1. PERFORMERS

The Performers provide a flexible way to apply complex modulation to multiple parameters at once. They are accessed via the Navigation Bar using the tabs labeled P1, P2, and P3, and are positioned in the lower panel of MASSIVE X.

The Performers provide Basic and Custom editor options that enable you to quickly paint complex modulation shapes onto the Performer grid in order to form up to 12 patterns. The default Basic editor offers flexibility, while the Custom editor allows you to create a complex rhythmic grid for tailored and precise results.

In the Performer Grid view, a simultaneous overview of all three Performers is available, making it easy to copy, swap, and delete the 12 patterns from each Performer. You can also set up how patterns are triggered and how they can be changed with key switches using Remote Octave.

1.1. Overview of the Performers

This section provides an overview of the Performers’ features, including the Grid options, the Overlay, and the Paint tools.

(1) Vertical grid tab (X-Axis): Enables you to set the rhythmic timing for painting shapes on the grid, and contains two sets of tools: Basic and Custom.

Basic Tools

The Basic tools are the default option to define the rhythmic grid for adding modulation shapes to the Performer grid using the painting tools (5). Use Basic mode to define the time signature and rhythmic resolution of the grid from quarter notes down to 32nd note divisions.

Custom Tools

The Custom tools are used to create custom time signatures with up to eight different sections. Use the Custom Grid to create your own complex time signatures. When using Custom mode, set the number of beats per bar, a beat length, and subdivisions.
You can safely switch between the Basic and Custom grid without losing your modulation pattern. Switching between them only changes the underlying grid, not the pattern.

(2) **Horizontal grid tab** (Y-Axis): Provides options to set the number of steps for parameter values (quantization) in the Performers’ Horizontal grid. By default, the number of steps is set to 24 (bipolar -24 to +24, unipolar 0 - +24). The **Snap to Grid** option ensures the grid value is adhered to even when making fine adjustments by holding the right-mouse button and dragging.

An important thing to bear in mind when using the grids is that they are not separate, they simply work together to provide flexibility when adding modulation.

(3) **Overlay grid tab**: When the overlay is switched on (4), the overlay placement and width can be adjusted using the three handles that appear in the Select zone (14). The number of divisions is set by dragging up or down over the **Overlay Divisions** value. To the left, the overlay also features stretch controls that can be used like the ones found next to the painting tools. The difference is that the grid itself is stretched (not the position of the modulation points of a multi selection). This makes it easy to use the overlay as a guide for creating modulation sections that speed up or slow down. The overlay can also be used to create wider grid values than quarters or odd divisions over any irregular timing.

(4) **Overlay On/Off switch**: Displays or hides the grid overlay.

(5) **Painting tools**: The selected brush defines the modulation shape that is painted on the grid (13). The length of a shape is determined by the length of the grid division. For more information on the painting tools, inserting and editing modulation, see Editing Modulation, and Painting Modulation Painting Tools.

(6) **Stretch tools**: Select multiple points in the Select zone and use these tools to stretch or compress the modulation curves in the pattern by dragging upwards or downwards. The upper tool stretches or compresses points to the left or right. The lower tool stretches or compresses points inwards or outwards.

(7) **Range switch**: Sets the range of the Performer to bipolar or unipolar.

(8) **Initialize**: Click to clear all modulation data and reset the grid to bipolar or unipolar.

(9) **Rate**: Set the speed of the Performer based on the tempo of your host; at the center position, the speed is the same as your host. At the far-left position, the rate is at an eighth of the host, and at the far-right, it is eight times that of the host.

(10) **Level**: Sets the output level of Performer modulation. At the left position, the output is at zero, at the right position, it’s at 100%.
(11) **Start/End markers**: You can drag the marker handles to define the start and end points of the section of the modulation you want to play. The marked section will play according to the playback mode selected in the Performer Grid Overview. For more information on selecting playback modes in the Performer Grid Overview, see *Overview of Remote Octave*.

