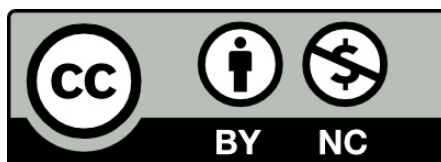


# The Matrix

Documentation  
v1.0



# Summary

Introduction

Installation

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Parts Description

Support & Questions

# Introduction

I'm actually beginning this part as the last sequencer we made and named The Uncanny Sequencer ; but you're going to understand this one it totally different in the next rows.

Sequencers are *machines able to store & repeat sequences of elements*. Usually, we use the term sequencers for music sequencers.

Indeed, you have here a *music sequencer* in hands in the sense of you have a machine able to produce MIDI notes from its output.

Sequencers are often a big grid inside which you place notes, each note having at two characteristics: its pitch (which means its frequency, more or less high) & its velocity (often mixed with a volume concept but more meaning the power with which you play it)

The note sits in a slot in the grid, usually name an interval or a time position.

You can play with the grid precision, in order to place each note easily on a 1/2nd or 1/3rd or 1/nth bar position.

But a note placed at some slot is played *everytime*.

With The MatriX, you are about to discover a totally new & unique sequencer based on *probabilities* and on the concept of *double triggering*.

It is a full fonctionnal Max for Live MIDI FX Device machine useable in Ableton Live.

This machine will give you a particular approach of sequences-based composition.

Indeed, because of the probabilities & the double triggering, you'll really interact with the machine, as if it was another partner ; you'll give it some informations, it will render unique sequences to you.

Of course, The MatriX popping out standard MIDI Notes, you can trigger anything understanding MIDI, from external hardware synthesizer to built-in and native Ableton's devices (including Max for Live other devices too)

Best sequences,  
Julien

# Installation

I guess you have just downloaded your device.

You are safe, there isn't any complex installation process.

You can keep your file into the library, into an external folder, everywhere.

BUT you have to know each liveset will use a reference related to the place where the device was when you chose to use it.

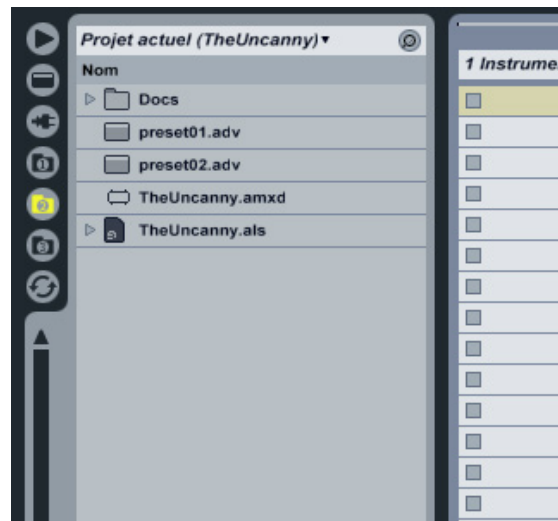
Basically, it means you have to find it a nice place and not to try to move it everytime.

Ableton Live has a nice process feature that can retrieve lost parts quoted as reference in livesets, but it could be annoying for you.

My best practices recommandation is to create a folder in your library in MIDI Effects, to name it Design the Media, and to put the device inside.

So unzip the file & put it there.

To use it, you have to drag'n'drop it into an Ableton Live MIDI tracks: TheMatriX1.0.amxd



Ableton Live's browser

# Global Concepts

**First things to know : which type of device is it ?**

The sequencer is a Max for Live MIDI Fx device.

It means it can process MIDI messages.

In that case, this one fires MIDI Notes routable as any other standard MIDI messages.

**First things to do : where to put it ?**

Grab the device into a MIDI track or into the place where there is not yet a track from the folder where you put it considering the choice you made in your installation.

You now have the sequencer in the track.

In order to save place, I designed it as a floating screen collapsible device.

To see the device, you have to click on the big white button on which it is written open the sequencer.



Collapsed view in the Device chain



Floating window over the Ableton Live GUI

## **First concept to understand : probabilities**

A probability is a mathematic concept you probably already know.  
It defines the % of risk/chance an event occurs.

