

SERUM 2

What's

New in

Serum 2

CREDITS

Serum 2

Serum 2 plug-in for Microsoft Windows and Apple macOS
A synthesizer instrument plug-in for VST3, Audio Unit, and AAX hosts

Version 2.0
Manual Version: 1.0.0
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Serum 2 Development Team

Oli Cash
Nick Dowell
Steve Duda
Dave Gamble
Damon Hancock
Lance Thackeray

With special assistance from:

Matt Aimonetti
Laurent de Soras
Andrew Simper
Yan Lhert

Manual: John Jerney

Special thanks to:

Jeff Rona
Joel Zimmerman
David Alexander

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The following producers, artists, and sound designers contributed to Serum.

Serum 2 Factory Multisamples

| | |
|---|----------------|
| Rodrigo Montes | Steve Duda |
| Robin Tyndale - lemonadefactorystudio.co.uk | Brandon Seliga |

Serum 2 Factory Wavetables and Samples

| | |
|----------------------------|-----------------------------|
| Splice | Steve Duda |
| Virtual Riot | Edward “shreddward” Brailif |
| ill.gates | Sharooz / wavetick.com |
| Drumsound & Bassline Smith | |

Serum 2 Factory Presets

| | |
|----------------------------|---------------------|
| @mrbillstunes | Leo Lauretti |
| 7 SKIES | Level 8 |
| AnSolas | LP24 Audio |
| Abstrakt Music Lab | Matt Aimonetti |
| Alice Efe | NEST Acoustics |
| Beatdemon | Paul Laski (P-LASK) |
| Caster | Scott Diaz |
| CFA-Sound | Shreddward |
| Databroth | Skope |
| Electric Himalaya | Splice |
| ERB N DUB | Steve Duda |
| Genji Siriasi | SynthHacker |
| Gigantor | Tunecraft |
| J. Scott G. / Libra Rising | Van Derand |

WHAT'S NEW IN SERUM 2

New Mixer
Use to blend and balance sound sources and busses

Expanded FX
Choose from 13 effects and 3 splitter modules across multiple busses

Improved Matrix
Advanced mod management

Three Primary Oscillators
Choose from Wavetable, Sample, Multisample, Granular, and Spectral modes

Enhanced Presets Browser
New factory content accessible in a feature-rich browser

Comprehensive undo and redo



Envelopes
Four envelopes with BPM and invert legato options

Macros
Eight macros, with each as a potential destination

Filters
Dual modules, new virtual analog filters, with series or parallel routing

LFOs
Up to 10 LFOs with enhanced drawing tools and editor, independent grid, presets, and more

Clip
Flexible clip sequencer

Arpeggiator
Sophisticated arpeggiator module

Enhanced Keyboard
Standard keyboard with transposition, key, scale, swing, and oscillator mapping settings

ENHANCED USER INTERFACE

Pages
Use to access the oscillators, mixer, FX, modulation matrix, and global settings

Presets
Load factory presets and artist preset packs. Use to save your own presets

Presets Browser
Quickly search and preview presets

Main Menu
Access common operations

Volume
Control the main volume

Filters
Dual filters with routing options

Noise
Dedicated noise oscillator

LFOs
Low frequency oscillators

Velocity/Note
More modulation options

Voicing
Set legato, portamento, and more

Keyboard
Standard keyboard with transposition, key, scale, swing, and oscillator mapping settings

Arpeggiator
Sophisticated arpeggiator module

Clips
Flexible clip sequencer

Wheels
Pitch and mod wheels

Macros
Use to easily control multiple parameters simultaneously

Envelopes
Use to modulate almost any parameter

Oscillators
Three main oscillators (choose from Wavetable, Multisample, Sample, Granular, and Spectral)

Sub
Dedicated sub oscillator

Comprehensive undo and redo

EXPANDED OSCILLATORS



Sub Oscillator
Dedicated sub oscillator similar to Serum 1

Three Primary Oscillators
Serum 2 features three primary oscillators compared to two in Serum 1

