Produced by Impact Soundworks
Version 1.0

Introduction

Momentum is a percussive virtual instrument based on a wholly unique library of organic, acoustic performances and multisamples. We conceived this library originally in 2014 to address a need; a gap in our templates as composers and producers.

We are always looking for rhythmic elements to add to our music. Whether it's a pop EDM track, an epic trailer cue, or a tense action underscore, these elements can set the tone for the mood and feel of the piece. It's that *pulse*, the driving force that hooks the listener immediately.

Momentum offers a tremendous collection of original, acoustic percussive performances just a click away. Everything was created and recorded organically. Unlike countless other rhythm/pulse libraries, these are not just synthetic elements processed with the same set of tools that everyone else uses.

We captured such sounds as mistreated bass drums, rare hand percussion, hammered guitars, slapped cellos, wine glasses, found metal objects, giant boxes, tiny blocks, and a treasure trove of other unique instruments. We recorded over 2,500 performances and hundreds of multisamples, then **tagged and categorized** every sound to make them as easily as possible to access.

With **Momentum**, finding and editing the perfect, organic rhythm element is easier than ever before. We know it will inspire your music!

Installation

1. Install the **Pulse** application if you don't already have it. **Pulse** is a cross-platform desktop app that lets you download and install your libraries with blazing speed!

https://pulsedownloader.com/

2. Once **Pulse** is installed, open it and enter your **Momentum** download code. Follow the instructions to download and install the library.

3. Finally, load the included **Momentum** NKI in Kontakt. No activation is needed, as this is not a Kontakt Player instrument. For the **REX and WAV** collection, the files can then be dragged directly into your DAW, or into any plugin you like. These files include **slice markers** and tempo information, so they can be converted and loaded into plugins such as Stylus RMX easily.

Optional: Please see our Kontakt workflow tutorial for information on adding instrument files to the faster Quickload window or the Kontakt Database.

Instruments

Below is a list of instruments sampled for this library. Some of these items are instrument "kits" assembled and performed all at the same time.

Acoustic Guitar w/ Rubber Mallets
Air Canister w/ Brushes
Bamboo w/ Mallets
Bass Drum
Bass Drum Thud
Bass Drum and Shaker
Bass Drum and Tambourine
Bass Drum, Djembe, and Hat Kit
Bass Drum, Tabla, and Rivets Kit
Bass Drum, Tabla, and Shaker Kit
Bass Drum, Tabla, and Snares Kit
Bass Drum, Thud, and Bells Kit
Bass Drum, Thud, and Djembe Kit
Bass Drum, Thud, and Tang Kit
Bass Tambourine
Bells

Big Metal Door
Bike Spokes
Black Bench
Black Bench Legs
Black Kick
Bodhran Rattan Tipper
Bongo Can w/ Mallets
Bongos w/ Brushes
Bottle Pan and Cymbal
Bowl Chimes w/ Rubber Mallet
Bowl Chimes w/ Soft Mallet
Brass Urn w/ Brushes
Brass Urn w/ Cupped Hand
Brass Urn w/ Mallets
Brushed Assorted Perc
Brushed Drum and Triangle

Bucket Lid w/ Mallets
Bucket Lid w/ Rubber Mallet
Buffalo Drum
Building Blocks
Cajon
Caxixi
Cello w/ Brushes
Cello w/ Edge
Cello w/ Pick
Cello w/ Slaps
China Cymbal
Chinese Tom
Compressed Air
Conga
Darbuka w/ Brushes
Djembe
Djembe w/ Brushes
Doumbek
Doumbek and Cymbal
Doumbek and Soup Can Kit
Drum Tapping
Egg Shakers
Electric Guitar Strums, Mid Position
Electric Guitar Strums, Top Position
Erhu w/ Brushes
Erhu w/ Pick
Frame Drum
Glass Bottle
Glass Door Frame
Glass Kit w/ Brushes
Glass Kit w/ Mallets
Goat Toes
Gold Urn w/ Brushes
Gong w/ Brushes
Hand Drum w/ Dreadlocks and Mallet
Hand Drum w/ Stick & Dreadlocks
Hand Percussion Kit
Hand Percussion Taps and Dreadlocks
Hawaiian Drum
Irish Bouzouki w/ Edge
Irish Bouzouki w/ Pick
Irish Bouzouki w/ Rubber Mallet
Irish Bouzouki w/ Timpani Mallet
Ironing Board
Jingle Drum and Bells
Kalimba
Large Acoustic Guitar w/ Brushes
Large Acoustic Guitar w/ Edge