If in Marseille there is a 5% risk of rain, it means that on a great number of days  $N$ , there would be  $(5 \times N / 100)$  days of rain.

A value of 45% means there would be more rainy days than in Marseille.

But don't forget, I didn't ever write: 5 days of rain over 100 days. I wrote on a great number of days.

It means, even if there is a value of 99%, in the real world, it could only happen 1 time over 200 days.  
It is a mathematic concept.

So, in our case, it is important.

The core of this sequencer is based on probabilistic triggers.

## **Second concept : double triggering**

In order to provide a new source of inspiration and to provoke the machine & circuits a bit more, I designed The MatriX as a double-layer triggering controlled sequencer.  
It can sound a bit tricky, but the concept is very simple.

The main sequencer (called the Core in the following rows) is the first line at the top.  
It contains 16 steps.

Each step is excited sequentially and, depending on its probability value is triggered or not.

The double triggering is just the fact if a step of the Core is triggered, this step triggers the column of steps under it.

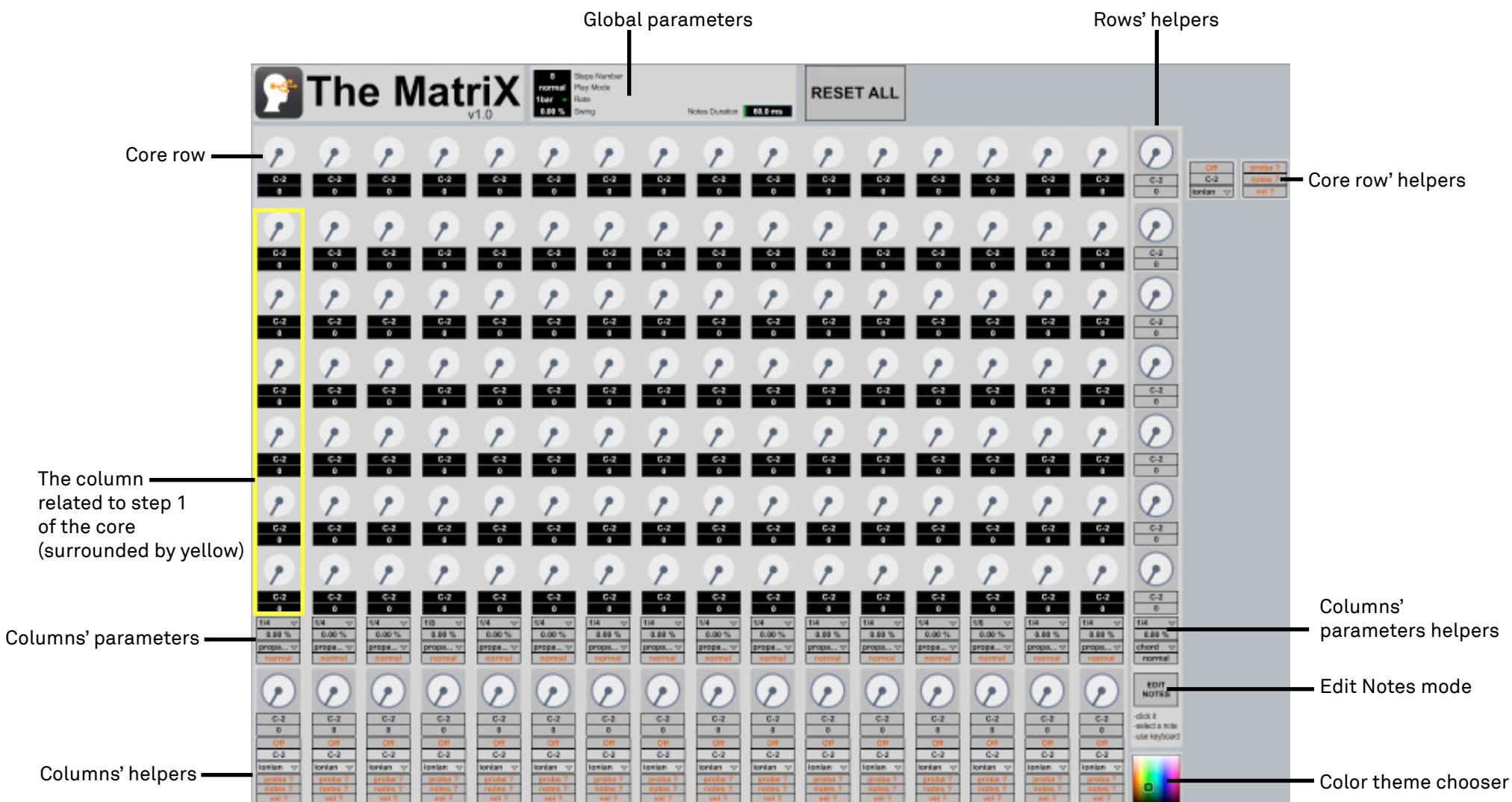
There is a double triggering behaviour.