Noise Oscillator
Dedicated noise oscillator as in Serum 1



Multiple Oscillator Types
Wavetable, Multisample, Sample, Granular, and Spectral oscillators



NEW OSCILLATOR MODES

Five oscillator modes now available



Wavetable

As with the original Serum, wavetable oscillators remain at the heart of sound generation in Serum 2



Multisample

Multisample instruments use an array of samples—recordings of an actual instrument—played across a range of pitches, intensities, and articulations



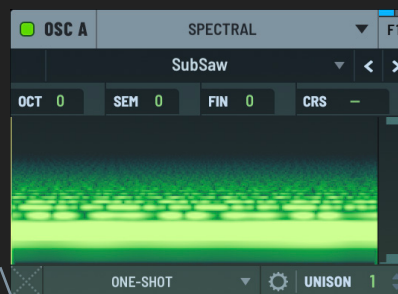
Sample

A versatile and intuitive sampler, designed for creatively manipulating and playing back audio samples



Granular

An easy-to-use granular synthesis mode that manipulates audio samples by breaking them down into tiny segments called grains, and then recombining them in various ways to create new textures and sounds



Spectral

A spectral synthesis mode that manipulates sound by analyzing and resynthesizing the frequency spectrum, creating new sounds with independent control over time and pitch

WAVETABLE ENHANCEMENTS

Oscillator Controls
Copy and paste oscillators (with or without modulations)

Unison
Enhanced unison configuration

WT Interpolation
Smooth interpolation option for wavetable position offering perfect table transitions (without morph tables)

Tuning Modes
Semitone, harmonics, ratio, and step modes for octaves and semitones

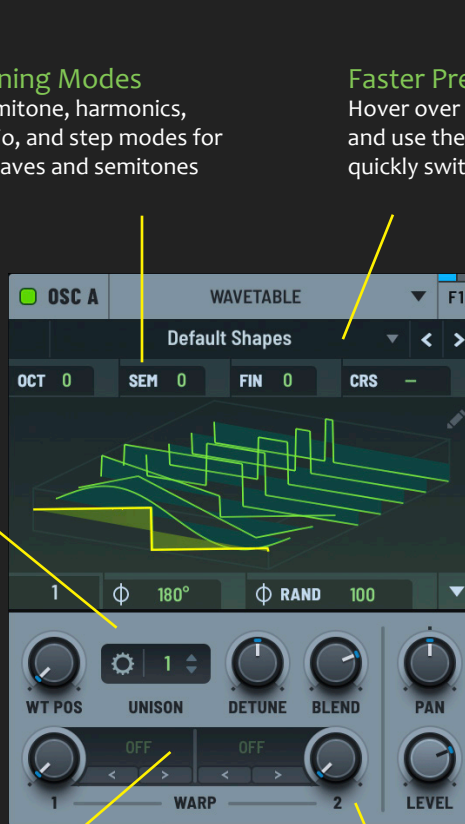
Faster Preset Navigation
Hover over the presets menu and use the mouse wheel to quickly switch between presets

Routing
Easy routing to multiple targets

Phase Memory
Control phase and phase randomization for new notes

Warp Modes
Additional warp modes including true FM, PD from filters, distortions, and more

