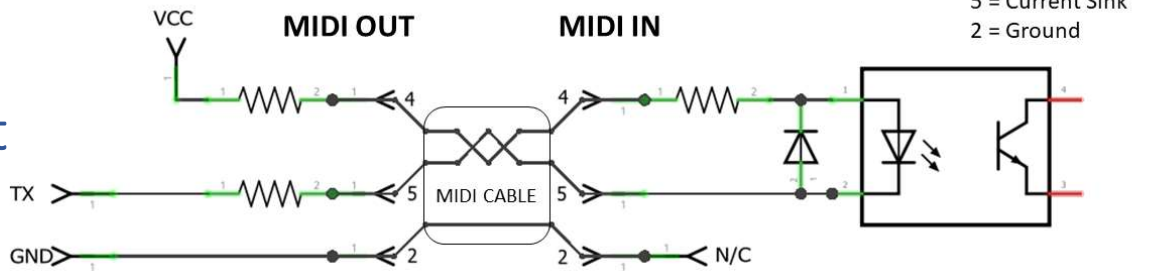


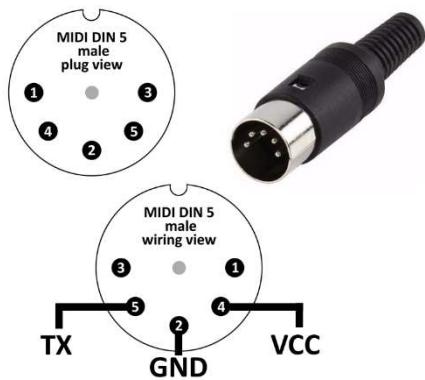
# Simple DIY Electronic Music Projects

All information provided on a best efforts basis. Use at your own risk. I accept not liability or responsibility for the information presented here! Always consult the official specs!

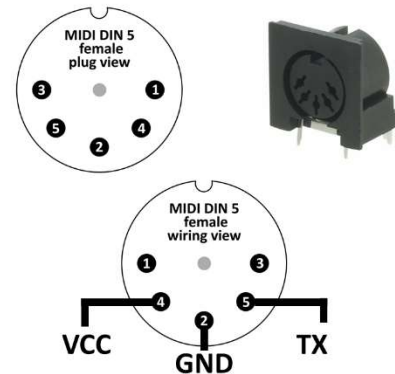
## The Basic MIDI Circuit



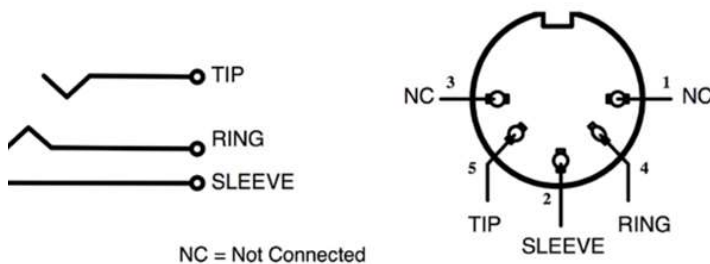
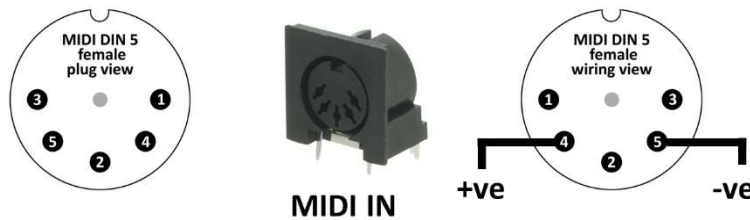
4 = Current Source  
5 = Current Sink  
2 = Ground



### MIDI OUT



### MIDI IN



### MIDI TRS

**MIDI TRS:**  
Ring - 4 - Current Source  
Tip - 5 - Current Sink  
Sleeve - 2 - Ground

**Stereo Audio:**  
Ring - Right Channel  
Tip - Left Channel  
Sleeve - Ground

#### Key points:

- A MIDI circuit is a 5mA current loop.
- The MIDI IN circuit is opto-isolated.
- When TX pulls LOW in TX, current flows through the opto-isolator in RX.
- Cables are a shielded twisted pair.
- Cable shield is connected at both ends in the plugs.
- Only the OUT socket is connected to GND.
- The extra diode is protection against getting the wiring wrong!

For a detailed but accessible analysis of the MIDI circuit operation see Notes and Volts **"MIDI For the Arduino"**  
<https://www.notesandvolts.com/2014/11/midi-and-arduino-circuit-analysis.html>

MIDI Manufacturers Association / Association of Musical Electronics Industry  
MMA Technical Standards Board / AMEI MIDI Committee

- CA-033 MIDI 1.0 Electrical Specification Update (2014)
- RP-054 Letter of Agreement for Recommended Practice – Specification for use of TRS Connectors with MIDI Devices (2018)