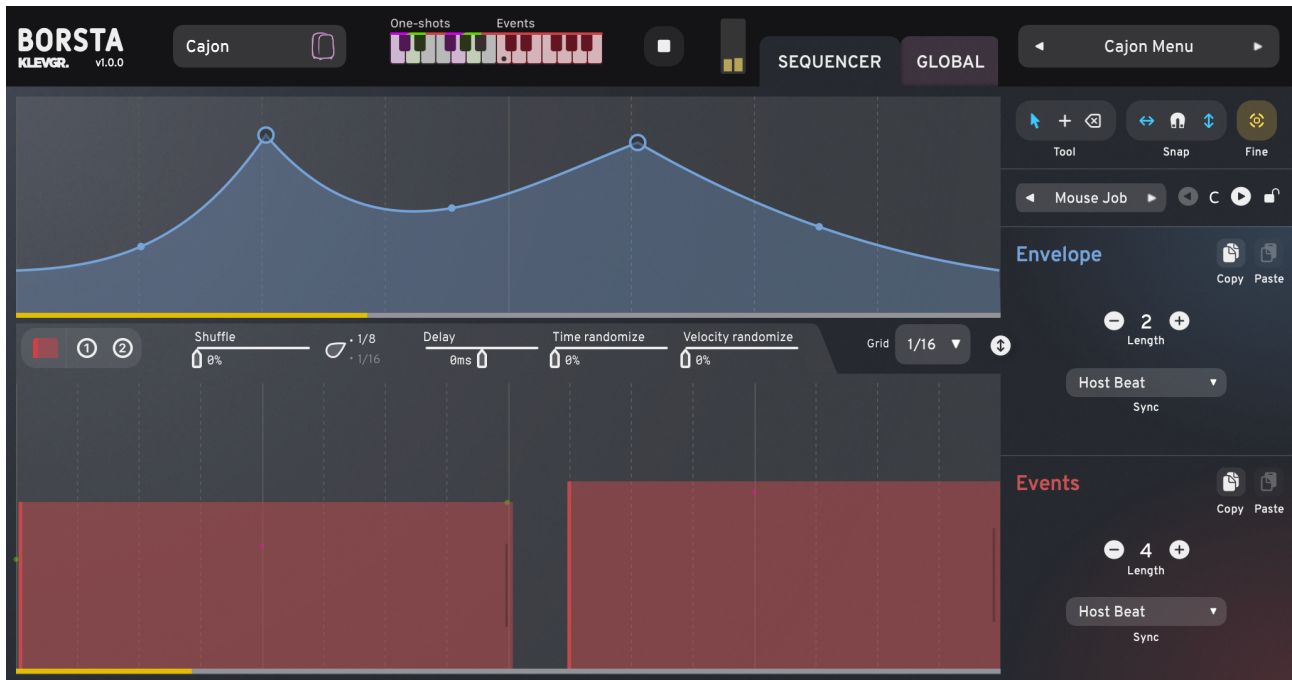
HEADER

Components in this part of the window are always shown.

1. Instrument chooser
Click to select instrument

2. MIDI notes overview
Shows what event sequencer- and envelope slot is active. It also reflects when a oneshot is played.

3. Play/Stop button
Starts and stops the current selected sequence. This is to be used for previewing only. MIDI should be used when using in an arrangement.