Dual Warp
Two warp modes at once



SAMPLE MODE HIGHLIGHTS

Playback Modes
Set the loop mode for the sample

Crossfade
Create smoother transitions at the loop points

Warp
Advanced warp modes including FM and PM



Set Points
Adjust and modulate start/end points, and loop start/end points

Sample start and end points



Slicing
Auto and manual slicing modes with advanced options



Loop start and end points



Forward-reverse looping tails for real time stretching

Also available in Granular and Spectral modes

MORE NEW OSCILLATOR HIGHLIGHTS

Multisample

Instruments with support for loading SFZ files

Envelope

Customize the envelope

Timbre Shifting

Adjust and modulate the timbre

Warp

Access advanced warping options



Granular

Play audio samples with up to 256 grains

Window Amount

Control grain amplitude window

Warp

Access all warping capabilities

Parameters

Complete granular control



Spectral

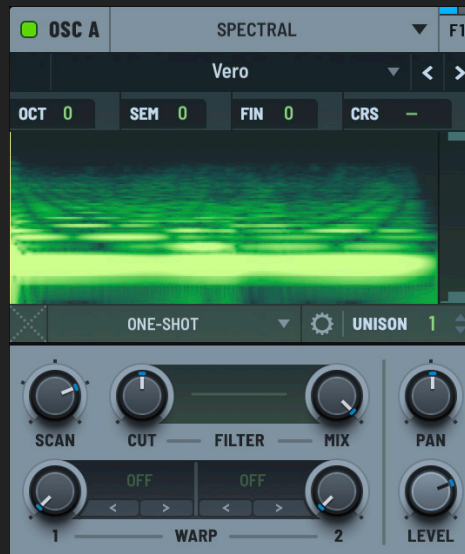
Manipulates the frequency spectrum of a sound

Scan Rate

Set the speed and direction of the sample playback

Warp

Access Serum's warping options



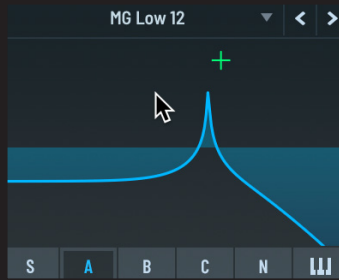
Hi/Low Freqs

Set the sample high and low frequencies

Access many sample mode features including start/end points, looping, and slicing

DUAL EXPANDED FILTERS

Directly control the cutoff and resonance using a mouse



Dual Filters
Use one or both filters

Routing
Series or parallel filter routing



Clean Mode
New clean mode for the Drive control

New Filter Types
Access a wide variety of new virtual analog and other filters

- ✓ Normal >
- Multi >
- Flanges >
- Misc >
- New >**
 - Wsp
 - DJ Mixer
 - Diffusor
 - MG Ladder
 - Acid Ladder
 - EMS Ladder
 - MG Dirty
 - PZ SVF
 - Comb 2
 - Exp MM
 - Exp BPF



IMPROVED SERUM FX

Expanded View
Expanded rack view available

Dual FX Busses
Two separate FX busses for added flexibility

High Quality FX
Choose from 13 powerful effects and 3 types of splitter modules

Rearrange Modules
Drag and drop to quickly rearrange modules

Bypass Modules
Easily bypass a module



Presets
Access factory or user presets (racks and modules)

Direct Manipulation
Directly adjust controls using the graphical display

- Bode
- Chorus
- Compressor
- Convolve
- Delay
- Distortion
- Equalizer
- Filter
- Flanger
- Hyper/Dimension
- Phaser
- Reverb
- Splitter L/H
- Splitter L/M/H
- Splitter M/S
- Utility

Multiple Instances
Add multiple instances of a single effect



NEW AND ENHANCED FX

Bode
New frequency shifter effect

Convolve
New convolution effect

Delay
New HQ mode (now default)

Distortion
New Overdrive mode and DC bias control

Reverb
Three new reverb types: Vintage, Nitrous, and Basin

Utility
New utility effect

NEW SIGNAL SPLITTER MODULES



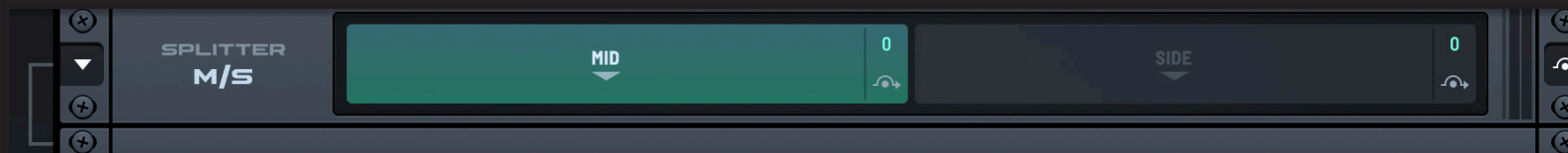
Easy to use
At-a-glance views with direct manipulation



