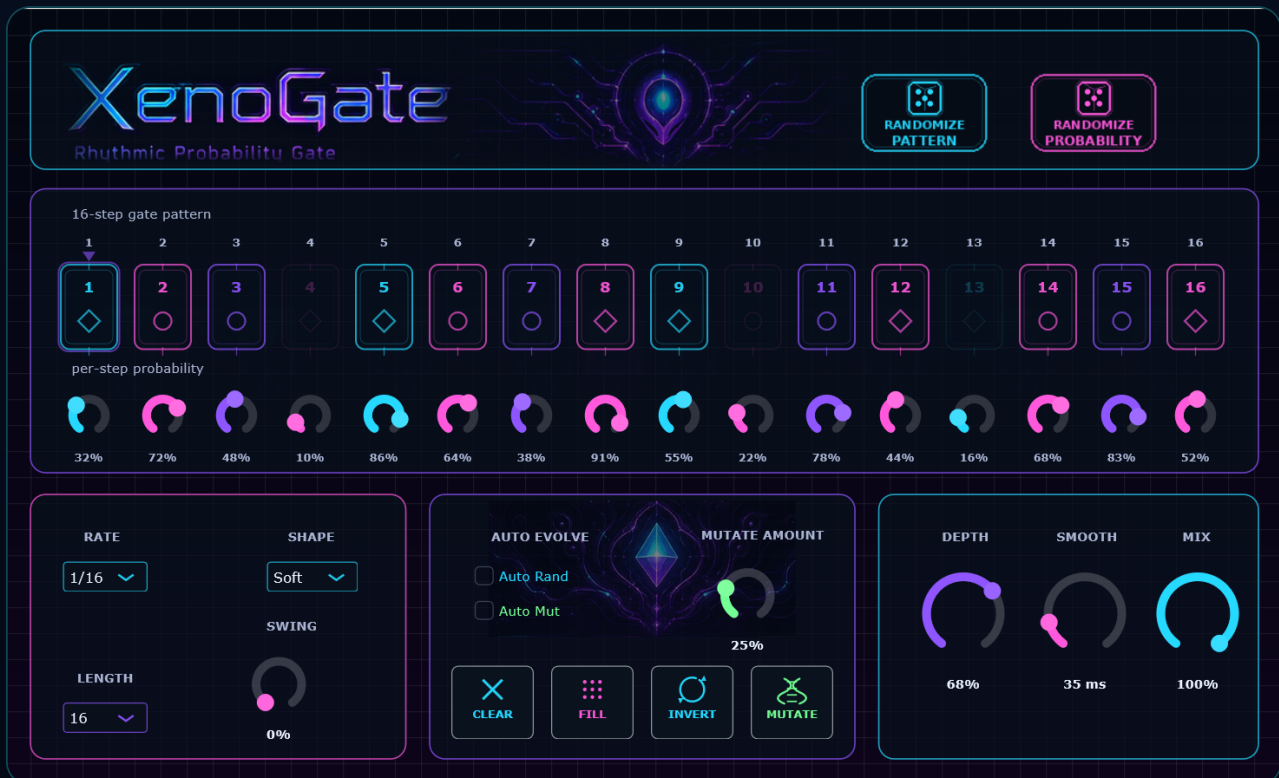


XenoGate

Version 3.0 User Manual

Rhythmic Probability Gate - Pattern Design, Probability, Auto Evolve, Mutation and Output Shaping



16-Step Probability Gate

Build deterministic or chance-driven rhythmic patterns across sixteen steps.

Two Layers of Randomisation

Randomize the gate pattern separately from the per-step probability values.

Auto Evolve

Let the pattern change over time with automatic randomisation and mutation controls.

Flexible Gate Character

Depth, Smooth, Shape and Mix move from subtle pulse to pronounced chopping.

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Version scope: this manual documents XenoGate **Version 3.0**. Version 3.1 will receive its own updated manual when that release is ready.

Probability Note

Probability changes whether an event happens, not where the event lives in the pattern. A recognizable rhythm can therefore stay intact while its details vary from pass to pass.

Introduction

XenoGate is a rhythmic probability gate built around a sixteen-step pattern. Each step has two distinct ideas attached to it: whether the step belongs to the gate pattern, and how likely that active step is to open when the playhead reaches it. That separation lets a recognizable groove remain intact while its details vary from pass to pass.

You can build a completely repeatable gate, a mostly stable groove with occasional deviations, or a pattern that continuously reshapes itself. Version 3.0 keeps the whole system on a single page: pattern state, per-step probability, timing, swing, automatic evolution, mutation strength and the final gate envelope.

Main Features

16-STEP PATTERN

Activate, clear, fill, invert or mutate the rhythmic structure directly.

