



d16 group
AUDIO SOFTWARE

PunchBOX2

BASS DRUM SYNTHESIZER



Product Overview

Overview

Four Flexible Generators

PunchBox 2 is built around four parallel generators that work together to create the final kick sound. Three of them are universal sample-based layers for shaping supporting elements of the sound, while the main Kick generator can operate across five engine modes. The generators can be activated independently, routed into the effects section, and can also respond to MIDI input through Keytrack and Velocity settings depending on the current configuration.

3 Sample Based Layers

Layer 1, Layer 2, and Layer 3 are universal sample-based generators used to build the supporting elements of the final kick sound. Each layer offers the same set of controls for shaping and balancing its role in the mix, including tuning, stereo placement, sample start, filtering, and signal routing to the FX section.

Main Kick Generator

The Kick generator is the main sound source responsible for the core body of the kick. It can operate across five engine modes, combining sample-based playback with classic drum machine-inspired synthesis and more flexible modern sound generation.

Sample

The Sample mode uses audio samples as the sound source for the main Kick generator, making it possible to build the core of the kick from recorded or pre-prepared material. It gives direct access to sample-based shaping controls such as start offset, ring modulation, level, stereo width, panning, and filtering.

909 / 808 / 606

These three engine modes are based on emulations of well-known drum machine kick circuits, giving PunchBox 2 access to classic electronic bass drum character directly inside the main Kick generator. Together, they cover a range of familiar analog-inspired tones, from punchy and focused to deeper and longer-decaying styles.

Wavetable

The Wavetable mode extends the Kick generator with a more synthetic and flexible sound source based on wavetable playback. It gives access to wavetable selection, frame position, phase, level, and filtering, while the Position parameter can also be modulated in the Advanced Editor for more dynamic results.

Built-in FX Rack

Algorithms

The built-in FX rack in PunchBox 2 includes a set of processing modules designed to shape, refine, and finalize the generated kick sound at different stages of the signal chain. It combines tonal correction, filtering, saturation, and low-end control with final output handling, while the first four algorithms can be reordered and used within different Patchbay configurations for more flexible signal flow.

Bitcrusher

The Bitcrusher reduces resolution and sample rate to add grit, edge, and digital character to the sound. It is based directly on the bit-crushing heritage of well-known Decimort processor, and also includes input gain, filtering, keytracking for resampling frequency, and an FX Amount control for balancing the processed signal.

Distortion

The Distortion module adds harmonic saturation and clipping-based character, from subtle enhancement to more aggressive shaping. It includes controls for shape, dynamics, preamp, filtering, contour, tone, output level, and FX Amount.

Filter

The Filter module is used for shaping the tonal balance and focus of the sound before the final output stages. It operates in two modes and provides controls for cutoff, resonance, filter type, tracking, and FX Amount.

Resonant Mode

The Resonant Filter mode is a standard multimode filter designed for flexible and precise frequency shaping. In addition to the shared filter controls, it also includes selectable slope settings for adjusting the filter response.

SH-101 Mode

The SH-101 Filter mode is based on the character of the classic SH-101 synthesizer filter. It uses the same core control set as the other filter mode, but offers a different tonal response and flavour.

Equalizer

The Equalizer is used for tonal balancing and frequency shaping, and can operate in two different models. Depending on the selected mode, it can be used either for more precise correction or for broader, more characterful tone shaping.

Modern Mode

The Modern EQ mode provides a more typical parametric EQ workflow with controls for high, mid, and low bands. It allows precise adjustment of gain, frequency, and mid-band width for detailed tonal shaping.

Vintage Mode

The Vintage EQ mode offers a more classic passive-style EQ response with a different tonal character. It is based directly on the heritage of the Pultec EQP-1 style equalizer design, and includes separate controls for attenuation and boost in the high and low ranges, along with mid-band shaping.

Mono Bass

The Mono Bass section controls the stereo image of the low-frequency range. By setting a crossover frequency, it converts the signal below that point to mono while leaving higher frequencies unchanged.

Limiter

The Limiter is the final dynamics stage in the rack and is used to control the overall output level. It includes threshold and output controls, built-in auto-makeup, and can also work as a standard output gain stage when limiting is disabled.

