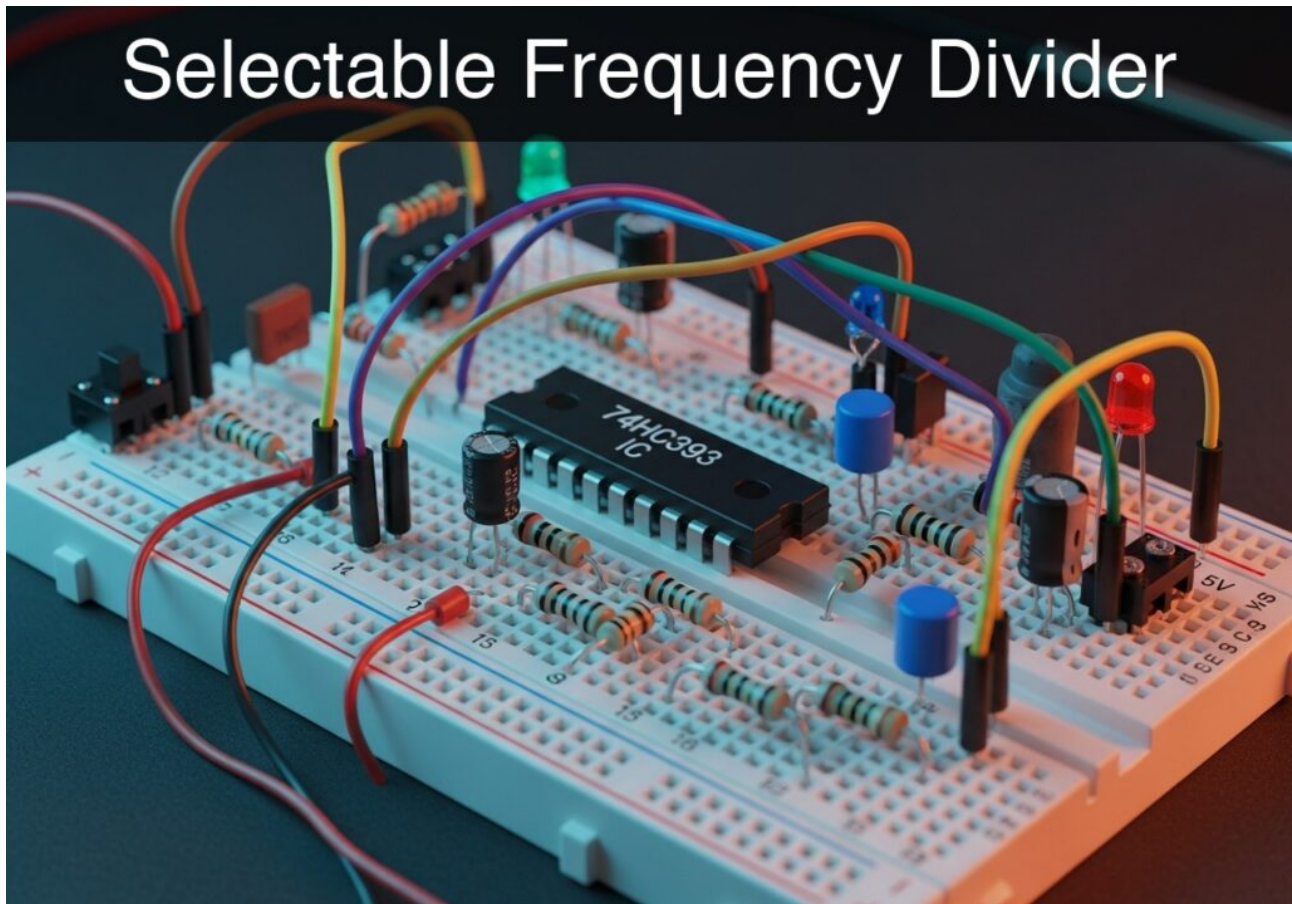


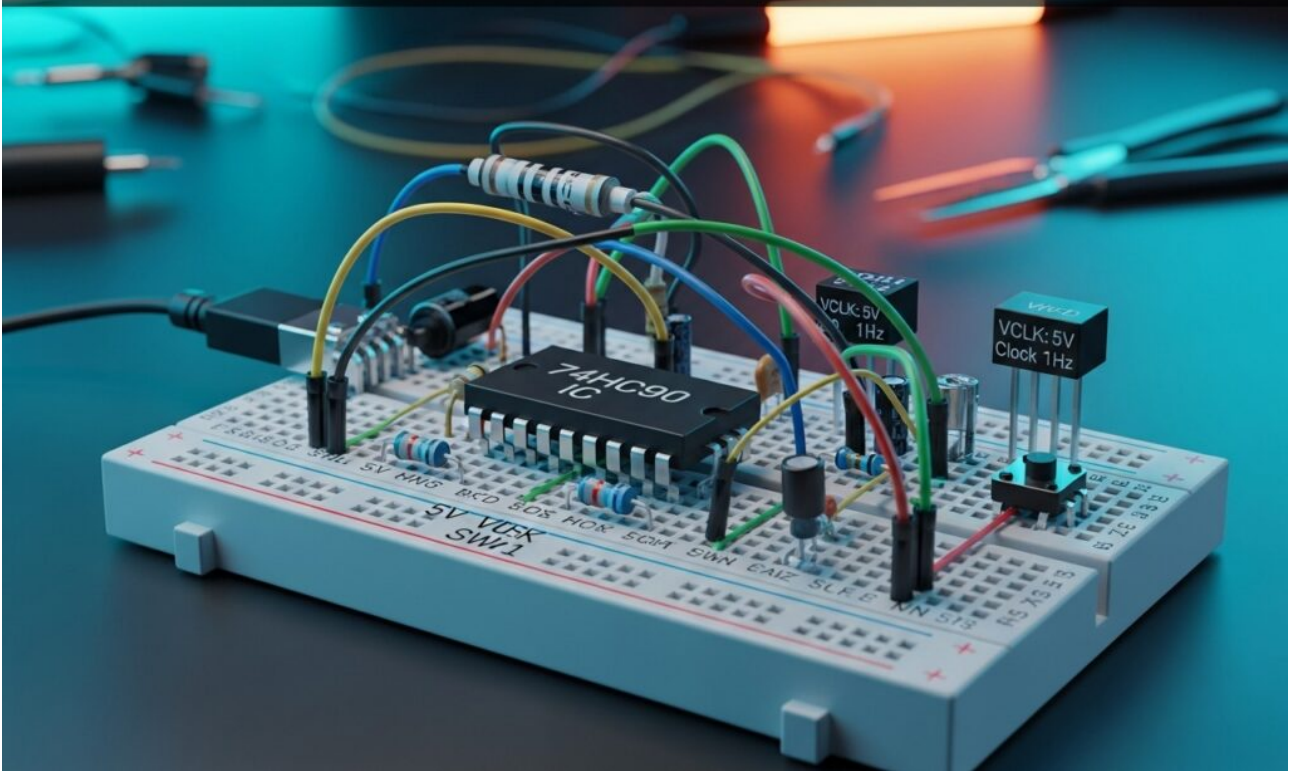
Practical case: Selectable Frequency Divider



Level: Medium – Build a binary frequency divider using a 74HC393 ripple counter with a selectable output stage.