Let's enter more in the details. You'll get it very soon.

# Parts description

## The Core and its columns

Here is a global view of the floating window



### The Global Parameters

Related to the Core Rows, you can set up

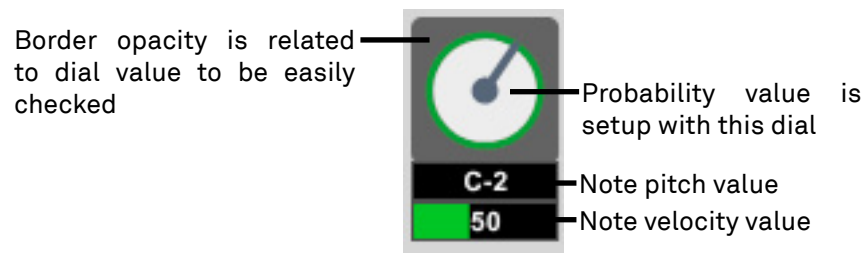
- the global number of steps which will be played
- the playing mode (normal or reverse ; normal is just from left to right but ... okay... normal isn't totally correct)
- the rate (from 1bar to 1/32)
- the swing which can add a bit of time jittering

You can also define the Notes duration in milliseconds.

Let's watch now the smallest element, The Unit



## The smallest element: The Unit



A unit is a small element which can be excited.

A message is received (the excitation) then, it can react or not.

If it reacts, it makes 2 actions:

- it plays a note with a particular pitch & velocity
- it excites something else, depending on the place of the unit in The MatriX

So, depending on the probability of the unit, it transmits the excitation or not.

Looks like a neuron no?

It probably announces something huge & nice (secret subliminal message, DONE)

## Now, the Core.

The Core is the first row of The MatriX, containing 16 units.

When Live's transport is started, The MatriX begins to play.

Depending on the Global parameters part, the timing engine excites sequentially each unit of the Core.

Setting up only 5 steps, it excites the first one, to the 5th, then loop to the first etc.

This is the main part of the sequencer, even if this is only one row of The MatriX.

As written before, if one unit of the Core is triggered, it plays a note then passes the excitation to the column under it.

And now, this is the most interesting feature...



Core row

Then, columns.  
A column is composed by 6 units.



Column parameters

Column's helpers

The most interesting part is inside the Column parameters.  
It defines the behaviour of a triggered column.  
In order to refresh you a bit: it can be changed by:  
*“it defines the behaviour of a column related to a Core step which have been triggered too”*