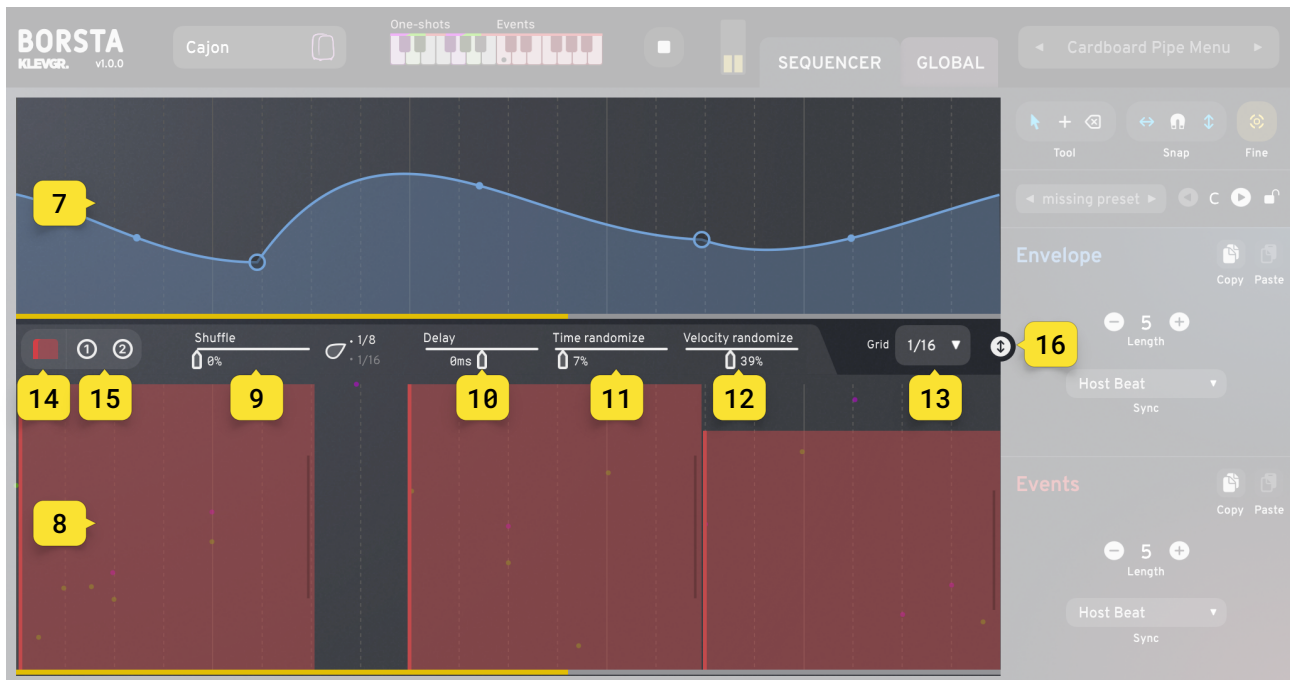### 4. VU Meter
Output meters

5. Tabs
Click "SEQUENCER" to show the sequencer and "GLOBAL" to show the global audio parameters.

6. Preset manager
Click to browse among global factory- and user presets.

SEQUENCER

This is where to edit the strokes, brushes and hits. Borsta uses two different kinds of sequencers that run in parallel: the **Envelope** sequencer and the **Event** sequencer. The Envelope sequencer determines the brush speed on the instrument's surface, and the Event sequencer sets when and how to stroke the instrument.

The Event sequencer also provides two different types of one-shot samples (each type has both an open timbre and a closed timbre).

7. Envelope editing view
The curve shown in this view is representing the speed of the actual brushing. Note that to make a brushing sound, a stroke event (in the Events Editing view below) has to be playing.

Click and drag to move and edit the points to edit the curve. See also the Edit Mode documentation below for further details.

When an envelope's sync mode is set to External, the curve will be bypassed and pressure/speed are instead directly controlled by MIDI. MIDI CC number can be set in this view. Note that this is a global parameter and not associated with the selected sequence.

Usage: Click the button and send some MIDI CC from a controller. When the learn button changes back to initial state Borsta will listen to the new CC for changes. One can optionally click the drop down and select one of the pre-defined CC's.

8. Events editing view
This view contains all the events for hitting and stroking the instrument. Use the radio buttons to switch between Strokes and the different types of one shots. The parameters to the right alter the output timing and velocity.

9. Shuffle
Adds swing to the sequence. The nearby switch sets if the swing should be in 1/8 mode or 1/16 mode.

10. Delay
Delays the whole sequence.

11. Time randomize
Randomizes start (and end) of events.

12. Velocity randomize
Randomizes velocity.

13. Grid
Sets the resolution of both the Envelope view and Events view. Note that when snapping (see Edit Mode) only applies to Events and not Envelope points.

14. Strokes editing
To alter the position, length and velocity of events, click and drag near the start or end of the event.

15. One-shot editing
Click and drag the events to alter position and velocity. Click the circle symbol below the event to alter between open or closed timbre. See also the Edit Mode documentation below for further details.

16. Resize
Click and drag to change the size of the Envelope view and the Events view.

## GENERAL SEQUENCER SETTINGS AND FUNCTIONS

17. Preset browser
Click to load or save a sequencer pattern, or load one of the factory patterns bundled with Borsta.

18. Selected sequence
Use the + and - buttons to change between the 12 different sequences. This can also be achieved via MIDI input.