Practical case: 0 to 9 BCD Decimal Counter

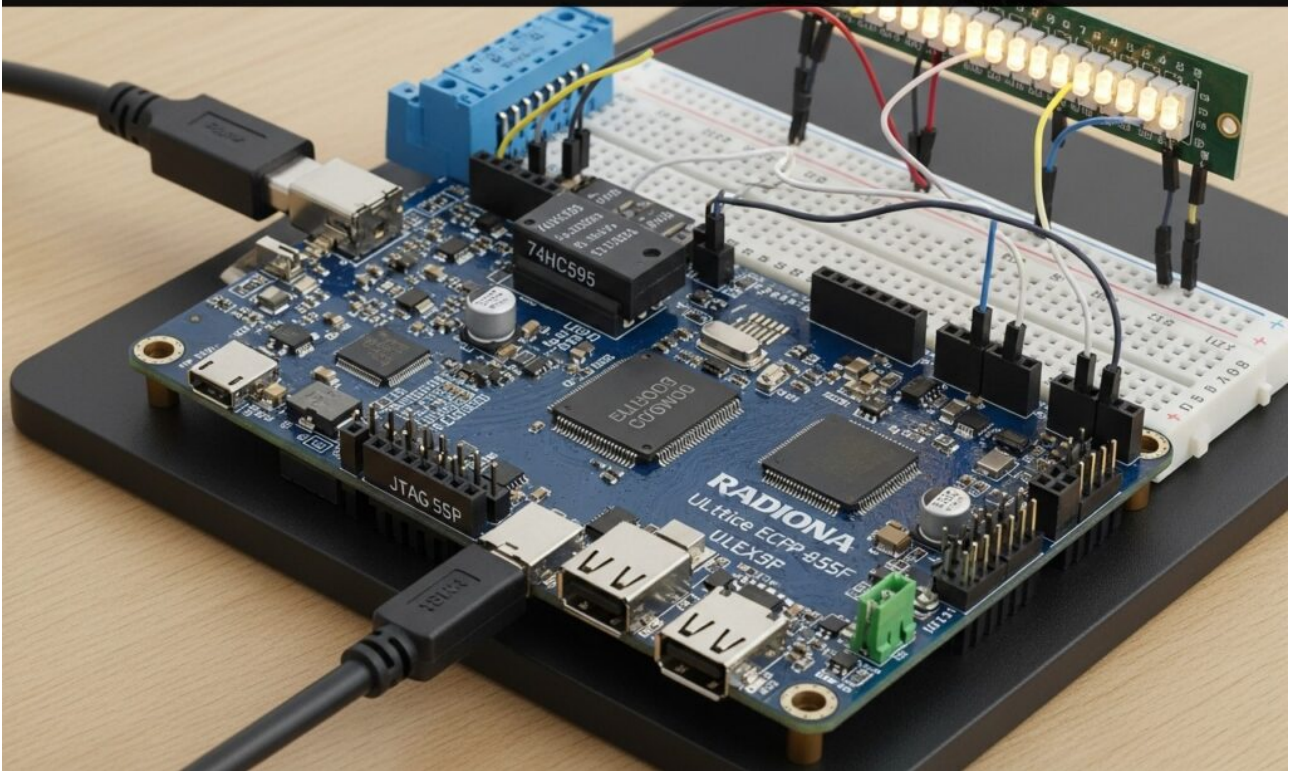
0 to 9 BCD Decimal Counter



Level: Medium | Build a 0-9 BCD counter using the 74HC90 IC to visualize binary progression via LEDs.