![Double click the Start/End marker bar to adjust the playback area to the visible section in the editor, as set by the Zoom bar.]

(12) **Select zone**: Click and drag in this area to select multiple modulation points. For more information on editing modulation, see *Editing Modulation*.

(13) **Grid**: The area where modulation is painted onto the flexible grid using the painting tools (5).

(14) **Segment Edit zone**: Use this area to edit single or multi-selected segments. Right-click and drag to fine-tune segments on the grid without them snapping to the quantize value. Double-click on a segment or multi selection to delete it.

(15) **Zoom bar**: Click and drag the handles to zoom in and out of the Performer timeline. Double-click the Zoom bar to zoom into the first bar of the grid.
2. USING THE PERFORMERS

The Performers can be used to create complex parameter movements that usually are achieved by parameter automation created in a host sequencer. The Performers are key to make intricate modulations part of a MASSIVE X sound. The Remote Octave provides up to 12 variations for every Performer so that drastic changes can be performed or programmed by triggering remote key switches from your host.

2.1. Painting Tools

The painting tools enable you to paint modulation shapes onto the rhythmic grid.

Here is an overview of the painting tools:

1. **Edit**: Use to add modulation points to the Performer grid. The points are connected as straight lines to neighboring points.
2. **Line**: Creates lines from the start to the end point of a grid segment.
3. **Step**: Creates static values which extend to the end of a grid segment.
4. **Ramp A**: This tool creates descending ramps.
5. **Ramp B**: This tool creates ascending ramps.
6. **Triangle**: Creates a triangle shapes.
7. **Sine**: Creates sine shapes.

2.2. Painting Modulation

Select one of the shape brushes to start painting modulation on the grid. As you use the brushes to create shapes, they will snap to the selected time signature division and note value. For more information on selecting time signatures and note values, see Overview of the Performers.

To draw modulation onto the grid:

1. Select a time signature and grid note value.
2. Select a panting tool.
3. Click and drag the mouse across the grid to paint modulation.

4. Move the mouse up and down while painting to change the amplitude.

Note: The Performer only starts playing when it is assigned to a parameter of an active module. For more information on assigning Performers to parameters, see Assigning the Performers.

2.3. Assigning the Performers

Before the effect of the Performer's modulation pattern can be heard, it must first be assigned to a parameter.

The process for assigning each Performer is the same, and a Performer can be assigned to multiple parameters at once.

To assign a Performer to a parameter:

1. Drag the arrow icon of Performer 1 (P1) to, for example, the first modulation slot of the Wavetable Position. When the outline of the modulation destination is highlighted, release the mouse button.

2. Click and drag the modulation slot upwards to increase the modulation amount applied to the Wavetable Position from the Performer.

3. Repeat this process to assign the Performer to more parameters or to assign Performers (P2 and P3) to parameters.

You can double-click the modulation slot to set the maximum modulation amount or reset it to zero.
2.4. Editing Modulation

This section provides an overview of the features available for editing modulation in the Performer grid.

Selecting Modulation

To select modulation points:

- In the Selection Zone, drag across any selection of modulation points to highlight them.

For more information on the Selection Zone, see Overview of the Performers.

Deleting Modulation

You can delete individual or multiple modulation points.

To delete a single modulation point:

- Double-click the modulation point.

To delete multiple modulation points:

- In the Select zone, select the points that you want to delete, then double-click in the Segment Edit zone.

Alternatively, you can select a modulation point and drag left or right. Any existing points from the selected modulation point to the target location are deleted as the mouse is moved.

To delete all modulation within a Performer:

- Click the Initialize button and select Bipolar or Unipolar or double-click the pattern in the Remote Octave overview to reset the grid.

To delete all three modulation patterns for all three Performers:

- Double-click in the lower grid area of the Remote Octave overview.

For more information on the Remote Octave, see Overview of the Performers.

Moving Modulation

You can move modulation points in values quantized or unquantized to the grid value.

