https://www.mouser.com/datasheet/2/359/UM08001_JLinkARM-634.pdf

18.1.3 Pinout for SWD + Virtual COM Port (VCOM)

The J-Link and J-Trace JTAG connector is also compatible to ARM's Serial Wire Debug (SWD).

On some models like the J-Link ULTRA, these pins are reserved for firmware extension purposes. They can be left open or connected to GND in normal debug environment. Please do not assume them to be connected to GND inside J-Link.

PIN	SIGNAL	TYPE	Description
1	VTref	Input	This is the target reference voltage. It is used to check if the target has power, to create the logic-level reference for the input comparators and to control the output logic levels to the target. It is normally fed from Vdd of the target board and must not have a series resistor.
2	Not connected	NC	This pin is not connected in J-Link.
3	Not used	NC	This pin is not used by J-Link. If the device may also be accessed via JTAG, this pin may be connected to nTRST, otherwise leave open.
5	J-Link Tx	Output	This pin is used as VCOM Tx (out on J-Link side) in case VCOM functionality of J-Link is enabled. For further information about VCOM, please refer to *Virtual COM Port (VCOM)* .
7	SWDIO	I/O	Single bi-directional data pin. A pull-up resistor is required. ARM recommends 100 kOhms.
9	SWCLK	Output	Clock signal to target CPU. It is recommended that this pin is pulled to a defined state on the target board. Typically connected to TCK of the target CPU.
11	Not used	NC	This pin is not used by J-Link. If the device may also be accessed via JTAG, this pin may be connected to RTCK, otherwise leave open.
13	SWO	Input	Serial Wire Output trace port. (Optional, not required for SWD communication.)
15	nRESET	I/O	Target CPU reset signal. Typically connected to the RESET pin of the target CPU, which is typically called "nRST", "nRESET" or "RESET". This signal is an active low signal.
17	J-Link Rx	Input	This pin is used as VCOM Rx (in on J-Link side) in case VCOM functionality of J-Link is enabled. For further information, please refer to *Virtual COM Port (VCOM)* .
19	5V-Supply	Output	This pin can be used to supply power to the target hardware. Older J-Links may not be able to supply power on this pin. For more information about how to enable/disable the power supply, please refer to *Virtual COM Port (VCOM)* .

18.3 9-pin JTAG/SWD connector

Some target boards only provide a 9-pin JTAG/SWD connector for Cortex-M. or these devices SEGGER provides a 20-pin -> 9-pin Cortex-M adapter.

PIN	SIGNAL	TYPE	Description
1	VTref	Input	This is the target reference voltage. It is used to check if the target has power, to create the logic-level reference for the input comparators and to control the output logic levels to the target. It is normally fed from Vdd of the target board and must not have a series resistor.
2	SWDIO / TMS	I/O / output	SWDIO: (Single) bi-directional data pin. JTAG mode set input of target CPU. This pin should be pulled up on the target. Typically connected to TMS of the target CPU.
4	SWCLK / TCK	Output	SWCLK: Clock signal to target CPU. It is recommended that this pin is pulled to a defined state of the target board. Typically connected to TCK of target CPU. JTAG clock signal to target CPU.
6	SWO / TDO	Input	JTAG data output from target CPU. Typically connected to TDO of the target CPU. When using SWD, this pin is used as Serial Wire Output trace port. (Optional, not required for SWD communication)
—	—	—	This pin (normally pin 7) is not existent on the 19-pin JTAG/SWD and Trace connector.
8	TDI	Output	JTAG data input of target CPU.- It is recommended that this pin is pulled to a defined state on the target board. Typically connected to TDI of the target CPU. For CPUs which do not provide TDI (SWD-only devices), this pin is not used. J-Link will ignore the signal on this pin when using SWD.
9	NC (TRST)	NC	By default, TRST is not connected, but the Cortex-M Adapter comes with a solder bridge (NR1) which allows TRST to be connected to pin 9 of the Cortex-M adapter.

CONTENTS CONFIDENTIAL AND PROPERTY OF INTERCREATE AND CLIENT

Title **Main**

Size: A3 Number: Revision: A

Date: 8/13/2024   Time: 3:29:54 PM   Sheet 1   of 1

File: Main.SchDoc

INTERCREATE
2415 3RD ST. SUITE #232
SAN FRANCISCO CA 94107