

ISD9 (Ibanez™ Sonic Distortion™ SD9™ Replica) Instructions

Version 2013October18

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This is a replica of the famous **Ibanez™ Sonic Distortion™ SD9™** referred to as **ISD9** in these documents. Much more distortion than the Ibanez™ Tube Screamer™ TS9™. This circuit sounds identical to the original Ibanez circuit (according to my ear in the comparison testing), but there are some actual circuit differences. They are:

- The replica does not include the output buffer. This does not really change the sound, it is possible, that it may interact differently with other pedals.
- This replica does not include the electronic switching, but has true-bypass switching with a footswitch.
- The power protection diode is inline with the power instead of from power to ground. We feel that this offers a little more protection to the circuit.

These differences don't seem to affect the sonic beauty of this distortion and simplify it considerably.

Use the project documents provided, starting with the General Build Instructions.

Generally speaking, the type of transistor used on the input buffer section (Q1) is not necessarily important to the sound. Use one of the types listed in the bill of materials or any NPN transistor that is similar to those listed. There is nothing magical about the sound of the original 2SC1815 transistors, in fact they are very "ordinary"

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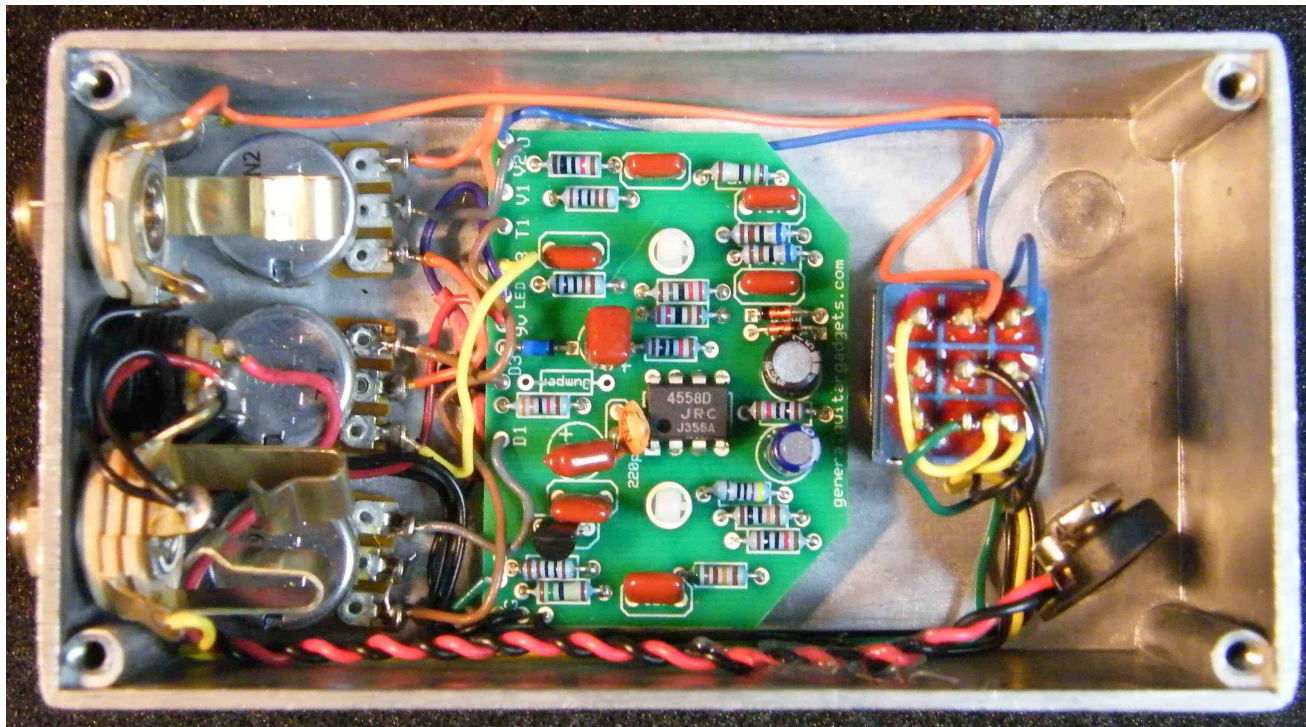
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transistors. **Please Note:** The layout is designed for transistors with a "EBC" pin format. If you use the 2SC1815 you'll have to twist the middle pin out to the side to get it to fit in the correct orientation.

A word about SD9 schematics on the internet. They are mostly wrong or possibly Ibanez issued units with varying part values. I haven't found one that matched my original unit. Our schematic was wrong for a while, but we have corrected it now after some research and testing. There are schematics that show C3 as 22uF and C6 as 47uf. These values don't match with the unit I have. Note that the schematic shows the polarity for C3 and C6 and we used non-polar caps. There is a schematic that shows R7 as 3k3, C5 as 0.01uF. These don't match with the unit I have either.

Here's an inside view of the unit we built to show our construction details.



Here is a chart of voltages taken at the IC and transistor pins. This information can be used to help you find and fix problems if your ISD9 doesn't work when you test it. The voltages are approximate, you may not get these exact readings, but they should



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be somewhere close.

Component	Location	Voltage
9 volt power supply		9v
IC	IC Pin 1	4.5v
	IC Pin 2	4.5v
	IC Pin 3	4.5v
	IC Pin 4	0v
	IC Pin 5	0v
	IC Pin 6	8.5v
	IC Pin 7	8.5v
	IC Pin 8	9v
Q1	Collector	9v
	Base	3.8v
	Emitter	3.4v

Comments and questions are welcome and can be sent to info@generalguitargadgets.com