

# Push Pong

By Mark Towers

## User Guide

Push Pong is a generative sequencer built in Max for Live. By pressing pads on Push when Live is running, cells are generated which will create notes whenever they reach the outer grid area on Push (top and bottom rows, left and right columns)

Press 'Initialise Push' to get started, this will take control over Push's Button Matrix, and a few other elements

In 'Global' mode you can control the timing, note velocity and length and chance of cells 'bouncing' for all active cells

Press the 'Global' button to change to 'Cell' mode, you can now control individual timing, note velocity and length per active cell. The cell buttons at the top will turn on when a new cell is generated, you can switch them off here too.

You can easily select multiple notes but selecting a Minimum and Maximum note range, and then choose to either populate the notes sequentially or randomly.

Drag up and down to on the MIDI Notes grid to change which notes are triggered when cells reach the outer grid area. When selecting sequential, notes begin to be populated from the top left, and continue clockwise.

Use the 'Start Direction' control to choose the starting direction of newly generated cells. This also affects cells that are re-generated in new locations by hitting pads when all cells are active.

- **Clear** – clears all active cells
- **Change Direction** – changes all active cells direction, cells will switch clockwise (turning right once from their current direction)
- **Random** – randomises the current position of all active cells
- **Copy Global** – Allows the user to copy the current global settings to all individual cells parameters.
- **Edit Notes** – toggles the note grid and min/max controls to the right of the device

# ATTENTION

Before deleting Push Pong from a track, make sure you switch it **OFF** to ensure that regular Push functionality is restored. You can also restore Push functionality by turning Push off and on again, or starting a new project, or by selecting Push Pong again, clicking 'Initialise', and then turn the device off.

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All parameters of Push Pong are accessible via the display and encoders on Push, the first bank of controls are the cell activation buttons, use the Push encoders to deactivate active cells. Once a cell has been deactivated, pressing a pad on Push will reactivate any cells that are off before re-generating existing cells. All parameters are automatable and storable within a Live set.

When in global mode, the scene/timing buttons will control the global timing controls of all active cells, this makes for a quick and easy way to manipulate the speed of Push Pong. When cell modes is selected, the scene buttons resume to their regular functionality



When 'Initialise Push' is first pressed, Push Pong will take control of the Button Matrix, when a pad is hit, a cell will be generated and will begin moving the currently selected direction (the default is right). When two or more cells meet they will bounce off each other, changing their direction, in essence this is what makes Push Pong generative. When all cells are active, you can still interact with the Push pads, hitting a pad will re-generate and existing active cell to the new pressed location, regeneration begins with the first cell and moves up to the last one.

Use the Arrow Buttons to choose the starting direction of newly generated cells. This also affects cells that are re-generated in new locations by hitting pads when all cells are active.

Push Pong only takes over specific functions of Push whilst the track containing the device is selected, you may still select Session Mode, or select another track in Live and work on Push as usual.

# Push Pong

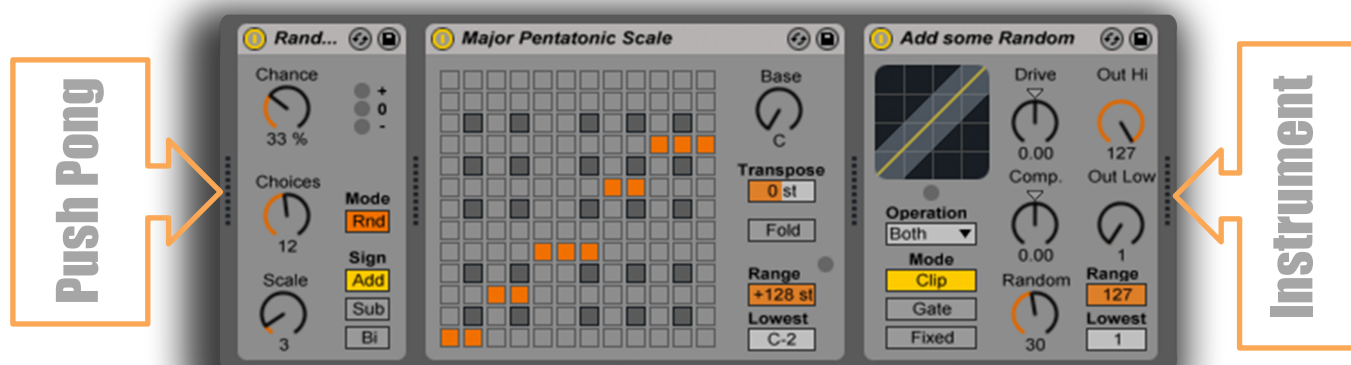
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Push Pong has been designed to be used in conjunction with Live's powerful MIDI effects. Although it is possible to create a scale via the editable note grid, you may wish to use the **Scale MIDI Effect** for a quick way to access a full collection of scale presets.

Use the **Random MIDI Effects** before Scale to allow for some variations in Pitch, by placing the effect before Scale, all note variations will still work within the selected scale.

Finally, try the **Velocity MIDI Effect**, I am using the 'Add some Random' preset, which works great for creating variations in velocity, or how hard or soft the notes are triggered.



For a detailed video demonstration of Push Pong in action, go to:

<https://www.youtube.com/watch?v=hfgTqOFehT4&list=UU64txfqYcbVdM2UXbuvEtw>