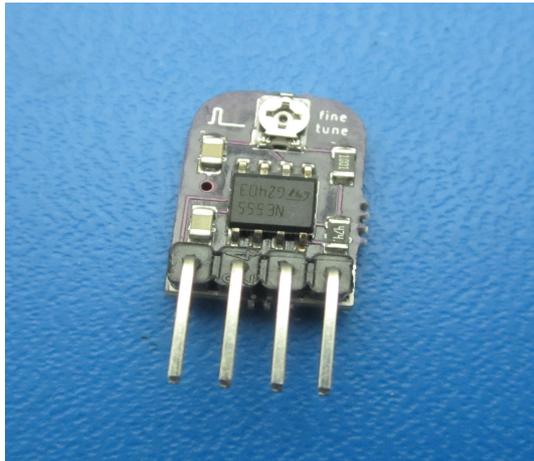


The Toymakers @ tymkrs.com
Questions? Please contact us:
feedback@tymkrs.com

DATASHEET



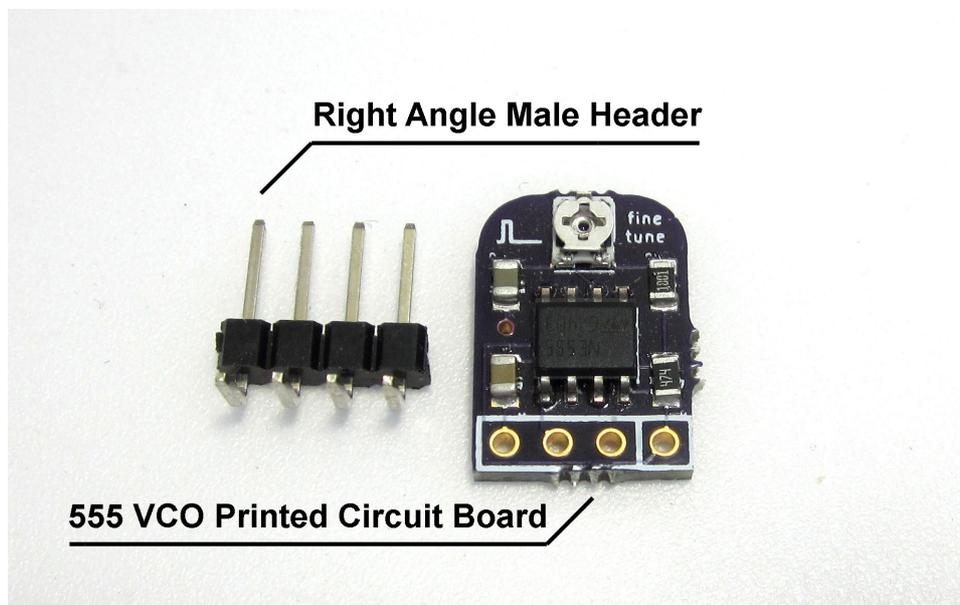
555 VCO

555-Based Voltage Controlled Oscillator

The 555 VCO is a tunable 555-based voltage controlled oscillator. The output signal is also in the audio range and can be used to create notes!

- Kit Type: SMT and minimal throughhole soldering
- Function: 555-based voltage controlled oscillator

KIT CONTENTS



Contents of the 555 VCO Kit:

- SMT 555 VCO printed circuit board (10.52 x 14.83 x 1.60mm) with components
- Right Angle Header

Electrical Components:

Reference	Quantity	Type	Value
555	1	IC Chip, SOIC-8	NE555DT
C1, C2	1	Ceramic Capacitor, 50V	56uF
R1	1	Resistor, 1/8 W	1k ohm
R2	1	Resistor, 1/8 W	470k ohm
RV1	1	Potentiometer	10k ohm

Recommended Use Ratings

Parameter	Ratings	Unit
Operating Voltage	4.5 – 16V	V
Operating Temperature	0 - +70	°C

Note: Absolute maximum ratings are stress ratings only and functional device operation is not implied. The device could be damaged beyond absolute maximum ratings.

