

ITS8 (Ibanez™ Tube Screamer 808™ Replica) Instructions

Version 2013December06

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This is a replica of the famous **Ibanez™ Tube Screamer 808™** referred to as **ITS8** in these documents. One of the best and most well-known guitar overdrive sounds in the world.

Use the project documents provided, starting with the General Build Instructions. Read the Modifications Instructions file before you start, you may get some ideas that you want to use right from the start.

Generally speaking, the type of transistors used on the input and output buffer sections are 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" transistors. The kits come with 2N4401 transistors, these are very good substitutes for the originals. **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.

The Tone Control potentiometer on the original is a 20k with an "EQ" taper. A 25k linear pot can be substituted with fairly good results. The kits come with the 20k "EQ" taper pot that is similar to the original units and a much better taper than the 25k linear.

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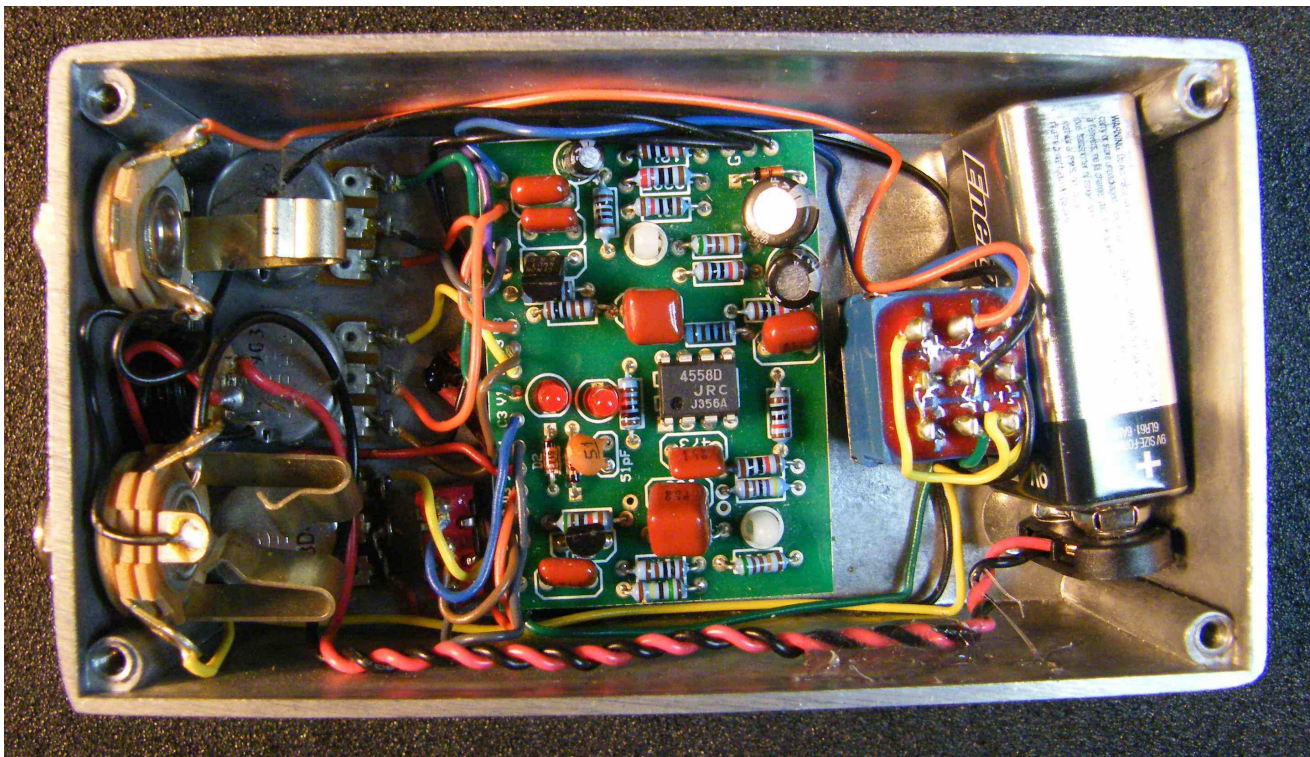
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The PCB is designed to use two different "clipping devices" (diodes & red LEDs) that can be switched for different distortion sounds. There is also a diagram available that shows how to install a jumper if you choose to just use the original clipper configuration with no switching. **Please Note:** it is normal for different clipping components to cause large variations in the overall volume of the distortion pedal. This is true for all distortion pedals that use diode type clippers. This clipper switch will cause volume variations as you switch to different settings.

D5 is optional, it is there to prevent reverse polarity power from destroying the IC. If you decide not to install D5, do not put a jumper in place of D5, just leave it blank. C12 is a power supply filter cap and is also somewhat optional. If you plan on only using battery power, you probably don't need C12. Again, if you don't install C12, do not install a jumper, leave it blank. If you have D5 installed and you do ever zap the unit with reverse power, hopefully all you have to do to fix it is replace or remove D5.

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





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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 ITS8 doesn't work when you test it. The voltages are approximate, you may not get these exact readings, but they should 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	4.5v
	IC Pin 6	4.5v
	IC Pin 7	4.5v
	IC Pin 8	9v
Q1	Collector	9v
	Base	3.0v
	Emitter	2.5v
Q2	Collector	9v
	Base	3.0v
	Emitter	2.5v

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