

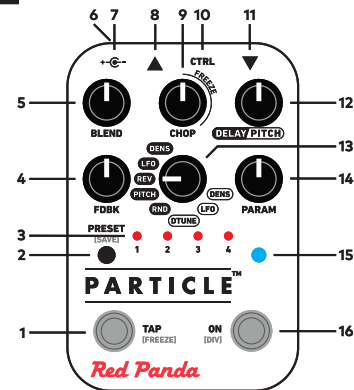
The Particle™ is a granular delay pedal. It chops your signal into small grains, which are shifted, randomized, and mangled using the techniques of granular synthesis. Results include radical pitch and delay modulation, shimmering repeats, time stretching, stutter, and glitch sounds.

The Particle has five delay-based modes and three pitch-based modes. You can combine all of the modes and access additional parameters via MIDI, saving the results in a preset for live use.

Tap tempo can be used for the delay time, grain size, density, and LFO rate, with different note divisions for each.

To get started, set the BLEND knob to 100%, CHOP around 25%, and FDBK to 0%. Step through each of the eight modes, adjusting the DELAY/PITCH and PARAM knobs to see how they affect the sound.

## PARTICLE



- |                    |                           |
|--------------------|---------------------------|
| 1 Tap tempo/freeze | 9 Chop/freeze threshold   |
| 2 Preset switch    | 10 Expression pedal       |
| 3 Preset indicator | 11 Input                  |
| 4 Feedback         | 12 Delay time/pitch shift |
| 5 Wet/dry blend    | 13 Mode                   |
| 6 USB MIDI         | 14 Parameter              |
| 7 9V DC 250 mA     | 15 Bypass indicator       |
| 8 Output           | 16 Bypass/tap division    |

## CONTROLS

### BLEND

Wet/dry mix. 100% wet at maximum.

### CHOP / FREEZE

Controls the grain size from 0-50%. Above 50%, sets freeze audio threshold.

CHOP controls the granularity of changes caused by the PARAM knob.

### DELAY/PITCH

Controls the delay time or pitch shift range (depending on mode). Pitch shift range is  $\pm 1$  octave, with no pitch shift at 50%. Delay time range is from 0 to 2.5 seconds.

### FDBK

Audio feedback (repeats).

### PARAM

Controls a mode-specific parameter.

## DELAY MODES

### DENS (density)

DELAY: delay time  
PARAM: grain density

Breaks the incoming audio into pieces.

### LFO (time stretch)

DELAY: delay buffer length  
PARAM: playback speed

Sweeps through delay buffer at 0.25x to 4x speed. Adjust CHOP for different effects.

### REV (reverse delay)

DELAY: delay time  
PARAM: direction probability

Randomly plays each grain forward or reversed, with probability set by PARAM.

### PITCH (random pitch jumps)

DELAY: delay time  
PARAM: pitch shift range

Repeats randomly jump in or down in pitch.

### RND (random delay)

DELAY: maximum delay time  
PARAM: random delay range

Random delay modulation.

## PITCH MODES

### DTUNE (pitch shift with randomization)

PITCH: pitch shift  
PARAM: detune range

The number of simultaneous grains (voices) increases with the detune range, creating pitch clouds. CHOP controls how often the pitch changes and length of each grain.

### LFO (pitch modulation)

PITCH: pitch shift range  
PARAM: LFO speed

A low frequency oscillator ramps the pitch from unison to the PITCH setting. CHOP makes the changes smooth or stepped.

### DENS (density)

PITCH: pitch shift range  
PARAM: grain density

PITCH sets a  $\pm 1$  octave pitch shift. PARAM controls the density of grains, breaking the incoming audio into small slices set by CHOP.



## PRESETS

---

Press the PRESET button to cycle through presets 1-4 and the live knob settings.

To save a preset, select the desired preset and hold the PRESET button for two seconds to store the current settings in that location. Bypass indicator will blink green.

127 presets are available via MIDI program change messages. To save a preset, hold down the PRESET button while sending a MIDI program change.

## FREEZE

---

In freeze mode, the input signal is ignored and the delay line is rescanned. When the CHOP knob is above 50%, it sets the audio level threshold for capturing live input. The input signal plays through when it exceeds the threshold. When the input level drops below the threshold, it rescans the delay buffer instead.

Freeze can also be activated by holding down the TAP/[FREEZE] switch.

## TAP TEMPO

---

Tap the TAP/[FREEZE] button at quarter note intervals to turn on tap tempo. Double tap quickly to disable tap tempo.

Tap divisions can be set by holding the ON/[DIV] switch until the light turns yellow. Preset LEDs blink will at the selected rate:

- 1 Chop (grain size)
  - 2 Density
  - 3 LFO rate
  - 4 Delay time
- Blinks at quarter notes

To adjust the delay tap division, use the mode switch or DELAY/PITCH knob. Other divisions can be set using the CHOP and PARAM knobs. Setting the knob to 0% will turn off tap tempo for that parameter.

LFO rate ranges from 8 measures to quarter notes. Other parameters range from whole notes to 1/64th note triplets. See the *Particle Owner's Manual* for details.

Tap divisions are stored in presets, and remembered when power is off.

## WARRANTY

---

This product is warranted against defects in materials and workmanship for one (1) year from date of original purchase. It does not cover damages or wear resulting from accident, misuse, abuse, or unauthorized adjustment and/or repair. Should this product require service (or replacement at our option) while under warranty, please contact [support@redpandalab.com](mailto:support@redpandalab.com).

Get the full manual and latest firmware updates at [www.redpandalab.com/downloads](http://www.redpandalab.com/downloads)

## SPECS

---

**Input impedance:** 1 M $\Omega$   
**Output impedance:** < 470  $\Omega$   
**Maximum input:** +5.5 dBu (default), +7 dBu max  
**Bypass:** analog buffered  
**Power:** 9V DC, center negative  
**Current:** 250 mA

## CTRL (EXPRESSION PEDAL)

---

Use an expression pedal with a 10-25 k $\Omega$  linear pot. The CTRL input also supports control voltages (0 to +3.3V) and our Remote footswitch.

To assign the expression pedal to knobs:

- Hold right footswitch while plugging in pedal.
- Move to heel position, adjust knobs.
- Move to toe position, adjust knobs.
- Hold right footswitch for 2 seconds to save.



# QUICKSTART

## PARTICLE 2