There are 12 separate sequencers that one can switch between any time. Each of these can have different length and sync modes. Selecting one of the sequencers can be done via MIDI (from midi note C to B on event octaves) or pressing the - and + in the panel.
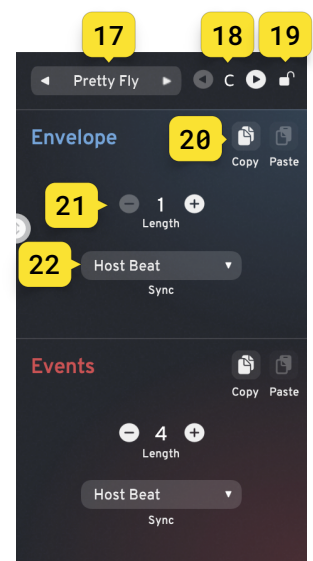
ENVELOPE AND EVENT SEQUENCERS SETTINGS PANELS

19. Lock
If locked, changes of the active sequencer won't be reflected in the GUI. If unlocked, the active sequencer will always be reflected in the GUI.

20. Copy / Paste
Click copy to add all sequence data to clipboard. This sequence can be pasted in some other sequence using the paste button.

21. Length
Sets the length of the sequence.

22. Sync

Click to choose between different sync modes.

Beat	Aligns start to the host's nearest beat.
Direct	Doesn't care about the host position and starts the sequence directly.
External	(envelopes only) Bypasses the envelope curve and uses a MIDI control change instead (see Events editing view for more info)

EDIT MODES

This toolbox is used in tandem with the event and envelope editing views.
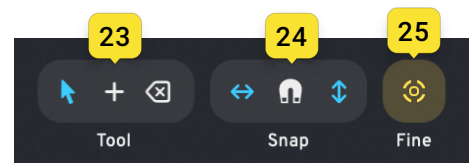
23. Tools

For altering, adding and removing events.

Arrow	Used for moving events around by clicking and dragging.
Plus	Adds an event when clicking and moves it when dragging. If a click is very near an existing event - that one would be grabbed instead.
Remove	Click to remove the nearest event.

24. Snap

How events are moved

|	
Left/Right	If set to on, dragged events can be moved in time
Up/Down	If set to on, dragged events can change velocity/intensity
Magnet	If set to on, dragging or creating an event will snap to the nearest grid line.

25. Fine

Fine tune mode on or off. When on, any dragging amount will be divided by 10.

Also note that these modes can be temporarily set via key commands (desktop version only):

Tool / Add	Command
Tool / Remove	Command + Shift
Snap	Shift
Fine	Option

GLOBAL VIEW
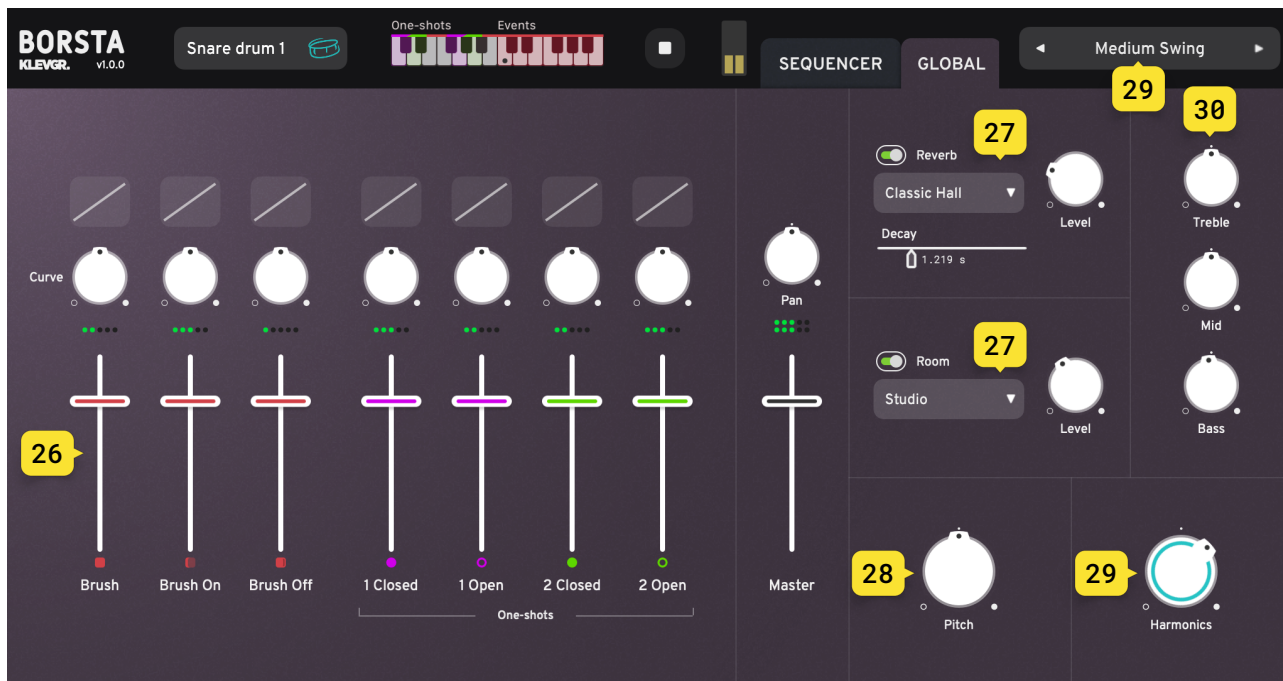
The global view is for tweaking the output sounds of the plugin. There's a fader for each type of sound, settings for room and reverb, overall pitch, velocity mapping and tone control.