Large Acoustic Guitar w/ Pick
Large Bass Drum
Large Bucket w/ Mallets
Large Bucket w/ Rubber Mallets
Large Table
Maracas
Metal Box w/ Mallets
Metal Box w/ Rubber Mallets
Metal Dryer w/ Brushes
Metal Dryer w/ Wands
Metal Heat Sink
Metal Lid w/ Mallets
Metal Lid w/ Rubber Mallets
Metal Staircase
Metal Stand
Metal Table
Metal Tub
Metal Washer w/ Brushes
Metal Washer w/ Wands
Metallic Darbuka
Metallic Sticks
Muted Acoustic Bass
Muted Acoustic Bass
Muted Acoustic Guitar w/ Picks
Muted Autoharp w/ Mallets
Muted Bass Drum
Muted Bass Drum and Hihats
Muted Buffalo Drum
Muted Large Bottle
Muted Mandolin w/ Picks
Muted Prayer Bowl w/ Brushes
Muted Prayer Bowl w/ Mallets
Muted Violin w/ Pick
Napkin Holder
Nylon Guitar Body
Nylon Guitar Slaps
Nylon Guitar w/ Shaker
PC Keyboard Typing
Plastic Bin Bass Drum w/ Mallet
Plastic Bin w/ Mallet
Plastic Teapot
Pod Rattles
Shakers
Small Wrenches
Snare Skin
Soup Pot
Soup Pot Ring
Soup Pot w/ Hands

Sticks
Sub Bass Drum with Hats
Tambourine Muted w/ Mallets
Tambourine w/ Mallets
Thermos Bass Drum
Tin Cup Kit
Tin Cup w/ Fingernails
Tiny Glass Kit w/ Metal Mallets
Tiny Glass Kit w/ Rubber Mallets
Tiny Metal Kit w/ Brushes
Travel Mug
Triangle and Djembe
Udu
Violin Body w/ Fingers
Violin Rubber Bounces
Violin Strings w/ Rubber Mallets

Violin w/ Brushes
Violin w/ Edge
Violin w/ Pick
Water Barrel w/ Mallets
Water Bass Drum
Water Drum Shaker
Water Jug
Waterglass Mallet Phrases
Waterglasses w/ Mallets
Waterglasses w/ Sticks
Wicker Basket
Wood Triangle Drums
Wooden Surface
"Toy" Percussion Set

Momentum.NKI

This "Loop Designer" patch allows you to significantly edit, morph, and perform each rhythm performance (loop) in great detail. One loop is loaded and edited at a time. The keyboard layout is split up as follows:

GREEN Keys (F-2 to G-1): Transposes the loop. The yellow key indicates the current transpose, which defaults to 0. For example, pressing D-1 would transpose the loop by +2 semitones.

RED Keys (C0 to G0): FX performance triggers. These are very useful for realtime performance and adding instant variation to the performances. You must HOLD these keys to continue triggering the effect.

> **C0**: Reverses playback.
> **C#0**: Random slice playback (shuffle)
> **D0**: 16th note stutter (retrigger) effect.
> **D#0**: 32nd note stutter.
> **E0**: 64th note stutter.
> **F0**: 16th note gate / chop effect.
> **F#0**: 32nd note gate / chop.
> **G0**: 64th note gate / chop.

PURPLE Keys (C1 to E1): Some instruments have oneshot hits (multisamples) associated with them. You can play these keys to perform the instruments like any other multisampled percussive sound.

BLUE Keys (C2 and up): Loop trigger notes. Pressing any key will begin playing back the loop from the corresponding slice. C2 is the first slice, C#2 is the second slice, and so on.

Loop Info

Clicking on the **Loop Name** will open the sound source browser (see below).

