Mutable Instruments — Marbles

- Manual PDF

Marbles Original Printed Manual (PDF)

Mutable Instruments Marbles Cheat Sheet

Marbles is a random sampler and generator designed for creating organic and musical gates and CV patterns, with looping and quantization options. Use it for innovative rhythms, melodies, and lively random modulations.

Panel Overview

Sections:

- **t Section (Clock & Gates) — Left**
- **X Section (Random Voltages) — Right**

Input & Output Reference

Inputs

Jack	Section	Function	Voltage Range
Clock IN	t	External clock	-5V to +5V (max: +8V)

Jack	Section	Function	Voltage Range
Jitter CV	t	Controls clock jitter	-5V to +5V
Bias CV	t	Rhythm generator bias	-5V to +5V
DejaVu CV	t/X	Loop/shuffle probability	-5V to +5V
Spread CV	X	Distribution spread of random voltage	-5V to +5V
Bias CV	X	Skew random voltage up/ down	-5V to +5V
Stepping/ Slew CV	X	Quantization/Slew amount	-5V to +5V
X External CV	X	Replaces internal random voltage (loopable)	-5V to +5V

Outputs

Jack	Section	Function	Voltage Range
t1, t2, t3 OUT	t	Clock/gate outputs	0V (low) to +8V (high)
X1, X2, X3 OUT	X	Random CV outputs	0 to +2V / 0 to +5V / -5V to +5V (settable)
X4 (Varies)	X	Auxiliary/random output (depends on settings)	same as above

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Controls Reference

Name	Type	Section	Function
CLOCK	Knob	t	Set internal clock rate (or divide/mult ext. clk w/button)
JITTER	Knob + CV	t	Add timing randomness to clock
BIAS	Knob + CV	t	Distribute rhythm b/w outputs
GATE LENGTH	Knob	t	Gate/trig duration; can be randomized per step
STEPS	Knob + CV	X	Steps/Quant (CW = more quant, CCW = more slew)
SPREAD	Knob + CV	X	Adjust output voltage distribution (bell, uniform, etc.)
BIAS	Knob + CV	X	Pushes CV up/down
OUTPUT RANGE	Button	X	Selects CV output voltage: 0-2V, 0-5V, or -5V/+5V
QUANTIZE SCALE	Programmable	X	Play in samples to teach scale (6 scales storable)
DEJAVU	Knob + CV	t/X	Probability looping/ replaying/shuffling material
LOOP LENGTH	Button (Shift)	t/X	

Name	Type	Section	Function
			Selects loop length (1-16 steps)
DIV/MULT RANGE	Button	t	Sets clock division/ multiplication factor
GENERATION MODE	Button	t	Switches between routing, division, drum pattern models
FOLLOW/ PREDICT	Rhythm Follower	t	Locks to complex external patterns automatically

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Quick Feature Rundown

- **Random Gate Generator:** Generates three gate streams with related or independently randomized timing.
- **Master Clock:** Internal or external synchronization, with division/ multiplication and jitter.
- **Random Rhythm Models:** Random routing, division, or "Grids-style" drum patterns.
- **Random Voltage Generator:** Up to three simultaneous CVs, clocked by t outputs or external clock, with flexible distribution and range.
- **Quantization/Slew:** Step or smooth outputs; programmable scales learned by playing them in.
- **Random Looping (DejaVu):** Loop/reorder random sequences; up to 16 steps, looped or randomly shuffled.
- **CV Post-processing:** All CV transformations (spread, bias, quant, slew, deja vu, etc.) can be applied to external signals.
- **Output Diversity:** Each output (t/x) can operate with shared or complementary randomness.

- **High Quality Spec:** 14-bit DAC (error <1mV), 12-bit CV capture, Computer Modern typeface.

Typical Use Flow

1. **Patch t OUT(s) to trigger your envelopes/drums/sequencers.**
2. **Patch X OUT(s) to pitch, filter, CV, or other destinations.**
3. **Dial in clock rate, jitter, and rhythm model for desired groove.**
4. **Select voltage range and spread/bias for melody/CV flavor.**
5. **Set STEPS for classic steps or turn CCW for smooth modulation.**
6. **Use DEJAVU to create loops or variations in the randomness.**
7. **Quantize to a scale by teaching it the notes (jam in the scale via buttons as described in full manual).**
8. **Inject external clock/CV for interactive or synced results.**

Reference

- **HP:** 18
- **Power:** +12V 80mA, -12V 20mA
- **Depth:** 25mm
- **CV Input Range:** -5V/+5V
- **CV Output Range:** 0-2V, 0-5V, -5/+5V (selectable)
- **Gate Output:** 0V to +8V
