

# Ibanez Tubescreamer circuit found on Electrosmash

The diagram illustrates the Ibanez Tubescreamer circuit, divided into five main stages:

- Input Buffer:** Features an input capacitor  $C1$  (20nF) and a resistor  $R1$  (1K) connected to a +9V supply. The signal is buffered by an op-amp (LM1370) with feedback resistor  $R2$  (510K) and output resistor  $R3$  (10K).
- Clipping Amp:** Utilizes two op-amps (LM1370) for clipping. The first stage has a feedback resistor  $R5$  (4.7K) and a capacitor  $C2$  (1nF). The second stage has a feedback resistor  $R6$  (51K) and a 500K Log Pot. A 51pF capacitor  $C4$  is connected to the input of the second stage.
- Tone/Volume Stage:** Uses an op-amp (LM1370) with a feedback resistor  $R11$  (1K) and a 20K Pot (Tone). The input is connected to a 1K resistor  $R7$  and a 22nF capacitor  $C6$ . The output is connected to a 10K resistor  $R9$  and a 22nF capacitor  $C5$ .
- Output Buffer:** Features an op-amp (LM1370) with a feedback resistor  $R13$  (510K) and a 100K Pot (Volume). The input is connected to a 1K resistor  $R12$  and a 1nF capacitor  $C7$ . The output is connected to a 10K resistor  $R14$  and a 100K Pot (Volume).
- Power Supply Stage:** Shows a +9V supply connected to a 100nF capacitor  $C10$  and a 10K resistor  $R17$ . The output is connected to a 4.5V supply and a 10K resistor  $R18$ . A 47nF capacitor  $C11$  is connected to the output.

A 3PDT switch schematic is also shown, labeled "3PDT Switch", with terminals for "In Jack", "Out Jack", and "Ground".

Figure 1: Circuit Notes.

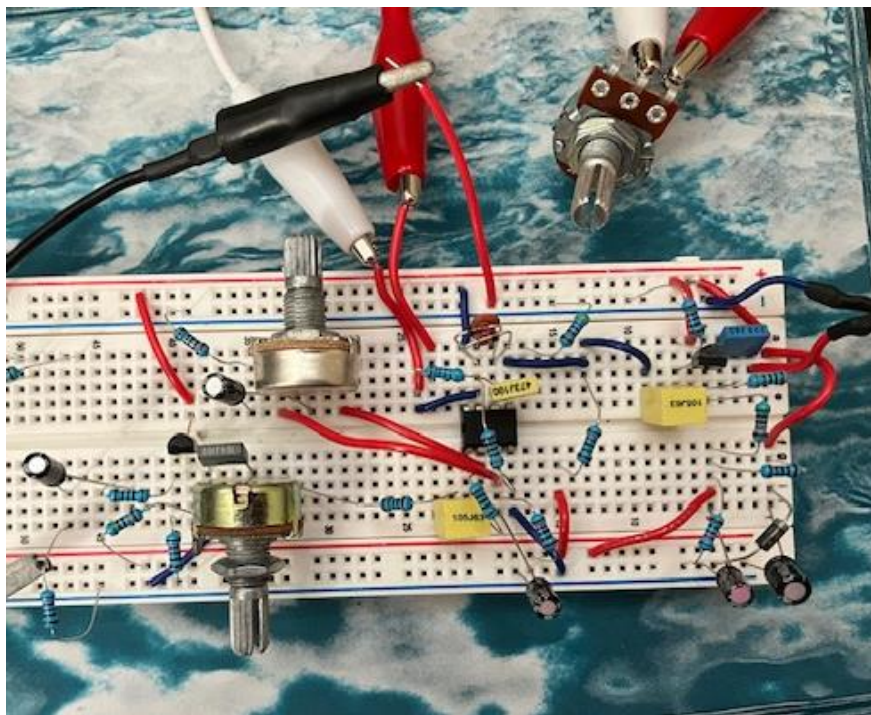
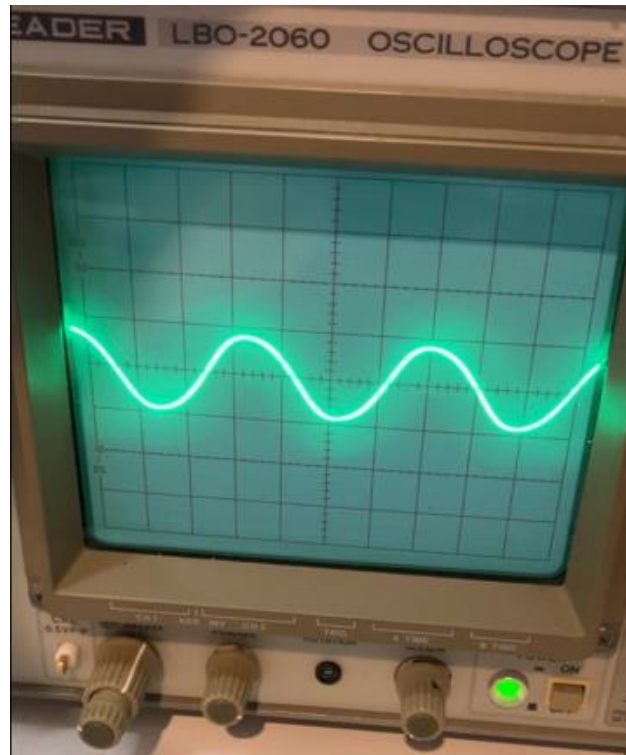
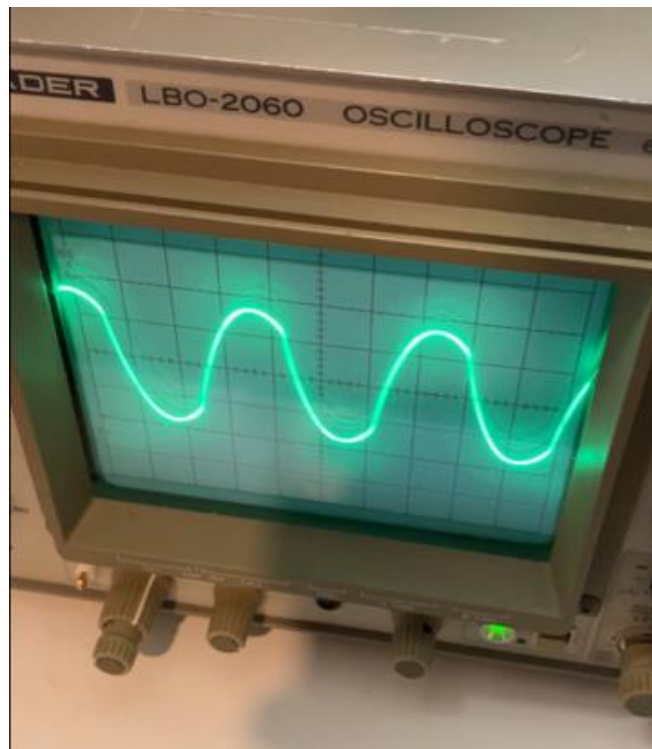


