

MIDI – the music-control protocol

1983 standard · 31250 baud UART · opto-isolated current loop

HOW IT WORKS

A UART at exactly 31250 baud carrying short messages: note on/off, control-change (knobs), clock, etc. Electrically it's a CURRENT LOOP (current flowing = "1"), and the INPUT must be opto-isolated so two pieces of gear never share a ground.

THE WIRES

5-pin DIN: pins 4 & 5 = the current loop · pin 2 = shield
IN goes through an opto (H11L1); THRU = a buffered copy of IN

KEY FACTS

31.25 kbaud, current-loop, isolation REQUIRED on input.
IN / OUT / THRU are the three port types (THRU just repeats IN).
Also runs over USB (USB-MIDI) – same messages, different transport.

WHERE WE USE IT

The MIDI expander gives the system a 5-pin DIN input (opto-isolated) plus a buffered THRU to daisy-chain. The Brain also speaks USB-MIDI. MIDI is how a musician's existing gear (keyboards, sequencers) drives the glitch – a control SOURCE the device translates into CR.