Splitter L/H
Lows/Highs splitter



Splitter L/M/H
Lows/Mids/Highs splitter



Splitter M/S
Mid/Slide splitter

ENHANCED MODULATION

Envelopes
The number of envelopes expanded to four

LFOs
Now with up to 10 low frequency oscillators (LFO 7 to LFO 10 appear after you assign LFO 6)

Chaos LFO Modes
Lorenz and Rossler LFO chaos modes

LFO Drawing Tools
Use drawing tools with a dedicated editor



BPM
Envelopes now offer a BPM option to follow host tempo

10x Rate
Set rates up to 1000 Hz

Presets
Choose a preset or create your own configuration

Independent Grid
Independent X and Y setting for graph grid

Phase
Set and modulate the phase

Invert Legato
Force an envelope to always trigger at note on, even when legato is enabled

Enhanced Macros
Serum now offers eight macros, with each macro as a potential destination

Ability to apply and delete a macro

New Sources
Any oscillator or filter can be a modulation source



ENHANCED MODULATION MATRIX

Expanded View
Expanded matrix view available

Source Curves
Editable source scale curves

Aux Source Curves
Editable aux source scale curves

Remove Mods
Remove unneeded modulations

| | SOURCE | CRV | AMOUNT | POL | DESTINATION | OUT | AUX SOURCE | INV | CRV | OUTPUT | |
|--|---------------|-----|--------|-----|--------------|-----|------------|-----|-----|--------|--|
| | LFO 1 | ▢ | | ↻ | Main Tuning | | Env 2 | ↑↓ | ▢ | | |
| | OSC A | ▢ | | ↻ | A WT Pos | | LFO 2 | ↑↓ | | | |
| | Filter 1 | ▢ | | ↻ | B WT Pos | | Note# | ↑↓ | ▢ | | |
| | Active Voices | ▢ | | ↻ | C Semi | | Aftertouch | ↑↓ | ▢ | | |
| | Expr X (Pan) | ▢ | | ↻ | Noise Pitch | | -- | ↑↓ | ▢ | | |
| | Macro 1 | ▢ | | ↻ | Filter 1 Res | | -- | ↑↓ | ▢ | | |
| | Macro 2 | | | ↻ | Env 1 Attack | | -- | ↑↓ | ▢ | | |
| | Mod Wheel | ▢ | | ↻ | Arp Range | | -- | ↑↓ | ▢ | | |

Dynamic Visualizations
Matrix displays modulations dynamically

Bypass Mods
Bypass individual modulations

Reorder Modulations
Drag and drop handles to reorder mods



NEW SERUM MIXER

Oscillator Channels
Set routing, panning and levels

Filter Channels
Set routing, panning, mix, and levels

FX Bus Channels
Set levels for the FX bus channels

Main/Direct Outputs
Set levels and manage effects (FX)



Manage Routing
Choose the channel routing

Manage Graphically
Manipulate filter cutoff and resonance graphically

Manage FX
Bypass individual FX modules

Balance Routing
Balance routing to filters and FX busses



NEW CLIP SEQUENCER

Macros
Tweak sounds while creating clips

Flexible Grid
Set an appropriate grid

Piano Roll
Input and edit MIDI data using the full-featured editor

Volume
Control the main volume

Global
Set module parameters and access factory and user-saved clip banks

Clip Settings
Set clip parameters and access factory and user-saved clips

Assigned Macro

Markers
Set loop and offset markers

Record
Record clips (in either Overdub or Extend mode)

