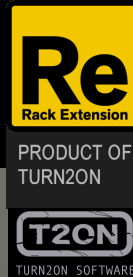




SMALL STORM

PHASE SHIFTER

[RACK EXTENSION]
MANUAL



FX device by Turn2on Software



SmallStorm effect is inspired by the classic analog warmth of the SmallStone® pedal effect from EHX™, produced in the '70s.

SmallStorm phase shifter effect combines original and new features for enhanced control and flexibility in your audio production.

SmallStorm Phaser emulates all 8 hardware versions of the classic EHX™ Small Stone® pedal.

Users can select any model: from USA versions V1-V4 (including the Nano V5) to the Soviet-era Sovtek™ V1 and Russian versions V2-V3, or switch to the Custom mode with full access to advanced parameters for deep control of the phaser engine

This is a 4-pole phase shifter, known for its smooth and lush phase-shifting sound. Its distinctive swooshing tones provide you with a classic and sought-after effect for achieving rich modulation.

With the added convenience of digital processing, we've incorporated new features to enhance your sonic possibilities.

The LFO **Sync** feature allows you to synchronize the modulation rate to your project's tempo. This ensures that the phasing effect stays in sync with the rhythm of your music, providing rhythmic precision and creative possibilities.

Control the intensity of the phasing effect with the effect **Depth** parameter. From subtle modulation to more pronounced sweeps, tailor the depth to suit your musical context.

The **Spread** control widens the stereo image of the phaser, creating a more expansive and immersive sound. Experiment with different Spread settings to add dimension to your tracks.

The **Boost** feature adds a touch of gain to the signal, allowing you to boost the phaser effect for added presence and impact. Use it to cut through the mix or for creating dynamic tonal shifts.

Find the perfect balance between the dry and signals with the **Mix** control. From subtle background modulation to intense phasing, dial in the right blend for your desired effect.

Explore enhanced modulation control with the **LFO Phase L/R Offset** feature. This parameter allows you to adjust the phase relationship between the left and right channels. By offsetting the LFO phase, you can achieve interesting stereo imaging effects and create a more spatially dynamic phasing experience.

LFO Shape repeat internal waveforms of the original pedals, but also include Custom Shape mode, where user can select between Sine/Triangle/Parabola waveform.

Try the **SmallStorm** phase shifter effect as part of your Reason Rack today.

We hope **SmallStone** inspires creativity and enhances your musical journey. Enjoy the rich, swirling tones that pay homage to the legendary and modified modern phaser.

Device inspired by the legendary Phase Shifter effect from '70s.
Born in 1974, the Small Stone quickly became known for its lush analog sweep.
Over time, EHX released multiple revisions—each with unique ICs (CA3094, LM13600, TL072)
and sonic character.

SMALLSTORM



MODEL	SmallStorm Phaser emulates all 8 hardware versions of the classic EHX Small Stone pedal. Users can select any model—from USA versions V1-V4 (including the Nano V5) to the Soviet-era Sovtek V1 and Russian versions V2-V3, or switch to the Custom mode with full access to advanced parameters for deep control of the phaser engine
SYNC	Synchronize the Rate to tempo. Switch rate control between cycles per second and synced speed to tempo value (quarter-note beats)
RATE	Adjusts the speed of the phasing sweep (modulation rate)
STATUS LED	Light up at the end of every LFO modulation cycle. When the incoming signal is not active, fx processing stops and LED visualization of the LFO position is stopped.
COLOR	Adding resonant peaks between the notches (fixed in hardware modes, adjustable in Custom)
POLARITY	Switch feedback polarity (Positive/Negative). By default Polarity is Positive, only v5 Nano is Negative
COLOR CUT	Reduce phase shift processing at selected low frequencies.
DEPTH	Control the depth of the phasing effect. Higher settings produce more pronounced modulation, while lower settings yield subtler results.
SPREAD	Adjust the stereo spread to widen the phaser's spatial presence. Offset between L/R channels
BOOST	Engage the Boost feature to add gain to the phaser effect, enhancing its presence and impact.
MIX	Mix between the Dry (incoming) and Wet (processed) signals
INPUT	Level of the dry (unprocessed) input signal before it goes to the Mix control
LP FILT	Lowpass Filter (12 db/oct): Cut High frequencies
HP FILT	Highpass Filter (12 db/oct): Cut Low frequencies
LFO PHASE L/R OFFSET	Control the LFO phase offset between the L/R channels to fine-tune the stereo phasing fx. STEREO IN -> STEREO OUT: 0 or 360 degrees MONO IN -> MONO OUT: 0 or 360 degrees MONO IN -> STEREO OUT: 90 or 180 degrees Adjusting the LFO Phase L/R Offset can result in unique stereo widening effects, emphasizing the stereo field and allowing you to sculpt the phaser's spatial characteristics to fit the demands of your mix
ENABLE	BYPASS - disable effect / ON - enable effect / OFF - mute incoming signal
BYPASS	Soft Bypass with smoothed fade in/out functionality. LED light up when fx processing is disabled

USA V1 (1974-78)



Original version of the first Small Stone, based on OTAs labelled EH1048 (CA3094AE chip).
Rounded sweep & classic vinyl warmth character.



