Mattson VCO 2 DIY Board assembly

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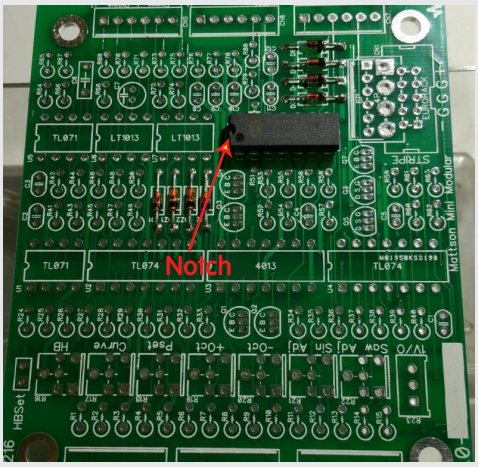

U8- THAT 340P14

Insert **IC U8** into the board at the U8 location.
Pay attention to the location of the notch on the IC and verify that it is oriented with the notch on the U8 graphic.

When complete and orientation is verified, flip the board and solder all 14 pins. Verify before and while soldering that all pads have IC leads in them. A missing lead could indicate that it may have bent while inserting.

U8 is an important device for the VCO operation. It provides the linear to exponential amplifier to allow for proper 1V/O tracking. Temperature variations can make the pitch drift. Mounting this IC directly keeps the connections short and minimizes temperature and connectiion artifacts.

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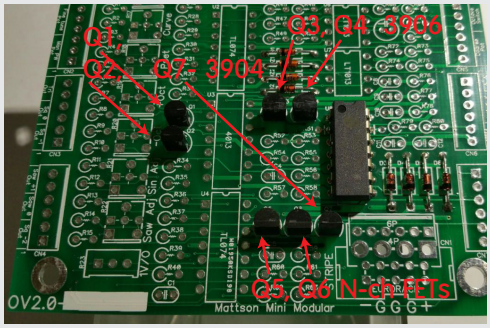

Transistors and FETs

Transistors and FETs are 3-legged devices with a round body that have a flat side. When inserting, **align the flat side with the flat on the graphic.**
Place **Q1, Q2, and Q7**- 2N3904 NPN transistors onto the board.
Place **Q3 and Q4**- 2N3906 PNP transistors onto the board.
Place **Q5 and Q6**- N-ch JFETs onto the board.
Verify the correct component type and orientation.
Flip the board and solder the pads.

Be very careful not to bridge the pads with solder. They won't work if you do. The pads are close together and minimal solder is required.

Clip the leads.

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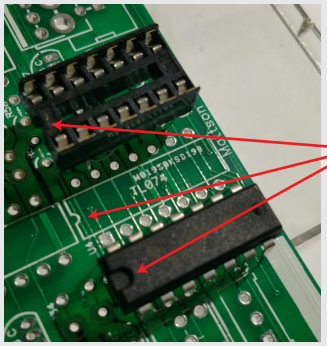

IC socket orientation

The IC sockets, IC graphics and ICs all have an orientation notch to indicate the proper placement position
Some ICs will have just a small circular indent off center in a corner near pin 1. That is the "notch" end of the IC. Some ICs have a big notch and a small, circular indent centered on the other end. Ignore the small indent and follow the large notch.

Please make sure they're lined up properly. A majority of ICs have symmetrically opposing power pins. If the IC is reversed, its power polarity is reversed and will kill the IC in an instant. Not good. Heads up!

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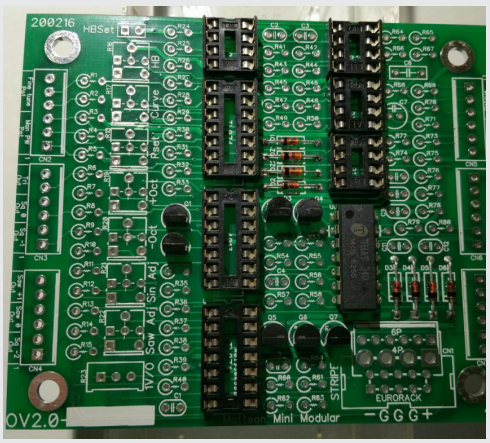

IC socket install

Locate the **3, 16-pin** and the **4, 8-pin IC sockets.** Insert them into the board in the **U1-U7** locations. (align the notches...)
Make sure the pins fit in all of the holes and aren't bent.

Flip the board and verify that every IC socket pad has a pin in it before soldering. Then, solder the sockets. Verify that every socket pad is occupied with a pin while soldering.

I usually solder opposing corners to hold them and check to see if they're seated before soldering the other pins. if not, putting a small bit of pressure on a raised corner while heating the pin will seat it. Don't burn your finger!

It's not necessary to clip the leads. They're short.