- 3 modes:
- chord
  - propagation
  - chaos

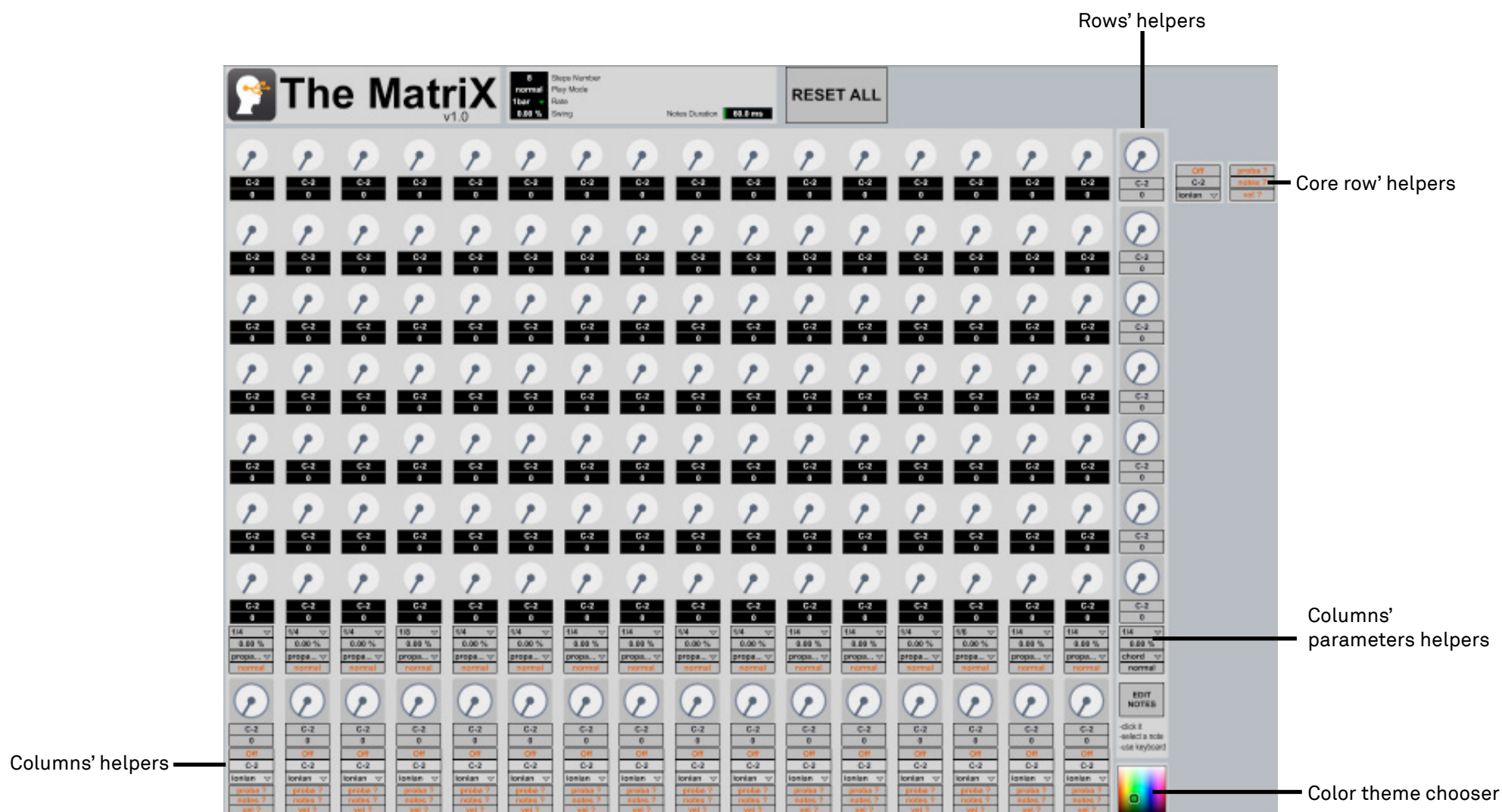
**Chord**  
Each unit of the triggered column is triggered at the same time. Setting up each note, you can compose chords.

**Propagation**  
The first unit is triggered, then the message passes to the second etc.  
Considering the playing mode of the column, it can begin by the end too (reverse mode)  
Of course, each probability gives a possibility to the unit: the note can be triggered or not.

**Chaos**  
Each one of the 6 units will be triggered, but we don't know the order of the propagation

Then, each column as its own rate, which is particular important to make strange accelerations of sounds inside a quiet & standard core sequence for instance.

## The magic helpers



Helpers are basically designed as the unit BUT they cannot:

- transmit messages
- produce MIDI notes

They are here to help you to set up rows and columns.

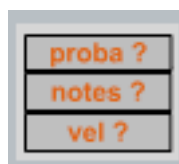
By clicking on on dial, you can setup the probability of a whole row (same with columns)

It works the same way for Note pitches & Note velocities.

You have also some randomizers which works for the whole rows or columns.

You can randomize probabilities, notes & velocities per column or per row.