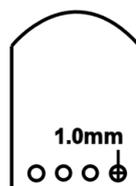
555 Datasheet:

<http://www2.st.com/content/ccc/resource/technical/document/datasheet/ba/0a/d7/6e/7c/db/4e/12/CD00000479.pdf/files/CD00000479.pdf/jcr:content/translations/en.CD00000479.pdf>

Tools and material required for assembly (not included with the kit):

- Soldering iron
- Solder

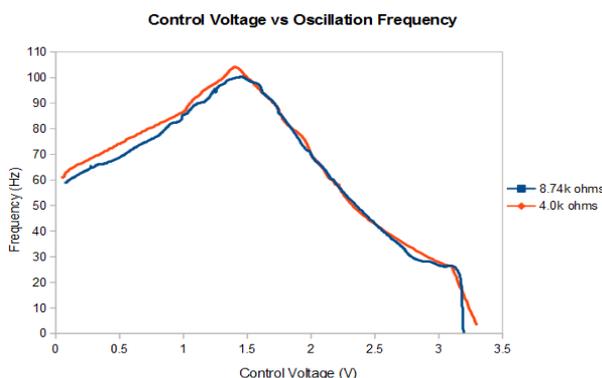
Header Holes:



Additional physical/electrical specifications:

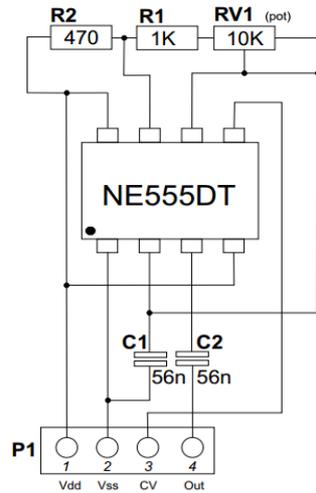
- Printed Circuit Board size: 0.41 x 0.58 x 0.063" (10.52 x 14.83 x 1.60mm)
- PCB thickness: 0.063" (1.60mm), not including any components
- PCB thickness: 0.118" (3.00mm), when flat and with components but not angle header
- PCB thickness: 0.905" (23mm), max height when upright and with angle header

Frequency Response Curves:

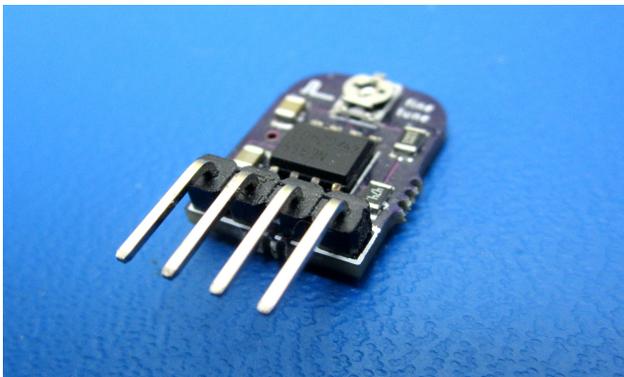


Frequency Response is similar despite adjustment of on-board potentiometer. Audio is changed.

Schematic:



Additional Picture:



Assembled PCB

Assembly and Use Instructions

Use Notes:

- A 1x4 male right angle header can be soldered to the header holes provided. This will allow you to use it in a breadboard set up.
- Using a screwdriver to adjust the potentiometer, you can change the tone of the note.

Pins (back of PCB):



+3.3vdc	VCC
Ground	GND
Control	Voltage that controls oscillation frequency
Output	Resultant oscillation frequency

- **Easiest case use:** Have a potentiometer set between 0 and 3.3V with its variable resistance value output connected to "Control". Connect "Output" to an audio jack of your choice, and in turn your speaker. When you adjust this external potentiometer, this will change the audio frequency (or note). To change the quality of the note you've set, you can use a screwdriver to adjust the thumb potentiometer on the board!