Machiniste

The Machiniste is a software simulation of a generic sample based drum machine. It provides nine simultaneously playable channels that hold one sample each. You can selectively mute channels and make them exclusive to avoid specific simultaneous hits. You can edit the samples assigned to channels extensively, adjusting their start and end points, pitch, filtering, amplitude envelope, pan and volume. These edits can be further modulated globally, at the parameter and step level. You can program the Machiniste through note tracks or internal patterns. Each of its four pattern banks can store up to eight patterns. Each pattern can store up to 128 steps for each channel. You can define the step duration to equal a 16th, 32nd, 8th triplet or 16th triplet note. Hits can have individual parameter modulation values. Patterns are always programmed in step mode. Unlike the Beatbox 8 and 9, you can edit the step sequences of all channels simultaneously due to the grid design of its step sequencer. You can play the Machiniste through pattern and note tracks, even simultaneously. The Machiniste provides the most efficient way to rhythmically sequence and tailor the sound of samples and sample loops in your arrangement.

Figure: the Machiniste drum machine.

The interface of the Machiniste is divided in four sections: the pattern section, the master section, the step sequencer section and the sample editor section.

Pattern section

The pattern section provides controls to select, clear and edit the properties of patterns.

Figure: the Machiniste's pattern section.

1. **Bank**: These radio buttons set the current pattern bank.

2. **Pattern**: These radio buttons set the pattern in the current bank for playback and editing.

3. **Clear**: This button clears the contents of the current pattern. *Note: When you clear a pattern, its length is reset to 16 steps, its step duration to a 16th note and its shuffle function disengaged.*

4. **Length**: This display shows the length of the current pattern in steps. The minus (-) and plus (+) buttons increase or decrease its length by one step. The minimum pattern length is 1 step and the maximum is 128. *Note: Shift–click the buttons to double or halve the current pattern's length.*

5. **Range**: The Machiniste’s patterns can store up to 128 steps. These radio buttons set a range of 16 steps for editing in the step sequencer section. Each higher numbered radio button sets the next 16 steps of the sequence.

6. **Scale**: These radio buttons set the duration of steps. The radio button labeled “2” sets it to a 16th note duration, the one labeled “4” to a 32nd note duration, the one
labeled “3” to an 8th triplet note duration and the one labeled “6” to a 16th triplet note duration.

7. **Shuffle**: This switch engages the shuffle function for the current pattern.

## Master section

The master section provides controls to set the amount of global modulation and the volume of the master output mix.

*Figure: the Machiniste's master section.*

1. **Modulation**: This knob sets the global amount of modulation by the hit modulation values from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

2. **Volume**: This knob attenuates the volume of the master output mix in decibels.

## Step sequencer section

The step sequencer section provides controls to assign samples to channels, select them for sample editing, set them as exclusive, mute them and edit their step sequence.

*Figure: the Machiniste's step sequencer section.*

1. **Edit**: These radio buttons set the sample in the corresponding channel for editing with the controls of the sample edit section.

2. **Sample**: These slots hold the samples assigned to each corresponding channel. Drag a sample from the sample browser to one slot to load it or replace an existing sample in the corresponding channel. Double-click the slot to play its sample. **Note**: Sample slots can hold loop as well as one–shot samples.

3. **Exclusive**: These switches define a subset of channels whose hits should not sound simultaneously. When exclusive channels have simultaneous hits, only the hit in the topmost channel will play. **Note**: When playback is active, activating a channel’s exclusivity takes effect immediately but deactivating it takes effect only at the start of the pattern.

4. **Step**: These switches create or remove a hit for the corresponding channel in the current pattern at the corresponding step. They also act as knobs that set the modulation value of the hit from no modulation at minimum to full positive modulation at maximum.

5. **Mute**: These switches silence the sound from the corresponding channel. **Note**: When playback is active, muting a channel takes effect immediately but unmuting it takes effect only at the start of the pattern.

## Sample editor section

The sample editor section provides controls to set the start, end, pitch, filtering, amplitude
envelope, panorama and volume of the samples assigned to channels, as well as to modulate those values with the hit modulation values.

Figure: the Machiniste's sample editor section.

1. **Start**: This knob sets the position from which the sample playback starts as a percentage of the sample's duration. *Note: If this value is bigger than the end value, the sample is played backwards.*

2. **Start modulation**: This knob sets the amount by which the hit modulation values modulate the start value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

3. **End**: This knob sets the position at which the sample playback ends as a percentage of the sample's duration. *Note: If this value is smaller than the start value, the sample is played backwards.*

4. **End modulation**: This knob sets the amount by which the hit modulation values modulate the end value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

5. **Pitch**: This knob sets the playback speed of the sample thus altering its pitch, from 2 octaves below at minimum through original pitch at center to 2 octaves above at maximum. *Note: Since this knob changes the sample playback speed, the length of the sound also changes accordingly.*

6. **Pitch modulation**: This knob sets the amount by which the hit modulation values modulate the pitch value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

7. **Filter**: The Machiniste includes a simple filter with a roll–off of 6 dB per octave. This selector sets the mode of the filter to bypass (off), low–pass or high–pass.

8. **Cutoff**: This knob sets the cutoff frequency of the Machiniste's filter from 28 Hz at minimum to 12 KHz at maximum. *Note: Even if you change this control continuously, the cutoff frequency remains constant during the length of the sample.*

9. **Cutoff modulation**: This knob sets the amount by which the hit modulation values modulate the cutoff value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

10. **Resonance**: This knob sets the amount of resonance of the Machiniste's filter from no resonance at minimum to full resonance at maximum.

11. **Resonance modulation**: This knob sets the amount by which the hit modulation values modulate the resonance value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

12. **Envelope ratio**: This knob sets the position at which the amplitude of the sample's envelope is highest as a percentage of the sample's duration.

13. **Envelope ratio modulation**: This knob sets the amount by which the hit
modulation values modulate the envelope ratio value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

14. **Envelope slope**: This knob sets the rate of decay of the sample's amplitude envelope around the position defined by the envelope ratio value, from exponential at minimum through linear at center to logarithmic at maximum.

15. **Envelope slope modulation**: This knob sets the amount by which the hit modulation values modulate the envelope slope value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum. *Note: The negative portion of the knob doesn't produce the expected modulation.*

16. **Pan**: This knob sets the panorama of the sample from hard left at minimum to hard right at maximum.

17. **Pan modulation**: This knob sets the amount by which the hit modulation values modulate the pan value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

18. **Level**: This knob sets the relative volume of the sample from silence at minimum to full at maximum.

19. **Level modulation**: This knob sets the amount by which the hit modulation values modulate the volume value from full negative modulation at minimum through no modulation at center to full positive modulation at maximum.

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