Discrete LFO have rounded triangle (a bit more "body" than triangle, closer to sine)

USA V2 (early 80s)



Second version of the Small Stone, based on custom CA3094 clone (also labelled EH1048).
Similar layout, slight change in component selection.
Smoother edges, bright vocals.



Soft Sine-like waveform.
Smoother sweep edges, warm movement

USA V3 (mid 80s)



Based on dual OTA (x2 LM13600), 1x LM324N.
Clean, modernized design. Easier to build and calibrate.
Cleaner, modern feel.



Fairly neutral up/down slope peak

USA V4 (Late 80s)



Based on 5x OTA CA3094AE chips.
Precision-matched stages, higher consistency.
Sometimes misidentified as "Sovtek" due to 5-chip layout.



Like V1 but more consistent

USA Nano V5 (2000s - now)



Based on Op-amp design: 1x TL072 or NE5532 + modern CMOS LFO
Surface-mount (SMD), very compact, triangle LFO. OTA replaced by op-amp + JFET stages.
Precise, even sweep – very mechanical
Color parameter reversed vs all other versions: Color OFF = sharper phasing.
Modern circuit, still fully wet



Slight push toward parabola feel. Accurate triangle; sharp resonance.

From NYC to the USSR

The Story of Small Stone "Sovtek Era"

The company ceased U.S. pedal production in 1984, and Matthews turned his focus elsewhere. EHX formed a new manufacturing venture in the Soviet Union – just as the USSR began opening up economically during "perestroika". Partnering with Russian factories and engineers, he launched Sovtek, producing rugged vacuum tubes and reissuing analog pedals, including the Small Stone, Big Muff, and Electric Mistress.

Sovtek pedals were built using military-grade components, thick enclosures, and CA3094E chips sourced from former Soviet stock. Though crude by modern standards, these pedals became known for their dark, gritty character and reliability, especially among grunge and alt-rock players in the 1990s.

In the mid-1990s, as the Russian economic environment became unstable and U.S. interest in boutique effects surged again, EHX relaunched production in New York. Company continued selling both Sovtek-labeled and Electro-Harmonix-labeled pedals during the transition, often with overlapping designs.

By the early 2000s, the Sovtek line was phased out, and EHX introduced the Nano series—compact, modernized versions of their classics, including the Nano Small Stone, which retains much of the original phaser flavor in a smaller enclosure using modern op-amps and surface-mount components.

USSR Sovtek V1 (1990)



Based on 5x CA3094E (Russian package), Russian passive components
Often green case. Warm and gooey. Slightly slower attack
Highest resonance under all other versions.
(Sovtek v1 is warmer, v3 gets sharper and fatser)



Very smooth and soft LFO.
Near Sine / asymmetric LFO waveform

USSR Sovtek V2 (1993-95)



Based on 5x CA3094E (Russian package), Russian passive components
Usually black case, improved soldering.
Slightly brighter Color feedback, but near to V1.
Sweep speed isn't symmetrical.



Asymmetric Parabola.
Slightly more aggressive upward sweep. Noticeable skew on sweep return

USSR Sovtek V3 (1995-2000)



Based on 5x CA3094E (Russian package), Russian passive components
Warmer and looser due to PSU + caps
Sovtek V3 gets sharper, ore intense and faster (V1 is warmer).



Tri-Parabolic mix, Sharp, biting sweep – fast falloff.

HOW TO USE

1. Select a **pedal mode** to emulate.
2. Adjust **Rate** and **Depth** to shape the sweep.
3. Use **Color** value (feedback) and **Color Polarity** switch for tonal character.
4. (Optional) In **Custom mode**, dial Mix, Central Freq, and LFO Shape freely.
5. Experiment with **Parabola** in LFO Shape settings for dramatic, skewed sweeps.

BEST USE CASES

USA V1-V2: Classic vintage tone for 70s funk, disco, and soul guitars.

USA V3-V4: Cleaner sweeps for modern music—ambient, synth, and Rhodes.

Nano: Sharp and present—great for aggressive or electronic phasing.

Sovtek: Darker, thicker analog grit—ideal for 90s rock and grunge.

Custom: Unconstrained sound design—synth textures, rhythmic patterns, wild modulation.