PER-STEP PROBABILITY

Give every step its own chance value from dependable to deliberately uncertain.

INDEPENDENT RANDOMISATION

Randomize pattern structure separately from the probability layer.

AUTO EVOLVE

Automatic randomisation and mutation can keep a pattern moving over time.

TIMING & FEEL

Rate, Length, Shape and Swing define the clock and rhythmic character.

OUTPUT SHAPING

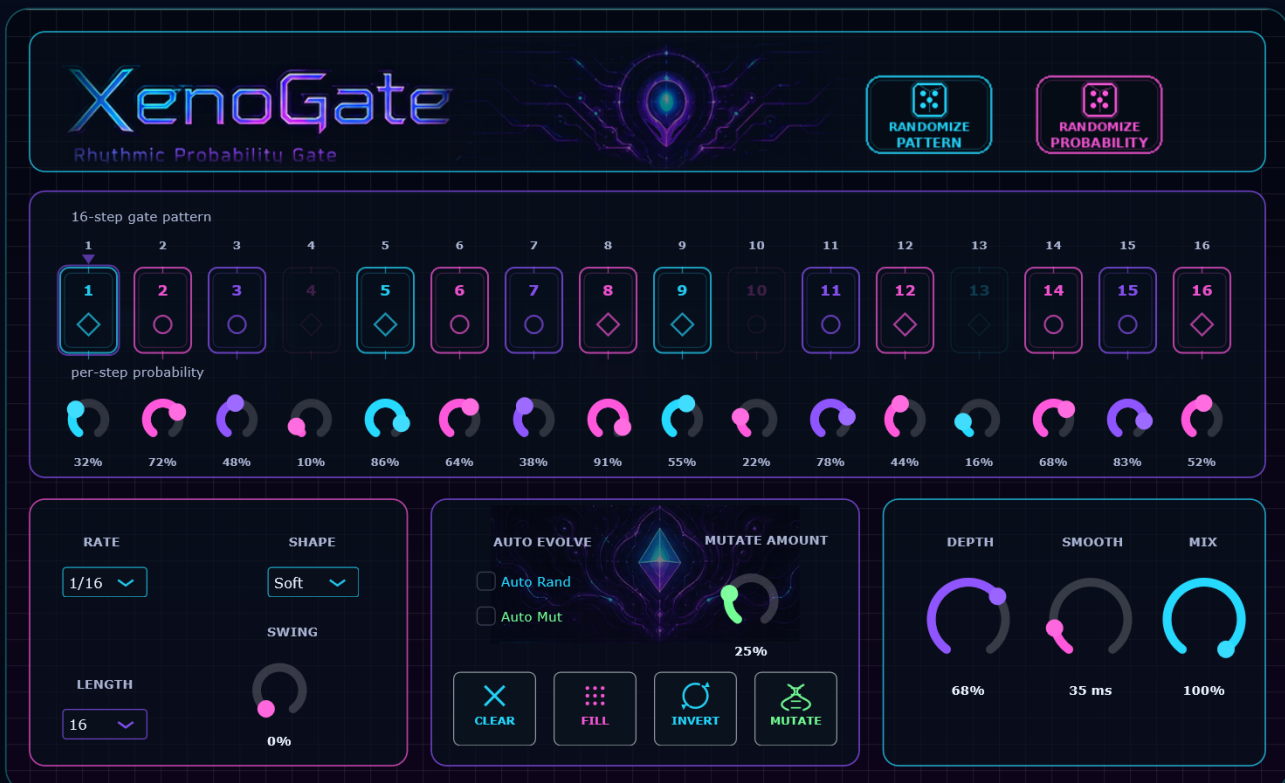
Depth, Smooth and Mix determine how strongly and sharply the gate is heard.

Rhythm Note

At a straight 1/16 step rate in 4/4, sixteen steps span one bar. Change Length and the pattern can cycle against the bar to create rotating accents.

Quick Start

1. **Set Rate** to the rhythmic division you want, such as 1/16.
2. **Set Length** to the number of steps in the repeating cycle. Start with 16 for a conventional full grid.
3. **Build the pattern** by activating the steps you want, or use Fill as a starting point.
4. **Set probability** for each active step. Use 100% for anchors and lower values where you want variation.
5. **Choose Shape** and add Swing if the groove should be less rigid.
6. **Set Depth** for gate strength and **Smooth** for transition softness.
7. **Use Mix** to blend the gated result with the dry signal.
8. Once the groove works, try **Mutate**, **Randomize Pattern**, **Randomize Probability**, or **Auto Evolve**.



The complete Version 3.0 interface keeps pattern, probability and output shaping visible together.

Probability Note

If sixteen active steps were each evaluated independently at 50%, the expected number of successful openings per pass would be eight - but any single pass can land above or below that average.