26. Mixer

The 7 channel mixer controls the different types of sounds each instrument generates.

Brush	The brushing sound
Brush On	The sound played when a brush stroke is started
Brush Off	The sounds played when a brush stroke is stopped
1 and 2 Closed	The two damped one-shots
1 and 2 Open	The two open one-shots.

The knobs above the channel faders sets the velocity curve for each channel.

Master	Main output volume.
Pan	Main output pan (pre room and reverb)

Note that the audio engine features a quite sophisticated choking engine, which takes care of when (and how much) an open sound should be muted.

27. Reverb and Room

Both these units can be bypassed if one wants to use external reverb in the host (and save some CPU).

The reverb is an algorithmic reverb containing 6 different types. The decay slider sets the length (in time) for the reverb, and the Level knob the volume.

The room unit is a convolution reverb with short impulses. Choose one of the 9 rooms and set the level.

28. Pitch
Set the pitch for the instrument.

29. Harmonics
Adds or removes the selected instrument's resonant tones. Very handy for fitting a sound in the mix!

30. EQ
Click and drag the knobs to alter the gain of the three bands.

31. Presets
Click the preset title to open the preset dialog. Click the arrows to quickly browse through the preset list without opening it.

1. Presets category
Factory presets are organized in categories, choose a category to view the presets. Your saved presets will be located in the "User Presets" category.

2. Presets
Click a preset to load it.

3. Save preset
When a user preset has been modified, this button is available. It will save the preset to current state.
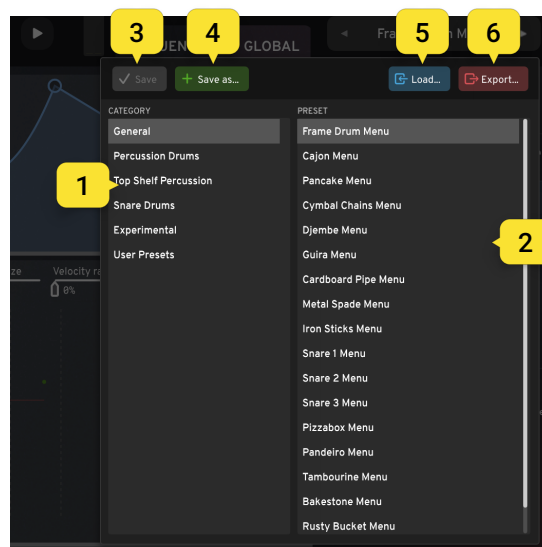
4. Save as…
Click to save the current state into a new user preset.

5. Load…
Click to load a preset from an external file.

6. Export…
Click to export a preset into an external file.

Specifications / System requirements

Mac	Windows	iOS
64 bit AU/VST/AAX plug-in	64 bit VST/AAX plug-in	AUv3 plug-in
macOS 10.10+ OpenGL	Windows 7+ with SP1 or higher	iPad Air 2 or better iOS 13+

KLEVGR.