

UART / Serial – the basic async serial link

Universal Async Receiver/Transmitter · asynchronous · point-to-point

HOW IT WORKS

The simplest serial link: just TX (transmit) and RX (receive), NO shared clock. Both sides agree IN ADVANCE on a speed (the "baud rate", e.g. 115200). Each byte is framed with a start bit + stop bit so the receiver knows where bytes begin/end.

THE WIRES

TX = transmit out · RX = receive in · GND
(your TX → their RX, and vice-versa)

KEY FACTS

No clock = the two baud rates must MATCH or you get garbage.
Point-to-point (two devices). The bedrock under MIDI, RS-485, and the USB serial console.

WHERE WE USE IT

UART is the raw engine; we dress it up three ways: drive it through an RS-485 transceiver to make the multi-drop house bus, run it at 31250 baud through an opto for MIDI, and expose it over USB as the programming/console port. Same UART, three jackets.