Ring Modulator – Assembly Guide
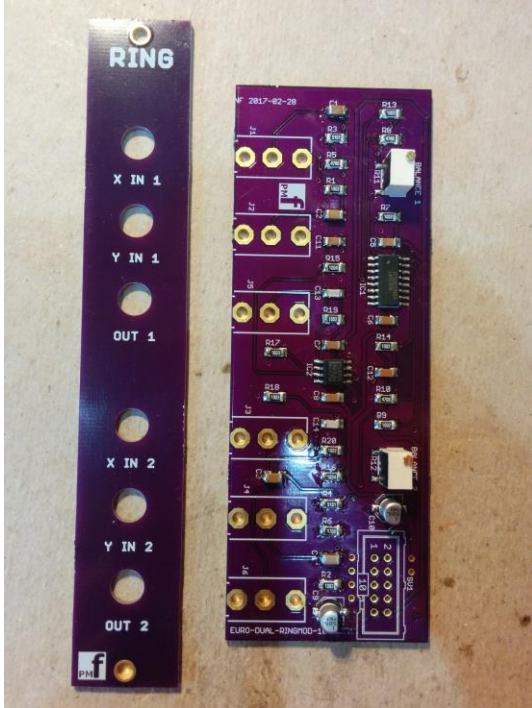
Thank you for purchasing this module! This is a very simple build.

The module is designed and sized for **Eurorack** systems. You will need a 16-10 pin eurorack power ribbon connector with –12/0/+12 which is connected to a synth power supply.
The module consists of 1 PCB board and a front panel.

Constructing the board

1. Power socket

    Install the 10 pin power socket on the TOP of the board. This must be installed with the correct orientation or the module will be damaged when the power is connected.

    The cut-out in the socket should face the jacks, aligning the cut-out with the "10" marking on the board as shown in the photo. Solder on the underside.

2. 3.5mm Jack Sockets

    Install the jacks on the top. Tack one pin only of each socket with solder. These will be finalized later. Please ensure they are on the CORRECT SIDE OF THE BOARD. See Photo.
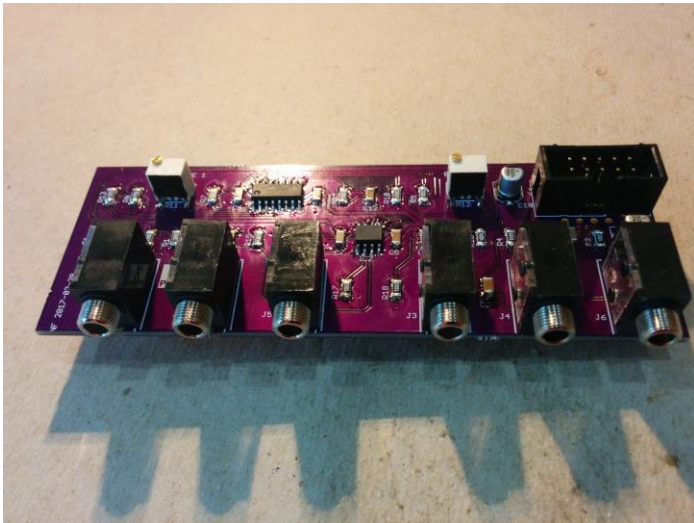
3. Alignment

    1. Place the front panel over the board so that the 3.5mm jacks align with the holes in the panel. The bottom of the panel must be nearest the power socket. If you install it upside down the jacks will be labeled incorrectly.

   2. Put nuts on the jacks and FULLY TIGTEN all of them. Do not overtighten!

3. Now fully solder all the pins of the jack sockets.
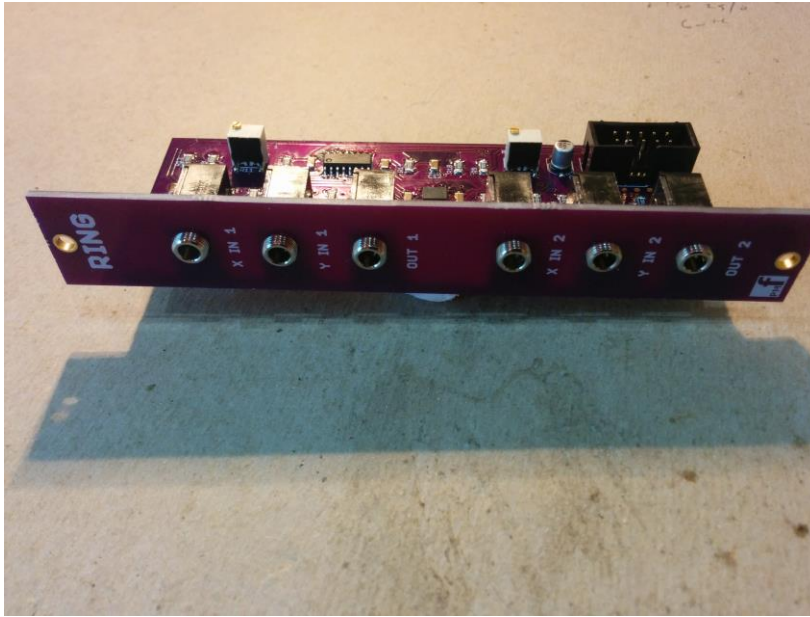
Calibrating the Ring Modulator

1. Double check again that you have installed the power socket the correct way around.
2. Connect the power supply from the synth.
3. Connect the OUT 1 to a mixer or other output device.

4. Supply an approximately 200Hz sine wave into the X IN 1 input.
5. Turn up the mixer until you hear the sine wave.
6. Adjust the Balance 1 trimmer left and right until the signal volume is minimized. There should be very minimal feedthrough when there is no signal on Y IN 1.
7. Repeat for the second set of inputs and outputs, using Balance 2.
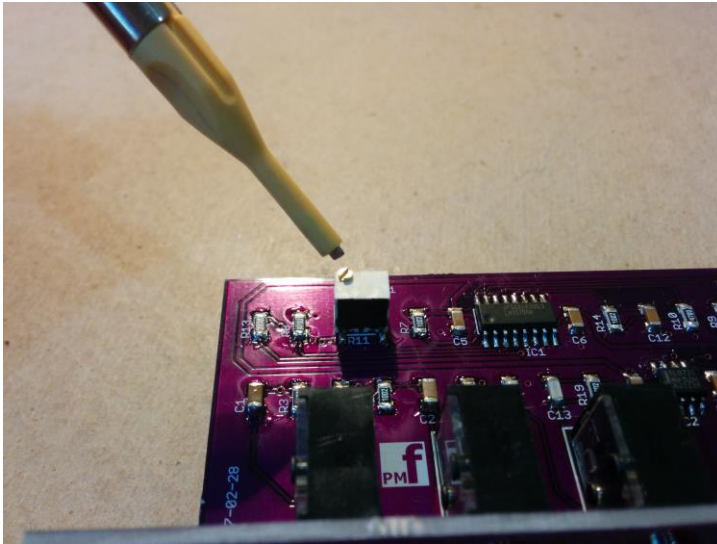
Using the Ring Modulator

1. To get started with this module, run a 200Hz sine wave directly from a VCO into the Y input and another sine wave into the X input from a Keyboard/VCO/ADSR/VCA patch. Patch the output to your mixer or output module and play notes on the keyboard while adjusting the tuning of the two VCOs. Then you can experiment with other waveforms and patches.