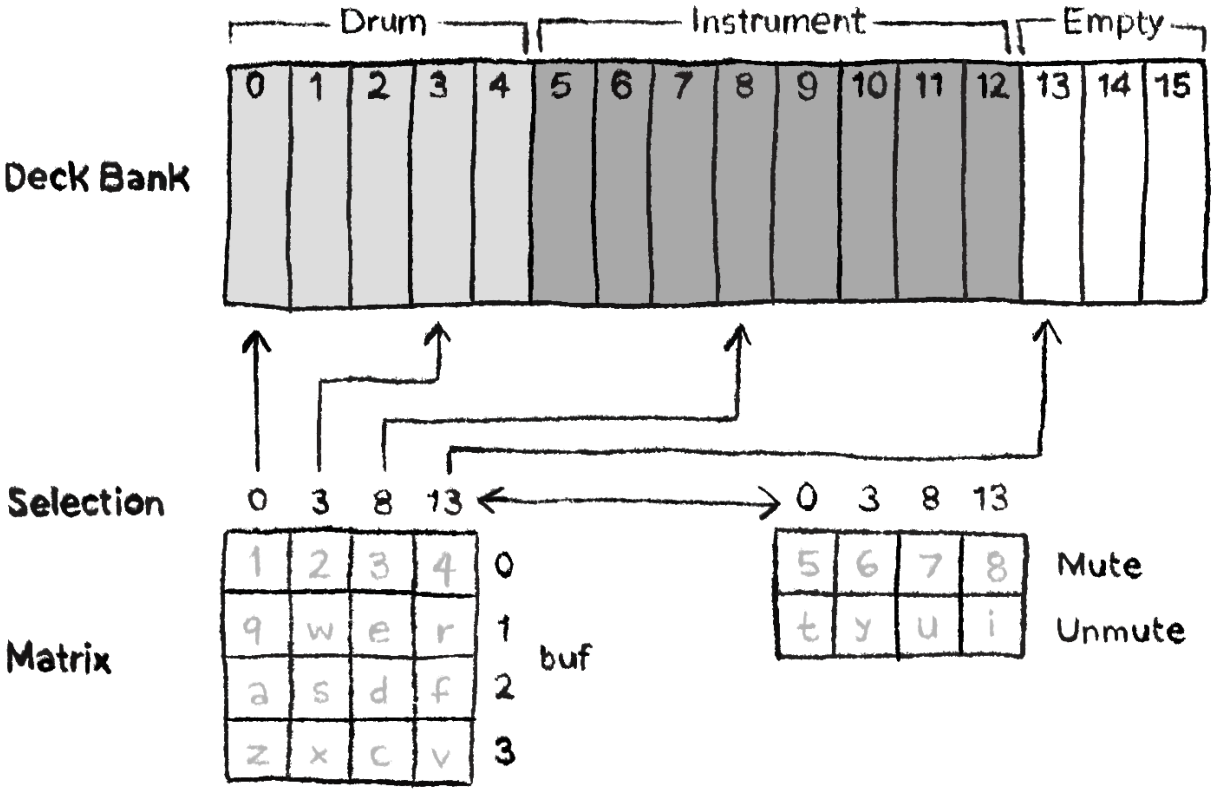
Recxa Lovelace
rcx01 Documentation (dec13 build)
12/18/23

