

Ease of build	Easy
-partscount	Low
-density	High
Parts sourcing	Normal
Enclosure fitting	Advanced
Debugging level	Easy

Signal Injector/Tracer Pen V6.3a

Overview

The Signal Injector/Tracer Pen is the ideal tool to debug any audio electronics circuit.

It can be used in several ways:

- Tracing of existing audio in a circuit – works as amplifier and loudspeaker
- Signal generator feeds audio into circuit and tracer checks existence in circuit
- Signal generator only – when the circuit is already plugged into an amp
- Continuity tester

General

The tracer pen comes with all SMD components pre-soldered. Only switches, loudspeaker and a test pin as well as the external connections need to be wired.

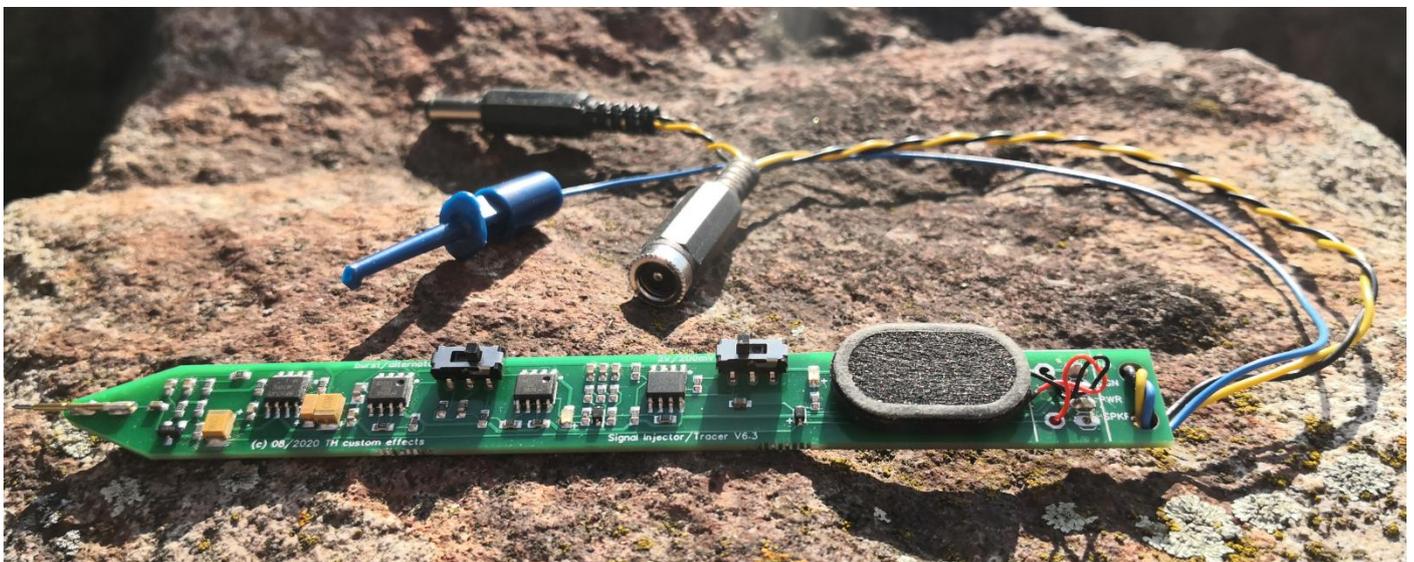
Please note that the LM386 used as amplifier can get hot if there is a permanent signal fed into it!

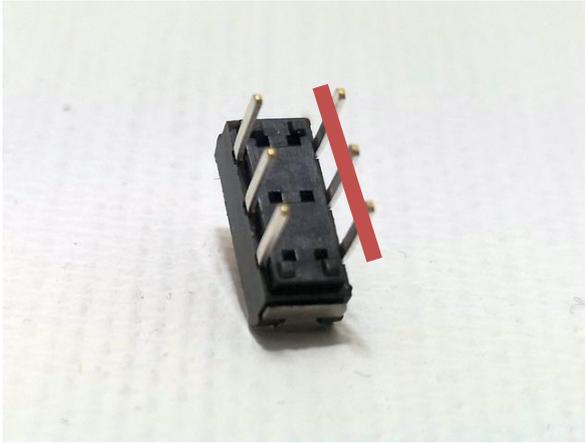
Maximum input Voltage is 12V but circuit is optimized for +9V to have the correct test signal levels (~160mV / ~1.8V). If reverse voltage is applied there may be unreparable damage to the pen!

Wiring

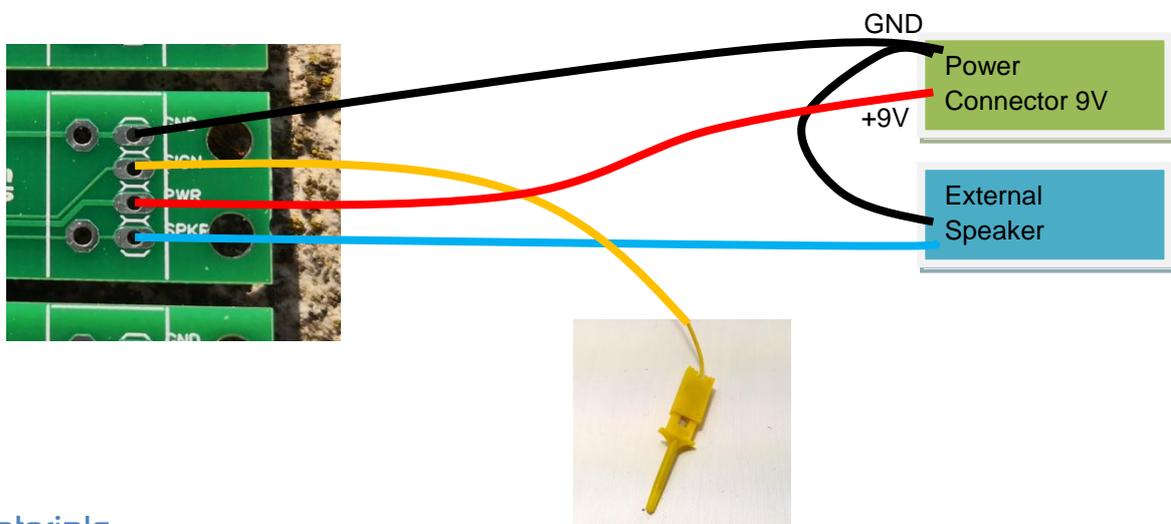
I recommend to use a brass nail as a testing pin if you do not have a real testing pin at hand.

The two large holes on the right hand side of the board are intended for strain relief of the wires.





If you have received switches that have a second row of pins please cut one side off. Make sure there is no contact to the mounting side of the PCB.



Bill of materials

Parts	Parts	Qty	Value	Description
	SW1/SW2	2	1PDT miniature slider	2,54mm pinout
	Loudspeaker	1	0.5-1W 8Ohm	20x15mm or 23mm O
	Testpin	1	Testpin 1mm	Alternative: brass nail
	Testclip	1	Testclip to feed signal into circuit	Alternative: 6.3mm Phono connector
	Power Connector	1	Male 2.1mm	Depending on your use. Both needed
	Power Connector	1	Female 2.1mm	For T-connection

Finally

This is a really great debugging tool. Whatever you have in your defect-stack – just pull it out, connect power and pen and try it immediately.

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