Soft Clip

Soft Clip is an additional stage placed after the Limiter to further control peaks. It helps catch remaining amplitude spikes and smooth the final output when stronger limiting is used.

Flexible Patchbay Config

The Flexible Patchbay Config lets you define how signals move through the FX rack by selecting one of 10 available routing topologies. Working together with the FX Send controls in the generator section, it allows the first four effects to interact in different ways, going beyond a simple serial chain and giving you more freedom in how the sound is processed.

Real-time Pitch Detection

Real-time Pitch Detection analyzes the estimated pitch of the generated kick as you work, helping you tune it more easily to the rest of your project. The function is activated with a dedicated toggle and provides continuous pitch feedback directly inside the instrument.

Advanced Editor

The Advanced Editor adds a deeper level of control to PunchBox 2 by allowing selected parameters to be shaped over time with multistage envelopes. It is organized around dedicated parameter groups for Layers, Kick, and Master, making it possible to focus modulation on different parts of the instrument while keeping the workflow clear and structured. In addition to envelope editing itself, the section includes tools for parameter selection, envelope length, modulation amount, waveform preview normalization, node snapping, zooming, time-scale options, and other functions designed for precise and flexible sound shaping.

Waveform Preview

The Waveform Preview function provides real-time visual feedback for individual generators as well as the processed master output. Multiple previews can be displayed at the same time, making it easier to see how envelope changes affect separate layers and how they combine in the final signal.

Multi-Stage Envelopes

Multi-stage envelopes allow selected parameters to change over time using editable nodes and curves, giving PunchBox 2 a much deeper level of modulation than a fixed envelope approach. Different parameter groups can use their own envelope lengths, and the editor provides detailed control over node placement, curve shape, modulation range, snapping, zooming, and time scaling for more precise sound design.

Quick Selection of Predefined Envelopes

Predefined envelope shapes let you apply ready-made modulation curves quickly, without building them from scratch. They provide a fast starting point for shaping movement while staying fully integrated with the Advanced Editor workflow.

Vast Factory Content

PunchBox 2 includes an extensive collection of factory content designed to support both fast preset-based workflow and more detailed sound design. The library covers Master Presets, Kick Presets, samples, and dedicated effect presets, giving users a broad starting point across different parts of the instrument while keeping the content structure organized and easy to navigate.

Sticky Sample Browser

The Sticky Sample Browser gives quick access to both factory and user sample content from a docked panel that remains closely integrated with the main workflow. It combines source selection, filtering, preview, and destination-based loading in a single view, making it easier to browse, audition, and assign samples to the selected generator without interrupting the editing process. The browser also supports mapped user sample locations, dynamic sample lists based on active filters, and direct control over the sample destination, so working with different layers and the Kick generator stays fast and organized. In addition, it connects naturally with the Advanced Editor by linking sample destination and envelope group selection, helping maintain a more unified workflow across sound browsing and deeper editing.

Drag'n'drop Wave Export

PunchBox 2 includes a built-in export function that lets you render the current sound directly to an audio file and use it immediately in your production workflow. The export section allows you to define the destination folder, choose whether the clip length is set automatically or manually, and configure note, velocity, normalization, sample rate, bit depth, and channel format before rendering. Once the clip is generated, it can be previewed inside the plugin and dragged directly into the DAW, making it easy to move from sound design to arrangement without leaving the instrument.

Creative Randomizer

The creative Randomizer helps generate new kick ideas by allowing selected parameters to be randomized in a controlled way. When Randomization mode is enabled, eligible parameters can be included or excluded individually, giving you control over which parts of the sound will change. The process also respects the current browser filters when choosing samples or Kick-related content, so the generated results stay connected to the active sound selection and remain useful as creative starting points rather than completely arbitrary variations.

Multi-output Routing

PunchBox 2 supports multi-output operation with five stereo outputs, allowing different parts of the signal flow to be routed separately for more flexible mixing and processing in the DAW. From the Back Panel, you can assign outputs for the processed Master signal as well as the direct signals from Kick and Layers 1–3, choose whether those direct signals are sent only to their assigned outputs or also continue through the FX rack, and adjust dedicated trim levels for each direct output independently. The Back Panel also includes Master Output Trim options for overall gain staging, making it possible to balance both the individual direct signals and the final processed output to fit different session and routing setups.