Automation
Capture automation in multiple lanes

Activate the CLIP module

Show CLIP Module
Click here to display the CLIP module

Key and Scale
Set the key, scale, transpose, and oscillator mapping

Clip Slots
Each clip bank offers 12 slots

MIDI Out
Specify how Serum should output MIDI data

ADVANCED ARPEGGIATOR

Global Settings

Set module parameters and access factory and user-saved arp banks

Pattern

Set the arp pattern and related options

Transpose

Set the transpose shift and range

Playback

Set offset, repeats, gate, chance, and more

Retrigger

Set how to retrigger the arp shape/pattern

Velocity

Raise or lower the note output velocities over time



Activate the ARP module

Show ARP Module
Click here to display the ARP module

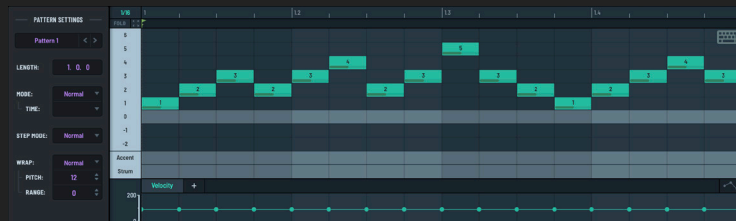
Play ARP Slot
Start an arpeggiator slot using the "play" button

Arp Slots
Each arp bank offers 12 slots

MIDI Out
Specify how Serum should output MIDI data

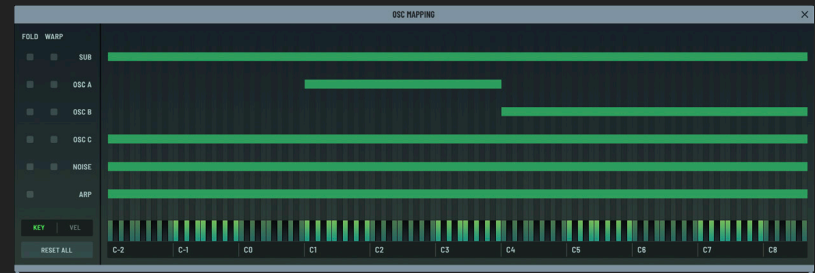
Pattern Editor

Advanced ARP pattern editor available when SHAPE is set to "Pattern"



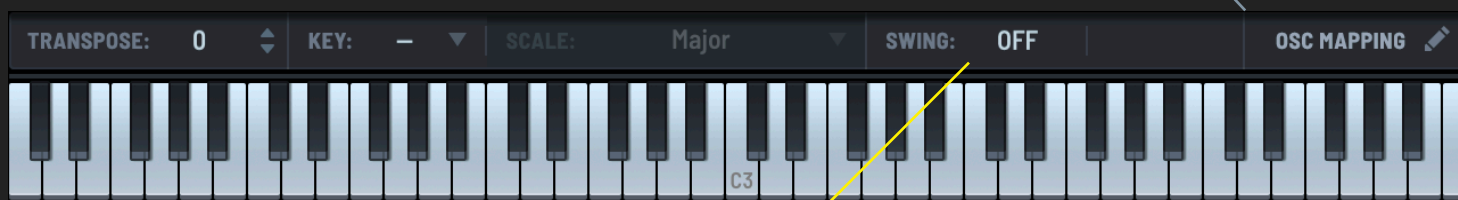
ENHANCED KEYBOARD

Osc Mapping Editor
 Edit the note and velocity ranges of the oscillators and arpeggiator to define and limit the range to which both respond



Transpose
 Transpose the keyboard (by semitones) within a range of two octaves

Key and Scale
 The key and scale are applied to both MIDI input and the output of the CLIP and ARP modules



Oscillator Mapping
 Launch the oscillator mapping editor

Swing
 Set the swing to apply to certain notes to add groove



IMPROVED PRESETS BROWSER

Content Library

Access factory content, artist packs, and user-saved patches

Search

Use to quickly search presets by name

Presets

The list of presets, either the complete list or search results

Menu

Hybridize presets, auto-play, rescan database, and more

Folders

Tree-based hierarchy allows you to quickly find the right sound

Packs

Artists can create a pack from a folder of presets

Categories/Tags

Filter presets by categories and tags

Metadata

Display and edit the metadata associated with the selected preset

Ratings

Assign ratings to presets in the library



Ratings Filter

Filter presets by user-assigned ratings

Preview Presets

Previews can play custom clips to showcase the artist's intent

Macros

Adjust macros as you preview presets