Main User Interface



The header keeps the two broad randomisers separate: one for structure and one for chance.

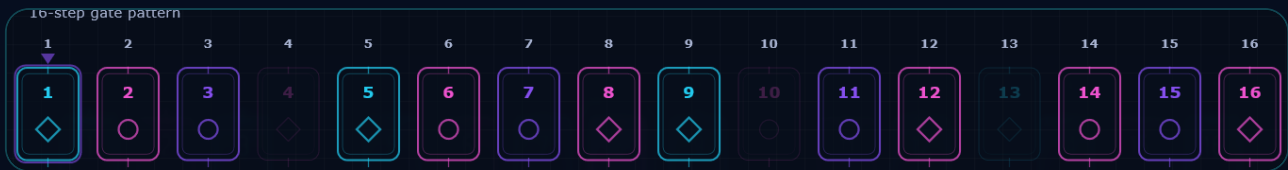
Zone	Purpose
Header	Branding plus Randomize Pattern and Randomize Probability.
16-step pattern	The main gate sequence, including structural state and probability for every position.
Timing / Auto Evolve	Rate, Length, Shape, Swing, automatic evolution and manual pattern operations.
Output shaping	Depth, Smooth and Mix determine how the gate affects incoming audio.

XenoGate is deliberately single-page. You can see what the pattern is doing, how uncertain each step is, and how the final gate is being applied without changing views.

Gate Note

A gate does not have to sound like a hard on/off switch. Depth, Smooth and Mix let the same pattern range from gentle rhythmic breathing to pronounced chopping.

The 16-Step Gate Pattern



The upper row is the structural pattern: sixteen positions that define where gate events may occur.

Each numbered column represents one step in the sequence. Bright coloured cards are active positions; dim positions are inactive. The small playhead marker above the row shows the step currently being evaluated.

Pattern States

- **Active step:** the position is eligible to generate a gate event.
- **Inactive step:** the pattern does not request a gate event at that position.
- **Playhead:** shows the current step as the sequence advances.

Pattern state and probability are intentionally separate. An active step may still be skipped when its probability is below 100%.

Pattern Note

Odd pattern lengths are useful for phase-like movement. A 15-step pattern against a 16-step musical grid shifts its accent relationship on every cycle.

Per-Step Probability



Every step has its own probability knob and percentage readout.

The probability row controls how likely each active step is to produce its gate event. This lets one fixed pattern generate many closely related performances.

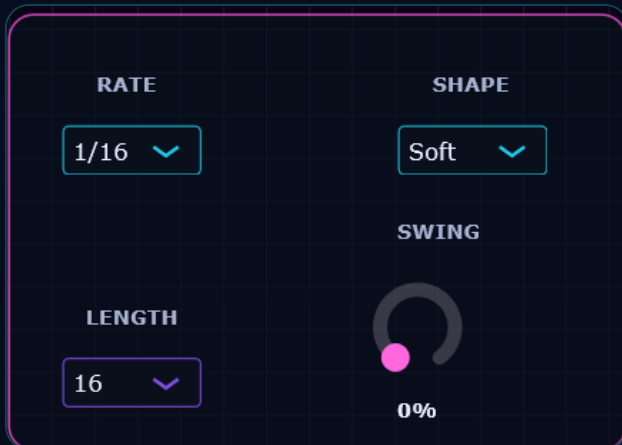
Probability	Practical meaning	Typical use
100%	Dependable every pass.	Downbeats, anchors and structural pulses.
70-90%	Mostly stable with occasional omissions.	Humanized repetition and subtle variation.
40-60%	Clearly probabilistic.	Broken rhythms and evolving secondary accents.
10-30%	Rare events.	Surprise accents and sparse texture.
0%	Probability suppresses the event.	Temporary removal without redesigning the whole pattern.

A useful approach is to keep a few high-probability anchors and surround them with lower-probability events.

Probability Note

A 100% active step is deterministic with respect to probability. Lower values progressively introduce uncertainty.

Rate, Length, Shape and Swing



The lower-left panel controls clock and feel.

Rate

Rate selects the musical step division. A setting such as **1/16** advances the pattern in sixteenth-note steps.

Length

Length determines how many of the sixteen available positions are included in the repeating cycle. Odd or shortened values create rotating relationships against a conventional bar.

Shape

Shape changes the contour of each gate transition. Softer shapes reduce the abruptness of the pulse; firmer shapes emphasize rhythmic edges.

Swing

Swing shifts the feel away from a perfectly straight grid. At 0% the sequence is straight; higher values introduce increasing rhythmic lilt.

Performance Note

Randomisation is often most useful after Rate, Length and the output shape are working. Change the content first; change the clock only when you want the groove itself to move.