All Features

- **Four Flexible Generators**
 - 3 sample based Layers
 - Main Kick generator with 5 operating modes:
 - Sample
 - 909
 - 808
 - 606
 - Wavetable
- **Built-in FX Rack**
 - Algorithms
 - Bitcrusher
 - Distortion
 - Filter with 2 models:
 - Resonant
 - SH-101
 - Equalizer with 2 models:
 - Modern
 - Vintage
 - Mono Bass
 - Limiter
 - Soft Clip
 - Flexible Patchbay Config
 - Real-time Pitch Detection
- **Advanced Editor**
 - Waveform preview for visual feedback during editing
 - Multi-stage envelopes for detailed parameter shaping
 - Quick selection of predefined envelopes
- **Vast Factory Content**
 - 1506 Samples
 - 1120 Master Presets
 - 243 Kick Presets
 - 66 Wavetables
 - 28 Bitcrusher presets
 - 28 Distortion presets
- **Sticky Sample Browser**
- **Drag'n'drop Wave Export**
- **Creative Randomizer**
- **Multi-output Routing**

Key Features

Hybrid Kick Design Engine

Long version

PunchBox 2 combines advanced synthesis, sample-based layering, and wavetable shaping in a single kick design environment built for modern production. At its core are faithfully modeled 909, 808, and 606 kick engines that capture the character of these legendary machines with a level of detail and authenticity that sets PunchBox 2 apart from more generic drum design tools. Blended with flexible sample layers and extended by wavetable synthesis, it gives you everything from classic analog-inspired punch to highly customized, mix-ready modern kicks.

Short version

Legendary kick emulations, sampling, and wavetable power — fused into one modern sound-design engine.

Vast Factory Content

Long version

PunchBox 2 comes loaded with an exceptionally large factory library built to give you instant access to inspiring, production-ready material from the moment you open the plugin. With 1506 samples, 1120 Master Presets, 243 Kick Presets, 66 wavetables, and dedicated Bitcrusher and Distortion preset banks, it delivers one of the most extensive content packages available in a kick design instrument. This enormous pool of ready-to-use material makes it easy to sketch ideas quickly, explore different directions, and dive into deeper sound shaping without ever starting from zero.

Short version

An enormous factory library puts a massive range of sounds, presets, and wavetables right at your fingertips.

Wavetable Power

Long version

PunchBox 2 expands kick design with a Wavetable engine that opens up a much broader sound spectrum than traditional bass drum tools usually offer. It lets you move beyond standard drum machine-inspired tones and explore everything from focused tonal weight to more synthetic, textured, and unconventional kick characters. With additional modulation possibilities, it gives you a more flexible foundation for building kicks that stand out.

Short version

Push kick design further with a Wavetable engine that unlocks a wider, more modern sound palette.

Advanced Editor

Long version

PunchBox 2 takes kick design further with an Advanced Editor that combines real-time waveform preview and deep modulation in one tightly integrated workflow. You can monitor each generator as well as the plugin's final output in real time, making it easier to understand how the layers behave on their own and how they work together in the finished sound. Multi-stage envelopes add a much deeper level of control, letting you shape selected parameters over time with precision while staying fully connected to the overall plugin design.

Short version

See every layer, shape every movement, and take full control with an Advanced Editor built right into the PunchBox 2 workflow.

Built-in FX Rack

Long version

PunchBox 2 gives you a powerful built-in FX rack designed to shape, enhance, and finalize your kick sound without ever leaving the plugin. From Bitcrusher inspired by the legacy of Decimort, to filter character rooted in the classic SH-101, to a Vintage EQ mode drawing from Pultec-style design heritage, the rack combines creative color with practical mix control in one cohesive environment. With Distortion, Mono Bass, Limiter, Soft Clip, and the flexible Patchbay Config system for exploring different routing topologies, it gives you a complete internal setup for taking a kick from raw idea to polished, mix-ready impact.

Short version

Shape, route, and finish every kick your way with a flexible built-in FX rack and Patchbay-powered signal flow.