

3340 VCO Complete Kit – Step-by-Step Assembly Guide

This guide describes the step-by-step assembly of the 3340 VCO SMD Full Kit. Please read the entire guide before starting the build.

Tools required:

Soldering iron (fine tip recommended)

Solder

Side cutters

Small Allen key or screwdriver (for knob set screw)

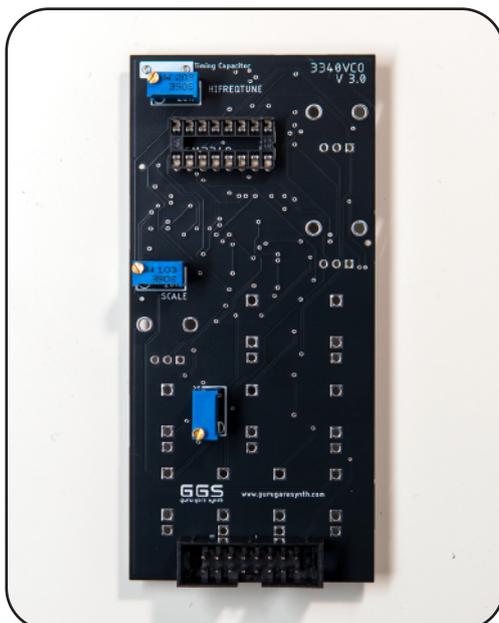
Multimeter & Oscilloscope (recommended)

General Notes

Make sure to observe component orientation where applicable. Do not overtighten nuts or screws.

Take your time and check each step before soldering.

Always power the module with the correct Eurorack polarity.



Step 1 - Install the components on the bottom side of the PCB.

3 trimmers:

HIFREQTUNE (High Frequency Tune – 20K)

SCALE (10K)

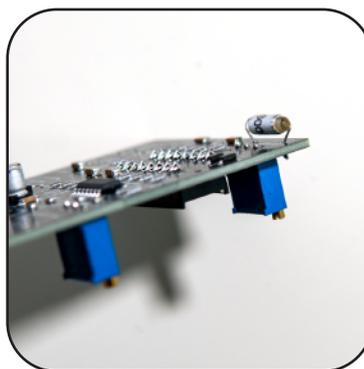
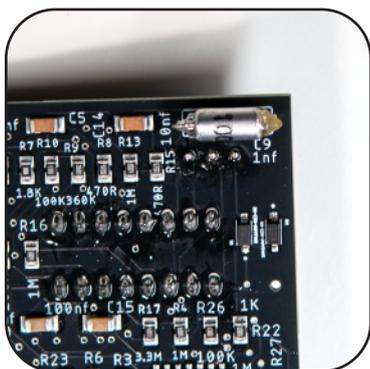
PWM (Pulse Width Modulation adjustment – 50K)

IC socket for the 3340 IC

16-pin IDC socket for Eurorack power

Make sure all components sit flat against the PCB before soldering.

Step 2 – Install the Timing Capacitor



The timing capacitor is placed on the top side of the PCB. However, if your capacitor is too large to fit between the front panel and the PCB, you may install it on the bottom side instead. The timing capacitor position is marked with a white rectangle and labeled “Timing Capacitor” on both sides of the PCB. The capacitor is non-polarized, so orientation does not matter.



Step 3 - Install the jack sockets on the top side of the PCB.

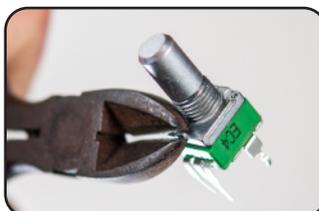
Make sure they are aligned properly before soldering to ensure correct panel fit.



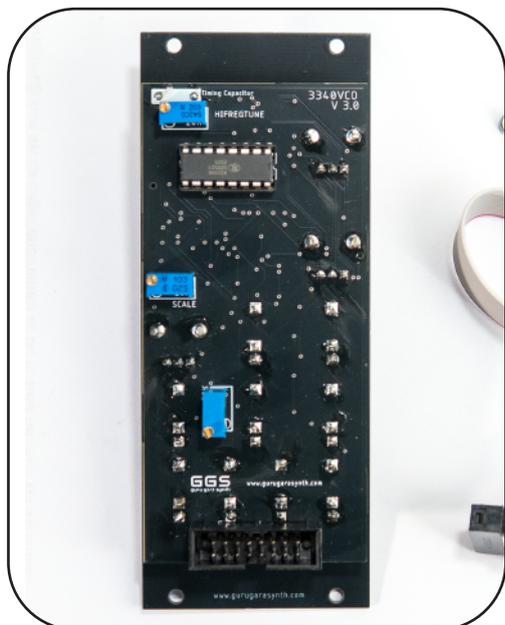
Step 4 - Install the 3 potentiometers on the top side.

Fine Tune – Plastic shaft B100K
PW (Pulse Width) – Plastic shaft B100K
Coarse – Metal shaft B100K

Ensure the potentiometers sit flush with the PCB and align properly with the front panel before soldering.



Before installing the metal shaft potentiometer, remove the anti-rotation tab if present.



Step 5 - Install the 3340 IC into the IC socket on the bottom side.

Make sure the IC is oriented correctly (match the notch or dot on the IC with the marking on the PCB).

After installation, connect the module to power and follow the calibration instructions to complete the build.

Calibration

Scale and High Frequency Trimmer Calibration

1- Connect a voltage-generator (VC) source, such as a keyboard, to the 1V/octave input of the VCO.

2 - Play note C1 (1 volts) on the key- board. Use the Tune and Fine Tune knobs on the VCO to tune it to C1.

3 - Press C2 (2 volts) on the key- board. Adjust the scale trimmer on the VCO to tune it to C2.

4 - Return to C1 and ensure it is still accurately tuned using the Tune and Fine Tune knobs.

5 - Press C2 again and fine-tune it using the scale trimmer on the back.

6 - Repeat the process with C1 and C3, ensuring accurate tuning with coarse and fine adjust- ments.

7 - Check the upper octaves for fine-tuning using the scale trimmer.

8 - Press C9 (9 volts) on the key- board and adjust the Hi Frequency trimmer to tune the VCO to C9.

Pulse Width Calibration

The PW adjust trimmer sets the endpoint of the square wave cycle. It should be adjusted to a point just before the wave disappears when the PW pot is turned all the way up.



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