

# RS909



# User Manual

TIPTOPaudio

[www.tiptopaudio.com](http://www.tiptopaudio.com)

## **Introduction.**

The RS909 is Roland's TR-909 analog Rimshot sound generator adapted for modular synthesizer use. The front panel contains all of the controls found on the original TR-909 drum machine, allowing you full control over the sound's volume levels to mix with other drums, and accent levels. In addition to those original controls we have also added control over the two internal oscillators, further enhancing this circuit.

## **About the Making of the RS909.**

The RS909 is a one-to-one clone of the original circuit found in Roland's TR-909 drum machine. During the design phase, we created additional features only when implementation would not compromise the original signature sound, or add excessive costs. Cloning a circuit that was designed and produced in the 80's was not an easy task. A variety of obstacles including availability of the original parts, the modern SMT manufacturing process, the differences in +/-12V Eurorack power versus the +/-15V of the original 909, and far many more were addressed in the creation of this module. To learn more about the process of remaking the sound generators in this series please refer to the BD808 user guide.

## **Let's get started.**

To start using the RS909, just plug a gate signal into the GATE IN, plug the RS OUT to your sound system, set the LEVEL half way and Accent to max, set OSC-1 and OSC-2 to max, pointing at the direction of the 909 dot on the panel.

## Dynamics and Gain.

### Accent and Levels:

Dynamic Accent and Level control of any drum sound in the mix is a big part of making a beat sound right. Dynamic Accent provides emphasis on a particular note through loudness. In analog circuits like the RS909, the accent pulse physically "hits" the internal envelope circuit harder and provides not only a louder sound but also slightly more attack (much like if you were to hit a real drum harder or softer with a drum stick.)

While the original 909 has one global accent knob for setting accents levels for all of its sounds, the RS909 (and all other drum modules in this series) offers an independent accent level control. This feature adds to a clear work flow than what was possible with the original machine.

### Accent Explained:

The accent input can be driven by either a gate/trigger or CV signal.

While the accent input is not in use, the incoming gate input is routed (normalized) to both the accent input and the gate input. This serves for two purposes:

1. To allow you to reach the hottest drum sound possible even when there is no accent input signal connected.
2. It makes the ACCENT knob act as a fine control of the output gain level. This is very useful in situations where the level knob range is too coarse for setting precise levels in a mix with other drum sounds.

Connecting a gate or CV signal into the accent input will break the internal routing mentioned above and will allow for independent control over accent regardless of the incoming gate signal. In this case as long as there is no accent signal present, the drum sound will be set to the minimum accent level set internally, and once the accent input gets hit by a gate or CV signal, the drum sound will get louder in proportion to the accent level set by the accent knob. In short: the higher the knob setting, the larger the difference will be in gain levels between the accented notes and the un-accented notes. Using CV allows for even greater variations.

## **OSC-1/2 Explained.**

The knobs labeled OSC-1 and OSC-2 control the frequency of two of the oscillators out of the total 3 oscillators in the RS909 circuit. A dot on the scale indicates the setting of the original 909 machine, at this point the sound is same as the original. Moving the knobs the other direction will change the frequency of these oscillators and give more variations to the sound.

## **MixBus jumper.**

Setting the jumper on the two pins will connect the output of this module to the MixBus of the MIXZ mixer module. If MixBus is not used please keep the jumper only on one pin, either pin is fine. For more information on MixBus please see MIXZ user guide.

## **Tips & Tricks:.**

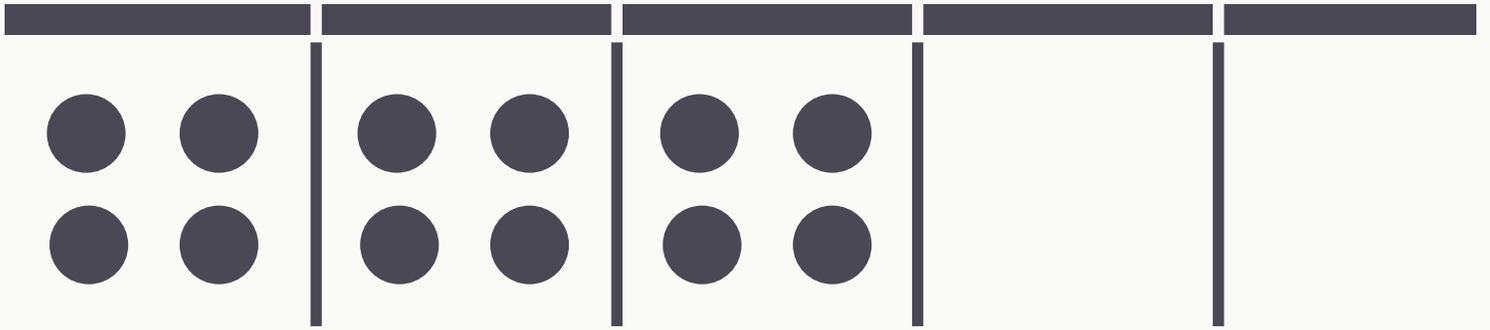
### [Creative Gate Sequencing with the Z8000:](#)

Please see BD808 User manual for in depth information.

### [Step Sequencing the traditional way:](#)

Please see BD808 User manual for in depth information.

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