The **Left and Right arrows** will cycle through the loop library.

The **BPM and time signature** display will show information for the current loop. Note that Kontakt will adjust the loop BPM to your host tempo. However, depending on the source material and the difference in tempo, it is sometimes better to find a loop that is closer in source BPM to your project tempo.

The **Waveform Display** shows each slice of the loop. Dragging the mouse **up and down** on a slice will edit a parameter for that slice. In the above screenshot, the "Pitch" table is selected, so dragging up or down on each slice will adjust the **Pitch** for that slice.

USEFUL EDITING SHORTCUTS:

When editing parameters for each slice, there are some helpful keyboard shortcuts.

Control/Cmd + Click: Resets the value for one slice.
Alt/Opt + Drag: Adjusts ALL slices relatively to one another.
Ctrl+Alt / Cmd+Opt + Click: Resets the entire table.
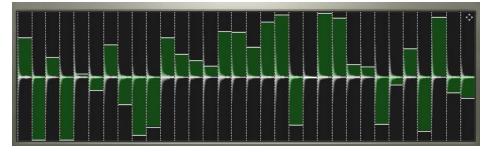
Selecting a different **tab** (Pitch, Vol, Pan…) will switch the parameter being edited.

Clicking the **yellow LED** next to each tab will enable or disable the edits you have done to that table.

Some tabs have an extra slider which is dragged left and right to adjust **modulation amount**. For example, if the Pan modulation amount is turned all the way up, adjusting the per-slice pan will affect the panning up to 100% hard left or right.

The **Random (dice)** button will randomize the parameter values for the selected table:

The **MIDI Drag Icon** (upper right: a set of four directional arrows) will allow you to drag the loop's MIDI slice data into your DAW. Simply drag on this icon into your DAW to copy the MIDI data. The **Loop** button, when disabled, will stop the loop from repeating after it has finished.

The **Amplitude** (volume) envelope can be edited on a **GLOBAL** or **PER-SLICE** basis.

In **GLOBAL** mode, the envelope begins when a MIDI note is received from your keyboard or DAW. In **PER-SLICE** mode, the envelope re-triggers on each slice.

The **Filter** envelope works the same way. Of course, first, a filter must be enabled. The **Type** knob selects the filter model, while **Cut** and **Reso** adjust cutoff and resonance.

The **Loops** button will swap the editing mode from **Loops** to **Oneshots**, as many loops have **oneshot multisamples** which load at the same time.

The **Link** (chain) buttons link the editing controls of the Loops to any loaded Oneshots.

Browser

Momentum features an incredibly powerful soundsource browser, allowing you to easily hone in on the exact sound you're looking for.

The top section (above the two-column list) shows all **Tags**. Select multiple tags to filter the list of soundsource results in the browser below.

Most tags are self-explanatory. **TIMBRE** tags refer to the construction or material of each instrument. **PITCH** sorts by either pitched instruments (such as guitars and violins) OR unpitched instruments (drums, shakers, etc.)

The **Speaker Icon** enables **Auto Previews**. When this is ENABLED, clicking on any loop will play back a quick preview at its native tempo.

Once a loop has been selected, press the **Check Icon** to confirm it, and then the **X icon** to close the browser.

FX Rack

Momentum includes a custom FX rack with MIDI-learnable controls (right-click to learn).

Pressing the (*) button next to each effect will **Randomize** the FX parameters. **Alt+Clicking** on this button will return all parameters to default.

Preset Management: Allows you to initialize the current rack (clear all settings), save, and load custom FX rack presets.

FX Rack Lock: When enabled, the current FX rack settings will not change when changing snapshots.

EQ: A four-band, analog-modeled parametric EQ. All four bands have controls for gain (+/- 20dB) and frequency range. The low-mid frequency band (LMF) and high-mid (HMF) also have controls for the width (or "Q") of each band. A lower Q value means the band is narrower and affects a smaller range of frequencies, while higher Q values can affect multiple octaves worth of frequency content.

COMPRESSOR: An analog-modeled, SSL-style compressor that can be used for both subtle and extreme processing. All controls are standard to compressors; the Mix knob can be used for phase-accurate blending of the dry (uncompressed) and wet (compressed) signals.

