

SDS_VCO_MIDI Expansion DIY 2017

The MIDI Expansion (if included in your kit) can be added once the SDS_VCO has been tested and run for a while. Reason being the MIDI board covers part of the circuit underneath and if there are any problems it can be difficult to remove once in place.

If you have the board and no parts for the MIDI expansion (all kits include the board) then you'll need the following:

3 x 10K resistors (603 size)

2 x 100 ohm resistors (603 size)

2 x MMBT3904 transistors

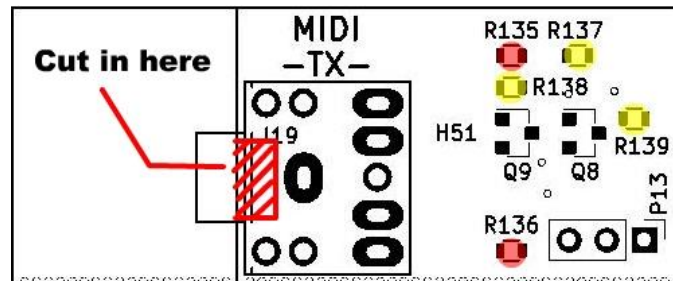
1 x [SJ1-3525N](#) stereo board mount jack.

*The jack is optional if you plan to direct wire to a 5 pin MIDI jack.

1 x 3 pin male header (2.54mm / .1 inch pitch)

All of these parts are available at Digikey or Mouser. (603) is NOT metric size!

You will also need a MIDI jack and 3.5mm stereo plug. If your MIDI uses only 3.5mm jack, then a standard stereo male-male patch will work fine. Keep in mind all 3.5mm MIDI wiring isn't completely standard though!



Mount jack on:

Top: ring is hot

Bottom: tip is hot

Q8,9 MMBT3904

3*10k

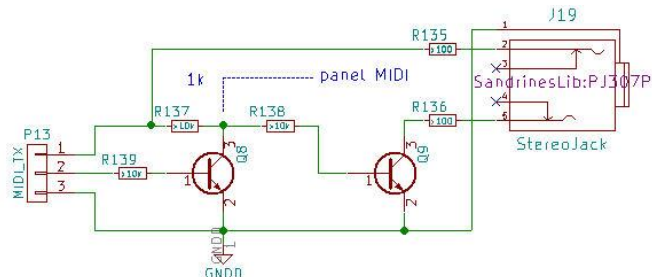
2*100 OHM

Place parts as shown.

If a jack is to be used then it's important to grind down the edge of the board so the jack sits more flush. This can be done with a dremel or even a round file. A very small amount needs to be removed.

If directly wiring to the MIDI jack (5 pin) the top pin on the board's jack pads is the MIDI "hot" or pin #4, while #5 is the lower pad.

This is also reflected in the schematic shown here. The shield line (pin 2) isn't absolutely required as it doesn't usually carry any of the MIDI signals, but is recommended.

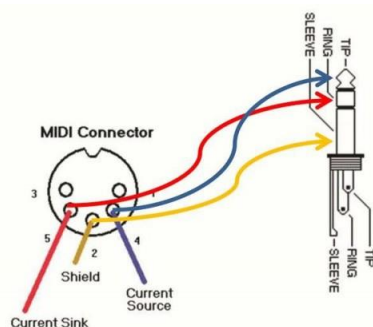


Not that the MIDI connector shown here is the back of a male plug. If using a MIDI socket, then #4 & #5 will be reversed from the rear-of-jack viewpoint.

Good rule of thumb is:

If it doesn't work one way, then it must be the other!

This goes for the 3.5mm type of MIDI jacks as well. The tip/collar connections can be reversed as there's no standard for these.

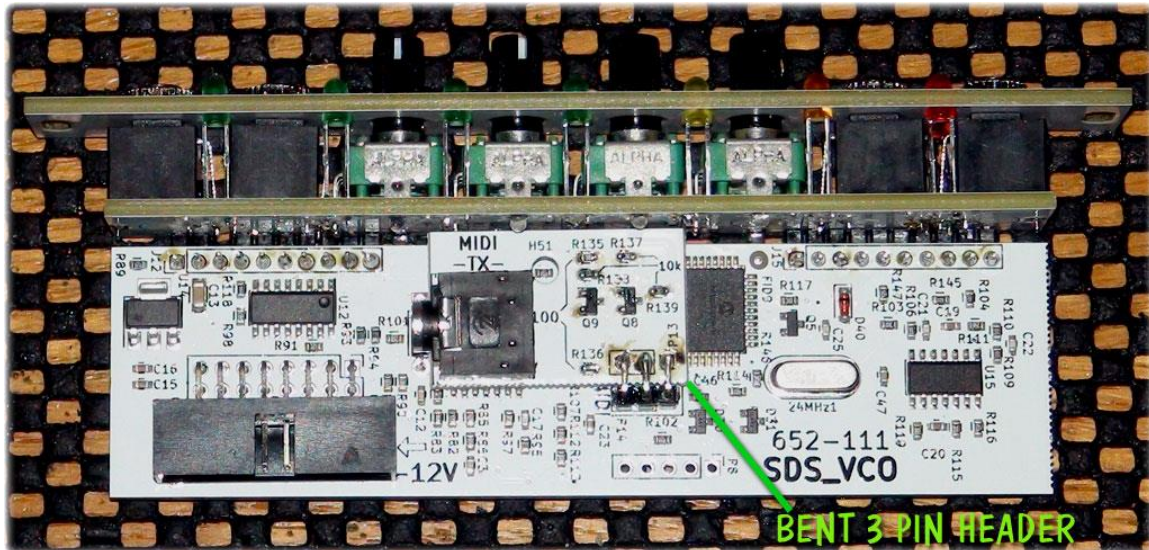


The original MIDI board can still fit into the newer SDS_VCO design although it's a hair more tricky to do. In order to allow clearance for the 3.5mm TRS plug, the board must be shifted back into the face board tightly.

Make sure to clip off any pot pins (the 2 center pots) as these will stick out enough to prevent proper alignment.

Attach the MIDI board to the mother board as shown.

To keep the board as flush as possible (the jack actually) make sure the jack's leads are trimmed as close to flush as possible. Those will sit on top of U16 partly. Bend the included 3 pin header as shown.



Using a small plastic clamp will assist in lining up the pins by holding the board. Solder one pin onto the MIDI board first. It can still be moved if needed. Then solder that same pin from the under side of the mother board.

Check that the plug when in the jack doesn't protrude past the module's face panel (possibly interfering with adjacent modules). It should be fairly parallel to the board and not sticking up.

Once everything looks fair, solder the rest of them up (bottom of board first as they may melt and move around!!)

That's it!

Please refer to the Users Guide for more on how the MIDI is implemented.

Happy MIDI'ing!

Sandy Sims, SDS Digital 2017

Owner's manual: http://www.freshnelly.com/sdsvco/0-SDS_VCO_usersMan.pdf

The firmware at the time of this document is V1.01, so you can check the website at <http://www.freshnelly.com/sdsvco/sdsvco.htm> for possible updates or alternates.