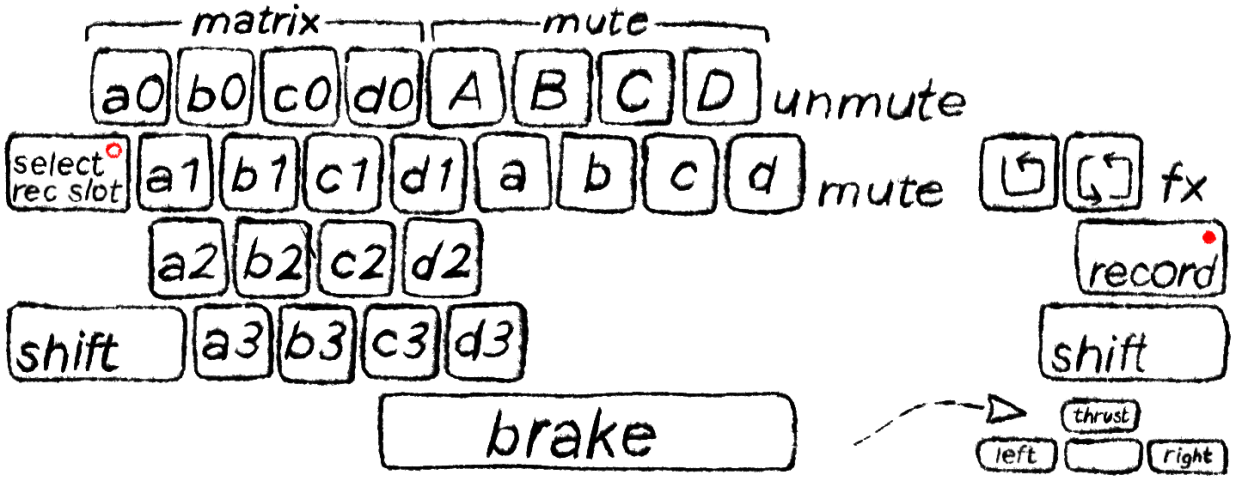
>Overview

rcx01 is a dynamic loop sampler designed for explorative beatmaking and playful performance. To control tempo, the user operates an *Asteroids*-inspired 'ship' physics body, which equates X and Y coordinates to a BPM value through an arbitrary mapping equation. The user can dynamically switch sampler sources through a 4x4 matrix: each column corresponds to a 'deck' with 4 audio buffer slots, and the rows correspond to slots within each deck. To switch the active slot, the user presses the corresponding matrix key. To select a deck slot for mic recording, the user holds Tab while pressing a matrix key. The user can then press enter to prime for recording at the next loop point.

>Architecture

A 'Deck' is a grouping of 4 interchangeable audio buffers. Think of each buffer as a different 'version' or 'pattern' of the same musical track. Multiple decks can play simultaneously, but only one buffer from a given deck can be active at any given moment. Each instance of the 'Deck' class contains an array for each buffer's sample data, volume level, playback rate multiplier, and a boolean for deck mute status. **~decks** is the Deck bank, a List of Deck instances, and **~dex** is an array of 4 integers which essentially point from the matrix columns to a deck bank index. Each column of the matrix has one sampler instance - only the selected decks are active.





Illustrations: Wolfie Lovelace

>Controls

Above is a diagram of the Processing GUI keybindings. Currently, there are no keybinds for deck assignment, volume, or playback ratio. However, these values can still be controlled in real-time via Deck commands in the SuperCollider IDE. For convenience, a pre-assembled *'LIVE DECK CONTROLS'* section can be located at the foot of *rcx01dec13.scd*

```
~dex = [ a, b, c, d ]; //set matrix column assignments to deck bank indices

~decks[~dex[column]].allVolume_(vol); //set deck volume, 1.0 default
~decks[~dex[column]].volume_(buf, vol); //set individual buf volume, buf:0-3 corresponds to row

~decks[~dex[column]].allRate_(rate); //set deck playback rate, 1.0 default, 2.0 = double, etc
~decks[~dex[column]].rate_(buf, rate); //set individual buf rate, buf:0-3 corresponds to row
```

The Deck class also features a class method for quick Deck bank loading from subfolders:

```
Deck.loadDecks(s, "/path/to/parent/folder/", maxDecks, shuffle); //returns a List of decks
//quick start:  ~decks = Deck.loadDecks(s, "/path/"); ~dex = [ 0, 1, 2, 3 ];
```

>Installation *(Processing 4.1.3 + oscP5, SuperCollider 3.13.0)*

For *rcx01* to reference the 'Deck' class, SuperCollider must be launched with *rcxDeck.sc* in the 'Extensions' directory. To open your User Extensions folder in Finder, execute the following command in SC:

```
("open "" ++ Platform.userExtensionDir ++ """).systemCmd;
```

Note: SuperCollider statically compiles class definitions upon launch. Any changes to the rcxDeck.sc file, including installation, require a full restart of the SC interpreter to update.