TRANSIENT DESIGNER: Dial in the exact amount of attack and sustain you want, ideally for fine-tuning percussive sounds.

SCREAM: A distortion unit based on the 'Tube Screamer' guitar pedal. Tone filters the high frequencies out of the signal, while Drive boosts the distortion effect. Bass and Bright push more low or high frequencies, while Mix blends the dry & wet processing; do note that even at 0%, this effect does still have a mild impact on the sound.

BITCRUSHER: A key effect that can reduce the bit depth and sampling rate of the audio output in real time. Great for adding even more grit and crunch to any sound. The Noise knob introduces *constant* line noise, while Noise Color filters this noise.

DELAY: An all-purpose, tempo-synced delay unit. Damping, when turned up, dampens (lowpasses) the high frequencies from the echoes. Pan increases the amount of 'ping pong' L/R in the echoes.

REVERB: A convolution reverb with a large collection of custom impulse responses (IR) created by Impact Soundworks. HPF and LPF filter the reverb signal, while Size changes the length of the IR. Note that this effect is somewhat CPU-intensive and, on some older computers, may not be suitable for real-time use. Also note that the HPF, LPF, and Size knobs are not processed in real-time and thus are not automatable. As with Delay, the Reverb SEND can be modulated using the Mod Matrix.

LIMITER: A simple brickwall limiter. Good for taming unruly patches and FX blends with minimal CPU usage.

Mod Matrix

Overview

The mod matrix allows for highly flexible routing of modulators, such as generated LFOs and MIDI CCs, to all the FX controls of M**omentum**. Mod matrix setups can be easily saved and loaded from the built-in Preset Management menu, or cleared with the **Initialize** function within that menu.

All modulation within the matrix uses the **base value** of controls throughout the interface. The **base value** can be changed anytime by moving the knob or slider to be modulated. This might seem obvious, but active modulation will visibly change the value of the control. The displayed value of the control when it is being modulated is **not** the base value, but the **modulated** value.

In short: even if a knob is currently being modulated (for example, by an LFO) you can always click on it and move it to the desired base value. After a brief pause, the visible modulation will continue.

Modulators

To create a modulation routing, first click the dropdown menu on the left side (set to [none] by default) and select a **modulator**.

Note that all modulators have a **Mod Depth** parameter which controls the intensity of the modulation. A depth of 0% means no modulation will occur. 100% depth means the modulation will span the entire range of the control: for example, if the destination control is Filter Cutoff and that control is set to 0 (minimum), a 100% modulation depth means the modulation will push up to maximum value.

Conversely, a negative modulation depth reacts inversely to the value of the modulator. For example, if the **Velocity** modulator normally increases the control at higher velocities, a negative modulation depth will **decrease** the control at higher velocities.

Modulator Types

LFO: An inaudible, low frequency oscillator that changes the destination control continuously according to the selected waveform. LFOs are **bipolar**. This means the modulation goes both above the base control value and below it.

LFOs have a number of unique parameters:

LFO Shape: Switches the LFO waveform between sine, cosine, triangle, square, saw, and random shapes. Note that for the **Saw** waveform, the ramp moves **upward** when mod depth is **positive**, and **downward** when mod depth is **negative**.

LFO Freq: Sets the frequency of the LFO. For example, a value of 1Hz means that the LFO waveform will complete its cycle every second (1 Hz = 1 second).

Tempo Sync: When enabled, the LFO Freq knob changes to LFO Sync, which corresponds to the host tempo.

Trigger Free|Note: In **Free** mode, the LFO is 'free running', meaning that each time a note is pressed the phase of the LFO will be different. In **Note** mode, the phase of the LFO resets each time a note is pressed, as long as there are no currently active voices.

LFO Unipolar: Functions much like bipolar LFOs, but the modulation only happens in one direction (positive if the modulation depth is above 0%, or negative if the depth is below 0%).

CC: Links the value of MIDI CC to the destination control. Creating a CC modulator will prompt you to select which MIDI CC will be assigned as the modulator.

