

*USB to Serial: We need a TTL/CMOS converter in the serial cable. Is it possible to configure the USB-Serial to use TTL signal instead?*

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This is possible using RS422 operation mode.

First connect the GND of your TTL circuits to the GND pin of the RS422 port.

In RS422 there are two pins to transmit signals, TX+ and TX-. The positive TX+ pretty much behaves like a TTL signal, with about 4.5V for logic One, and 0.3V for logic Zero. So just use TX+ as Tx output line, and connect this to your TTL input.

The signal input is a bit tricky. There are also two signals, RX+ and RX-. Connect your TTL output signal to positive input RX+, this will match just fine.

But the negative input TX- pin must have a voltage somewhere in the middle between the high and low levels of the TTL output. So use the supply voltage of your TTL circuit, and connect two resistors (2K) in series to GND. This divides the voltage by 2. Connect the middle between the resistors to the RX- input.

When your TTL signal is high, then RX- is lower than RX+; this is recognized as a logic One.

When your TTL signal is low, then RX- is higher than RX+; this is recognized as a logic Zero.

In summary you have a serial port operating on TTL levels. This has been verified up to 3Mbps transmission bitrate.

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*Author: Support*

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