

MMA Technical Standards Board/ AMEI MIDI Committee

Letter of Agreement for Recommend Practice

Specification for use of TRS Connectors with MIDI Devices [RP-054]

Abstract:

This document defines how to wire “TRS” (tip-ring-sleeve) connectors for use with MIDI devices, and describes the necessary device circuitry and cable specifications to support MIDI communication over the TRS connection.

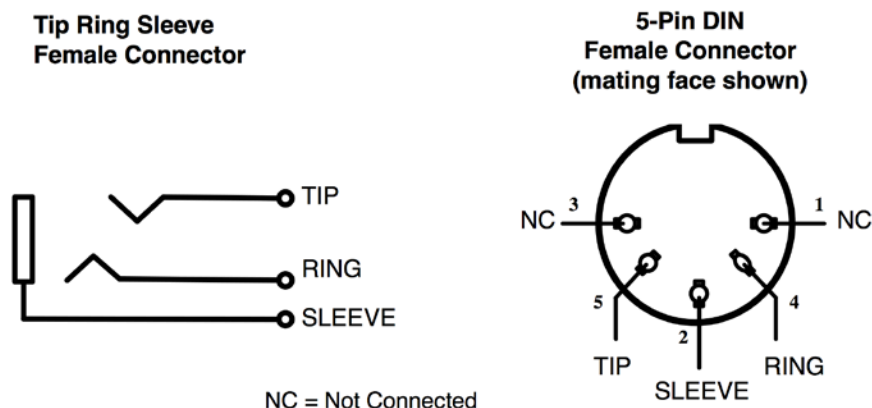
Background:

The inclination towards smaller hardware devices has made it increasingly difficult to make use of DIN connectors for MIDI In/Out in the past few years. Many manufacturers have chosen to use 2.5mm or 3.5mm “TRS” connectors instead. But since there was no specification for wiring a TRS MIDI connection, the situation exists where two devices may not have chosen the same wiring scheme, so compatibility between devices is not known. By specifying the pin-out for the TRS connection, and also the connectors for the adapter cable, we can ensure greater interoperability between TRS and DIN MIDI devices.

Details:

(1) Pin-out Correspondence:

The following TRS to DIN drawing illustrates the wiring for a female TRS connector in comparison to a female MIDI-DIN connector (it is expected that devices will use female TRS connectors).



Notes:

The MIDI In/Out circuitry should be implemented in accordance with the MIDI 1.0 Electrical Specification Update [2014] (MMA/AMEI CA-033).

Because TRS connectors are often used for other (non-MIDI) purposes, manufacturers are strongly advised to add protection circuitry (e.g. to handle the case when a DC-coupled headphone driver is connected to a MIDI output).

(2) Connector Size:

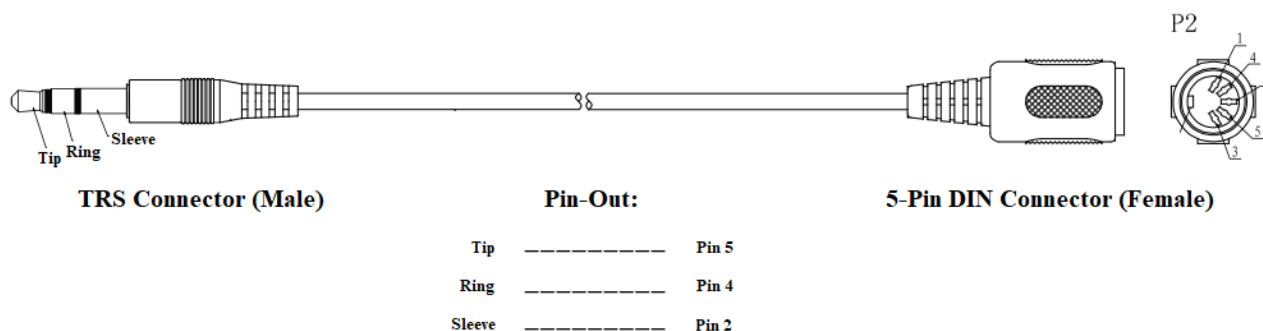
2.5mm TRS connectors are recommended.

Note: If any other connector size is used, the remainder of this specification still applies.

(3) Cables

All cables shall use shielded twisted pairs, as defined for a MIDI cable.

The following drawing shows how to implement a male TRS to female MIDI-DIN adapter cable:



Notes:

Adapter cables shall have a maximum length of 2 meters.

Direct connection between two TRS-equipped devices using cables designed for use with audio equipment is not acceptable because the wires are not twisted pair and are typically individually shielded.

Originated By: <u>MMA</u>	Reference MMA TSB Item #: <u>215</u>	Version #: <u>0.941</u>
TSBB #: <u>n/a</u>	Last Revised: <u>05/17/2018</u>	
MMA Approval Date: <u>06/08/2018</u>	AMEI Approval Date: <u>07/18/2018</u>	
Related Items: <u>MIDI Electrical Specification Update (2014)</u>		