To move a selection of modulation points in steps quantized to the grid:

- In the Select zone, select the points that you want to move, then in the Segment Edit zone, drag them horizontally.

To fine-tune a selection of modulation points unquantized to the grid:
• In the Select zone, select the points that you want to move, then in the Edit zone, drag horizontally holding the right mouse button.

For more information on the Select zone and Segment Edit zone, see Overview of the Performers.

**Bending a Modulation Curve**

• Place the mouse over an existing modulation curve on the grid, then click and drag upwards or downwards.
3. REMOTE OCTAVE

Remote Octave provides a special key zone with access to 12 optional variations of the Performers P1, P2, P3. These alternative sets can be switched remotely using MIDI notes as key switches or by selecting one of the 12 patterns using the mouse in the footer of MASSIVE X.

You can think of the Remote Octave as a remote control on your keyboard controller to select different Performer modulation patterns. This can be used in a performance to change modulations on the fly for variation, or for precise control when programming remote sequences in your favorite host sequencer.

3.1. Overview of Remote Octave

This section provides an overview of the Remote Octave features.

(1) Remote Octave Keys: The bottom area holds the 12 keys of the Remote Octave. This area displays information about the activity states and is used to manually change the active patterns of all Performers using the mouse. The patterns here directly correlate to each note of the chromatic scale within the Remote Key Zone (7).

Here’s an overview of the Remote Octave key states:

- A Play icon next to the name of a pattern indicates the Performer pattern currently playing.
- An orange outline highlights which pattern will play when the next launch trigger is received. This signal can be triggered by a change of the Remote Octave (for example, switching via the mouse in the footer or MIDI note in Remote Octave zone) or by a MIDI note, see (5) for more information.
• An orange fill indicates a pattern that is currently open in the Editor and playing. Selecting a key with a right-click will open the associated pattern to be edited while another pattern is playing.

• A gray fill indicates the pattern currently being edited but not playing. It is possible to have one pattern playing while editing another, to do this, right-click a pattern other than the one playing.

(2) Remote MIDI control: This button mutes incoming MIDI notes to the Remote Octave key zone (defined on the Performer Grid view (8)). This function can be used, for example, to disable remote switching from a host sequencer while editing and listening to the modulation effect of a Performer pattern.

(3) Performer Grid view: The Grid option button becomes visible when the Performer editor is selected and shown in the lower area of MASSIVE X. It opens the Grid view that holds playback options for the Performer and an overview of all Performer patterns.

(4) Trigger modes: This selector switches between Loop and OneShot modes.

  • Loop: The section within the Start /End Markers will repeat.
  • OneShot: The section within the Loop Markers will play once only.

The Performer options are globally applied to all three Performers.

(5) Performer Launch options: This selector switches between the Performer Launch options, as follows:

  • Remote: Starts or retriggers a modulation pattern directly when a pattern is changed or reselected. Use the Remote option when you want to sequence modulation pattern changes with your host sequencer.
  • Key: Starts or retriggers a pattern when a note is played. Use Key when you want to restart the modulation pattern every time a note is played.

(6) Remote Power button: This button enables/disables control of Remote Octave key switches via MIDI. This deactivates the key zone filtering so that the whole keyboard range can be used to play notes.

(7) Remote Key Zone: The key zone for MIDI note control of the Remote Octave can be shifted up and down in octaves by dragging the Remote handle left and right.

(8) Performer Grid Overview: This is used to select a modulation pattern for editing. It features the P1 at the top, P2 in the center row and P3 at the bottom row. The column holding the patterns currently playing is highlighted with an orange outline. The pattern visible in the editor has a black outline. There is also a playback cursor as seen in the Performer editor. The 12 pattern variations are placed next to each other on the same row. The Grid offers an overview of all modulation patterns and provides a convenient way to copy and swap pattern sets and individual patterns.

  • To copy a pattern, drag and drop a pattern onto a different slot.
  • To swap the patterns, right-click and drag and drop between two slots.
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