Then, you can use the scalers in order to setup notes in columns or in the core row to follow a particular scale according to a fundamental note.



Randomizers block



Scaler block

You can also choose your color theme. It can be useful to have particular color for this type of track or instrument you want to trigger.



Color Picker

You can also EASILY setup *The MatriX* with your computer keyboard or with your MIDI Master Keyboard too. This specific feature has been requested by the official beta tester, *Tristan Heau*, the owner of the blog [musikgear.com](http://musikgear.com)

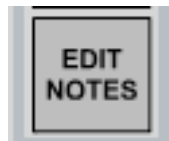
First, click on the EDIT NOTES button.

Then, click on the note slider you want to change.

And at last, push a key on the computer or on the master keyboard.

It is magic.

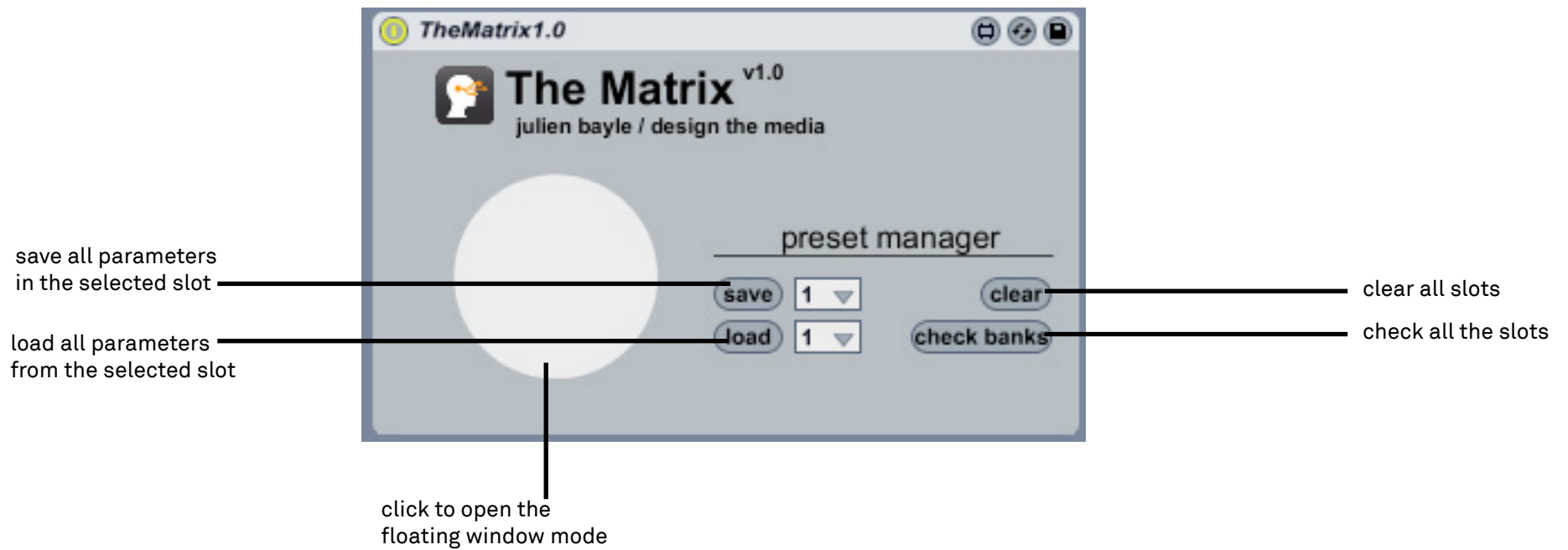
DON'T FORGET to disable EDIT NOTES after The MatriX configuration.



Edit The Matrix easily

# The Presets Bank Engine

The Bank Engine is a powerful tool to save your presets directly



## How to save a preset ?

You can save a preset by saving your live set.

If you need to save more than one preset, you can use the Presets Bank Engine. Select the slot at the right of the save button, then click on save.

## How to load a preset ?

Select the slot at the right of the load button, then click on load button itself.

## How to check if a slot is filled ?

Click on *check banks* button.

You'll see a huge & beautiful table filled (or not) by numbers.

# Support

NO SUPPORT GIVEN