PRESETS LIST

NAME	RATE	DEPTH	COLOR	LFO SHAPE
Vintage V1 Classic	0.3 Hz	47 %	45 %	35 %
V1 Funk Sweep	1 Hz	50 %	50 %	30 %

PRESETS FOR USA V1

NAME	RATE	DEPTH	COLOR	LFO SHAPE
V2 Smooth Phase	0.4 Hz	50 %	35 %	40 %
V2 Funky Jet	2.2 Hz	60 %	50 %	50 %

PRESETS FOR USA V2

NAME	RATE	DEPTH	COLOR	LFO SHAPE
V3 Speed Sweep	3 Hz	55 %	40 %	50 %
V3 Rock Phaser	0.8 Hz	60 %	60 %	45 %

PRESETS FOR USA V3

NAME	RATE	DEPTH	COLOR	LFO SHAPE
V4 Dark Sweep	0.25 Hz	65 %	55 %	40 %
V4 Classic Wah-Like	1.5 Hz	55 %	65 %	50 %

PRESETS FOR USA V4

NAME	RATE	DEPTH	COLOR	LFO SHAPE
Nano Classic Sweep	0.6 Hz	60 %	50 %	50 %
Nano Jet Phase	2.8 Hz	70 %	60 %	60 %
Nano Slow Motion	0.25 Hz	55 %	45 %	45 %

PRESETS FOR USA Nano V5

NAME	RATE	DEPTH	COLOR	LFO SHAPE
Sovtek V1 Vintage	0.4 Hz	65 %	60 %	40 %
Sovtek Slow Doom	0.2 Hz	70 %	65 %	50 %

PRESETS FOR USSR V1

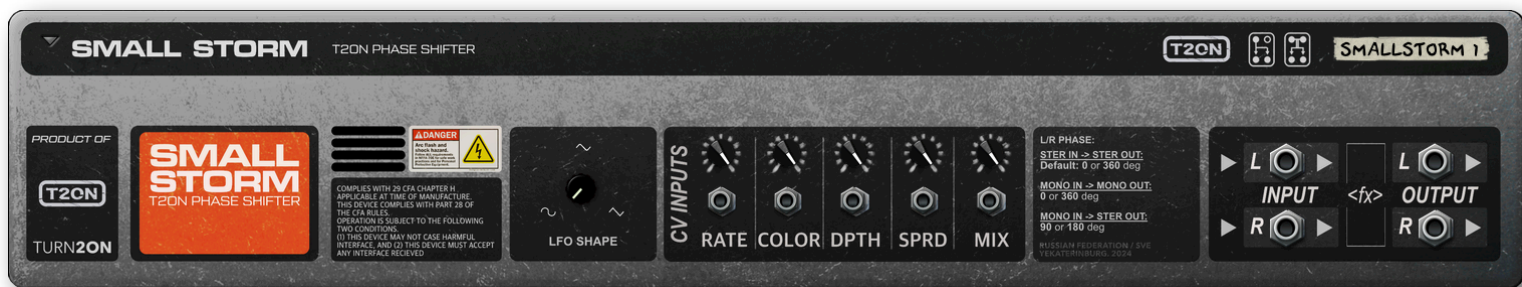
NAME	RATE	DEPTH	COLOR	LFO SHAPE
Sovtek V2 Crunch Phase	0.6 Hz	60 %	70 %	55 %
Sovtek Stoner Groove	1.2 Hz	65 %	60 %	60 %

PRESETS FOR RUS V2

NAME	RATE	DEPTH	COLOR	LFO SHAPE
Sovtek V3 Fast Mod	2.5 Hz	55 %	55 %	65 %
Sovtek V3 Wide Sweep	0.5 Hz	70 %	65 %	50 %

PRESETS FOR RUS V3

REAR PANEL



LFO WAVE SHAPE

Adjust the LFO from a sine thru a triangle to parabola waveform.
Can be activated from the front panel at any pedal version, and used by default in custom mode.

AUDIO I/O

Mono or Stereo connections for audio signals.



CV INPUTS

Use these CV inputs to control the main parameters by external CV source curves



SIGNAL ROUTING

Spreading fx



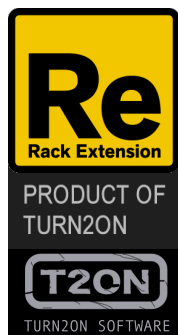
Control the phase offset between the L/R channels' modulation to fine-tune the stereo phasing fx.
STEREO IN -> STEREO OUT: 0 or 360 degrees
MONO IN -> MONO OUT: 0 or 360 degrees
MONO IN -> STEREO OUT: 90 or 180 degrees



SMALL STORM

PHASE SHIFTER

Reason Studios Add-on Shop



Turn2on

Rack Extension Developer

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support@turn2on.com

Thanks to all beta-testers



Thank you very much for supporting us by choosing our products.

This allows us to develop future interesting and creative effects / utilities / instruments in the Rack Extension format.

We try to keep prices as low as possible. Don't hesitate to contact support with any questions regarding our products or to offer your own ideas for product updates or even new products you would like developed.