Velocity: Changes the destination control based on the velocity of the last MIDI note pressed. For positive mod depth values, higher velocities will result in higher modulation values.

Key: Changes the destination control based on the note # of the last MIDI note pressed. For positive mod depth values, higher MIDI notes will result in higher modulation values.

Pitch Bend: Links the value of the pitch bend MIDI controller to the destination control. This is separate from the CC modulator, as the pitch bend controller is not technically a MIDI CC.

Mono AT: Changes the destination control based on the last aftertouch value pressed. Note that not all MIDI controllers support aftertouch, so this will not be useful unless your controller has support for it. Also, this control is strictly based on mono aftertouch - keyboards that send poly aftertouch will only be read as single aftertouch values.

Mod X/Y: Not used in Momentum.

Random Uni/Bi: Generates a random value every time a note is pressed and uses this value to modulate the destination control. Unipolar will only generate positive values, while bipolar will generate both positive and negative values.

Constant: Sends a constant value to the destination control. This value is simply the position of the Mod Depth knob.

ADSR Env: Acts just like the previously described Volume, Filter, and Pitch ADSR envelopes, except it can be routed to any destination control. All 4 values (Attack, Decay, Sustain, and Release) can be defined. The **Trigger** LED, when enabled, will re-trigger the envelope each time a new note is pressed.

Keyswitch: Sets a keyswitch note to toggle the destination control. You can select both the **Keyswitch Note** and whether it should **Latch** or not. In **Latch** mode, pressing the keyswitch will toggle the control regardless of whether you continue holding the keyswitch note. When **Latch** mode is off, you must hold the note.

    NOTE: Keyswitches will only modulate certain 'binary' destinations (controls with ON/OFF or ENABLED/DISABLED as possible values).

CC Range: Toggles the destination control based on current MIDI CC values. You can specify the MIDI CC to use, and what value range that CC must be for the toggle. As with the Keyswitch modulator, this can only be used for certain binary destinations.

Vel Range: Toggles the destination control based on the most recently played velocity value. You can specify the velocity range. As with CC Range, this can only be used for certain binary destinations.

Key Range: Toggles the destination control based on the most recently played MIDI note. You can specify the key range. As with CC & Vel Range, this can only be used for certain binary destinations.

Mod Table A-D: Sends modulation values for each step of the arpeggiator in layers A-D (respectively). Note that the arp must be turned on for the given layer in order for this modulator to work!

Destinations

The mod matrix operates "one-to-many", meaning the same modulator (like CC1) can be used to modulate multiple destinations. However, it does not operate "many-to-one", meaning once a destination control is being modulated, that control cannot be modulated by any other modulators.

Most any parameter in the FX rack can be modulated.

Loop Mapper

Sometimes, it's preferable to load many loops at once without doing much editing. This can be better for fast writing and mockups. The **Loop Mapper** patch is much simpler than the main Momentum patch, but the tradeoff is that loops cannot be individually edited, and there is no Mod Matrix.

The **Loop Mapper** supports FIVE octaves of loops loaded menu-style, one per key. You can click on individual keys of the keyboard, then click the **Loop Name** (or the soundsource menu button) to select a new sound source.

Each KEY can have unique **Volume, Pan, and Tune** settings. You *can* have the same loop on multiple keys, with unique Volume, Pan, and Tune settings for each.

The **Amp & Filter Env** section works much like it does in the main patch, but with no per-slice capability.

The **Browser** is also similar to the main patch, with the addition of a **Note Display**. This reminds you what note is currently being edited, and gives you a way to quickly change notes and assign sounds without closing and reopening the browser.

Credits and Acknowledgements

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Troubleshooting and Feedback

Have you used **Momentum** in a project recently? Got an awesome track you'd like to share? Drop us a line (admin@impactsoundworks.com) and we might post it on our website! Or, tell the world at our Facebook page here: http://www.facebook.com/ImpactSoundworks

We encourage all our users to share and promote their work. Word of mouth is the #1 way people find our samples, so it also helps us to produce more great libraries for you!

For any technical support issues regarding the library, don't hesitate to email support@impactsoundworks.com.

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