Figure 2: Prototype on Breadboard.



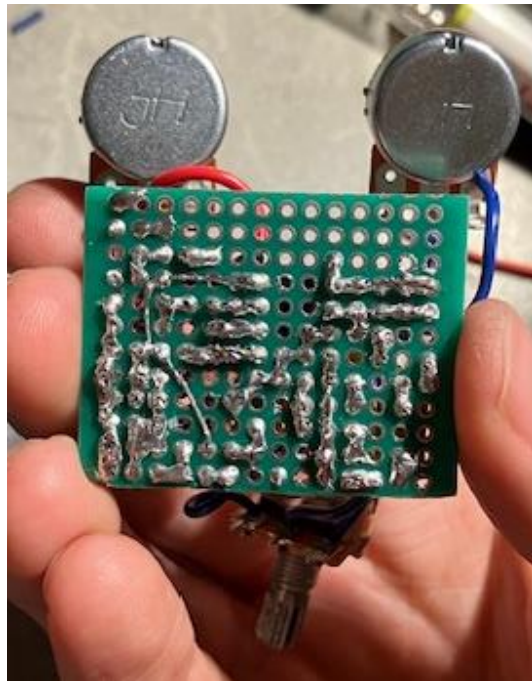
*Figure 3: Input (1KHz sine wave).*



*Figure 4: Soft Clipped Output.*

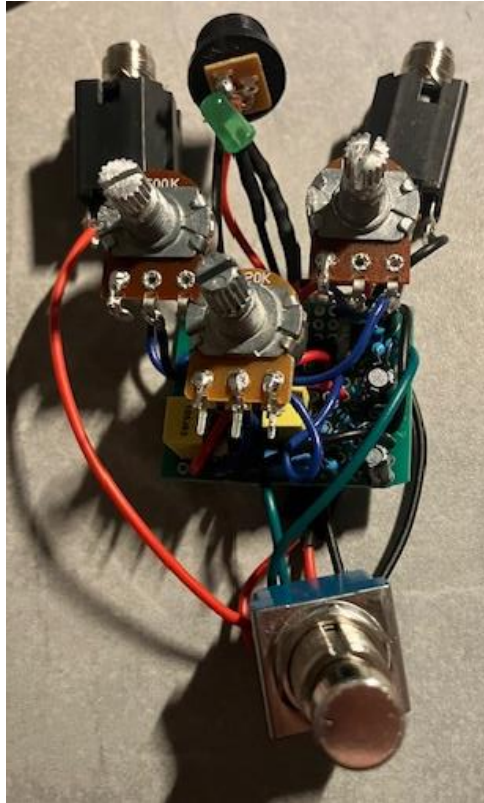


*Figure 5: Assembled PCB (Front).*

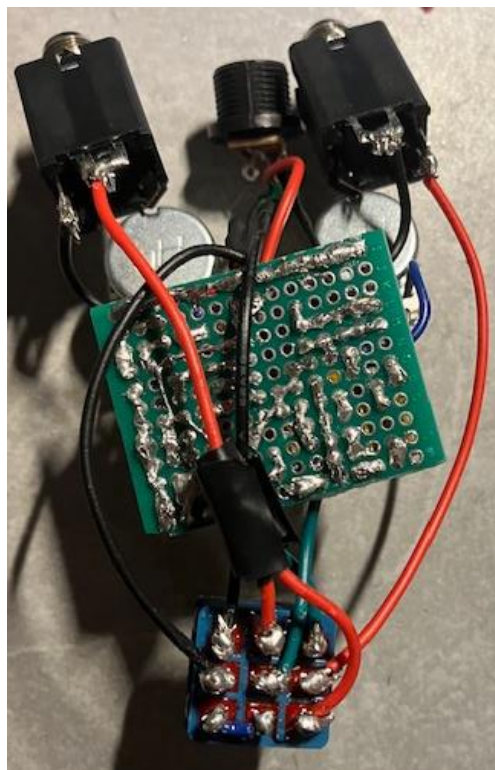


*Figure 6: Assembled PCB (Back).*





*Figure 7: Connected Electronics (Front).*



*Figure 8: Connected Electronics (Back).*



*Figure 9: Measured and Drilled Enclosure.*



*Figure 10: Measured and Drilled Enclosure.*



*Figure 11: Electronics inside enclosure.*



Figure 12: Final Design.