Auto Evolve and Mutation



Auto Evolve combines automatic change with direct one-shot pattern operations.

Auto Evolve

- **Auto Rand** enables automatic randomisation behaviour so the pattern can reorganise itself over time.
- **Auto Mut** enables automatic mutation, producing evolving variations derived from the current state.
- **Mutate Amount** determines how extensive mutation is. Smaller values retain more identity; larger values allow broader departures.

Manual Pattern Operations

Button	Action
Clear	Clears the gate pattern for an empty starting point.
Fill	Activates every available step.
Invert	Swaps active and inactive step states.
Mutate	Applies a one-shot variation using the current Mutate Amount.

Use mutation when you like the current pattern and want relatives of it. Use full randomisation when you want a new starting point.

Depth, Smooth and Mix



The output panel shapes how the pattern is heard.

Depth

Depth determines how strongly the gate acts on the signal. Lower settings create restrained movement; higher settings create more obvious open/closed contrast.

Smooth

Smooth is expressed in milliseconds and softens transitions around gate changes. Increase it to reduce abrupt edges or create a more envelope-like pulse.

Mix

Mix blends the processed gated signal with the original. At 100% the result is fully gated; lower settings create parallel gating.

Useful interaction: high Depth + low Smooth tends toward obvious chopping; moderate Depth + more Smooth creates softer pulsation; lower Mix preserves more of the original signal.

Mix Note

Mix below 100% creates parallel gating. The dry signal keeps continuity while the gated signal adds rhythmic definition around it.

Randomisation Controls



XenoGate separates structural randomisation from probability randomisation because they solve different creative problems.

Command	What it changes	Best use
Randomize Pattern	The active/inactive step structure.	Finding a new rhythmic skeleton.
Randomize Probability	The chance values distributed across the steps.	Keeping the groove structure while changing reliability.
Mutate	A controlled variation governed by Mutate Amount.	Creating related alternatives rather than replacements.
Auto Rand / Auto Mut	Ongoing evolution during use.	Generative and long-form rhythmic movement.

A practical order of operations

1. Choose Rate and Length.
2. Create or randomize the pattern.
3. Set a few probability anchors.
4. Randomize Probability if broader variation is wanted.
5. Use Mutate for related alternatives.
6. Enable Auto Evolve only when continuous change is desired.

Probability Note

Probability changes whether an event happens, not where the event lives in the pattern. A recognizable rhythm can therefore stay intact while its details vary from pass to pass.

Creative Workflows

Stable Groove, Unstable Detail

Keep the most important steps around 90-100% and supporting steps around 20-60%. The rhythmic identity remains clear while the details change.

Parallel Pulse

Use a strong gate pattern but reduce Mix. The dry signal remains continuous underneath while XenoGate contributes the rhythmic movement.

Soft Breathing Gate

Use moderate Depth, increase Smooth, and choose a softer Shape. The gate behaves more like a rhythmic volume envelope than a hard switch.

Rotating Pattern

Use an odd Length such as 15 against a conventional 4/4 grid. The sequence repeatedly lands in new places relative to the bar.

Evolving Performance

Start with a strong pattern, keep Mutate Amount modest, then enable Auto Mut. The pattern can evolve gradually rather than jumping immediately to unrelated material.

Rhythm Note

At a straight 1/16 step rate in 4/4, sixteen steps span one bar. Change Length and the pattern can cycle against the bar to create rotating accents.

Tips & Quick Reference

- **Build anchors first.** Put important steps at high probability before adding uncertain events.
- **Randomize Probability after the groove works.** This changes reliability without replacing the structural rhythm.
- **Use Mutate for families of patterns.** It is ideal when you want variation without discarding the current idea.
- **Increase Smooth when sharp edges are distracting.** This is particularly useful with sustained material.
- **Reduce Mix for drums or full mixes.** Parallel gating preserves body and transients.
- **Try odd lengths.** 5, 7, 11, 13 or 15 steps create less obvious repetition.
- **Version note:** this document applies specifically to XenoGate **Version 3.0**.

One-Glance Reference

Control	Purpose
Randomize Pattern	Creates a new active/inactive pattern structure.
Randomize Probability	Creates new probability values.
Rate	Sets the rhythmic step division.
Length	Sets the number of steps in the repeating cycle.
Shape	Sets gate contour.
Swing	Adds rhythmic timing offset.
Auto Rand	Enables automatic randomisation behaviour.
Auto Mut	Enables automatic mutation.
Mutate Amount	Sets mutation intensity.
Clear / Fill / Invert / Mutate	Direct one-shot pattern operations.
Depth	Sets gate strength.
Smooth	Softens gate transitions in milliseconds.
Mix	Blends gated and dry signal.