Practical case: SPI Tester for 74HC595 with ULX3S

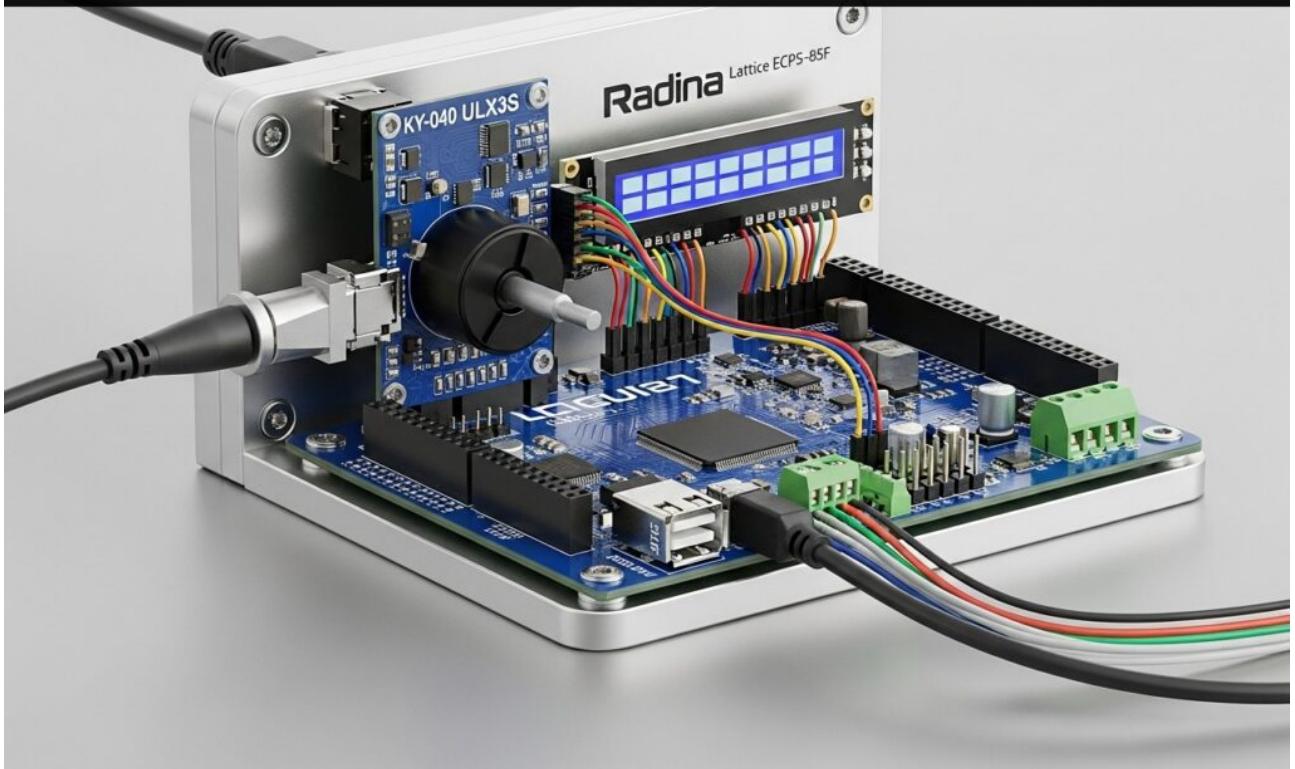
SPI Tester for 74HC595 with ULX3S



A hardware-based SPI shift register output tester on the Radiona ULX3S that drives an external 74HC595 IC and LED bar. This dedicated testing tool generates...

Practical case: Quadrature Encoder RPM Meter with ULX3S

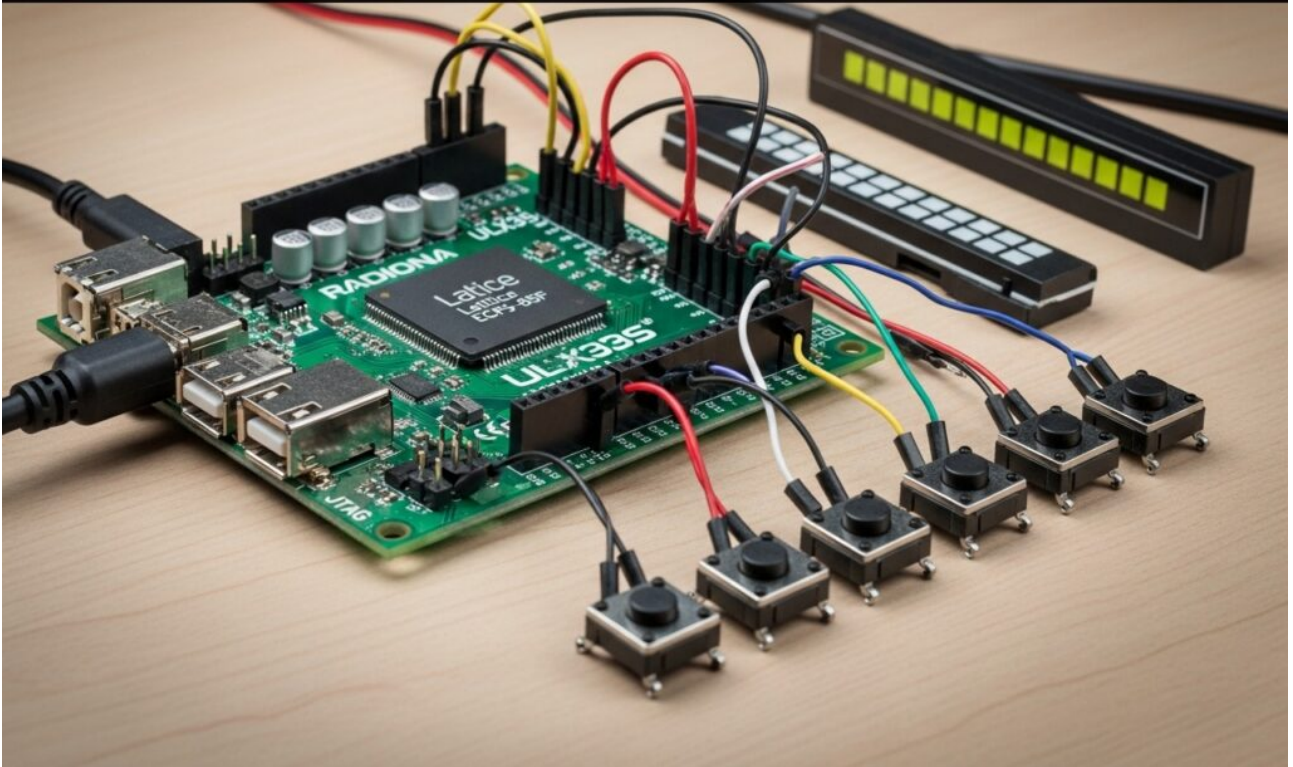
Quadrature Encoder RPM Meter with ULX3S



A digital Revolutions Per Minute RPM meter that reads a mechanical quadrature encoder using a Lattice ECP5 FPGA, calculating rotational speed and displaying...

Practical case: ULX3S Reaction Time Trainer

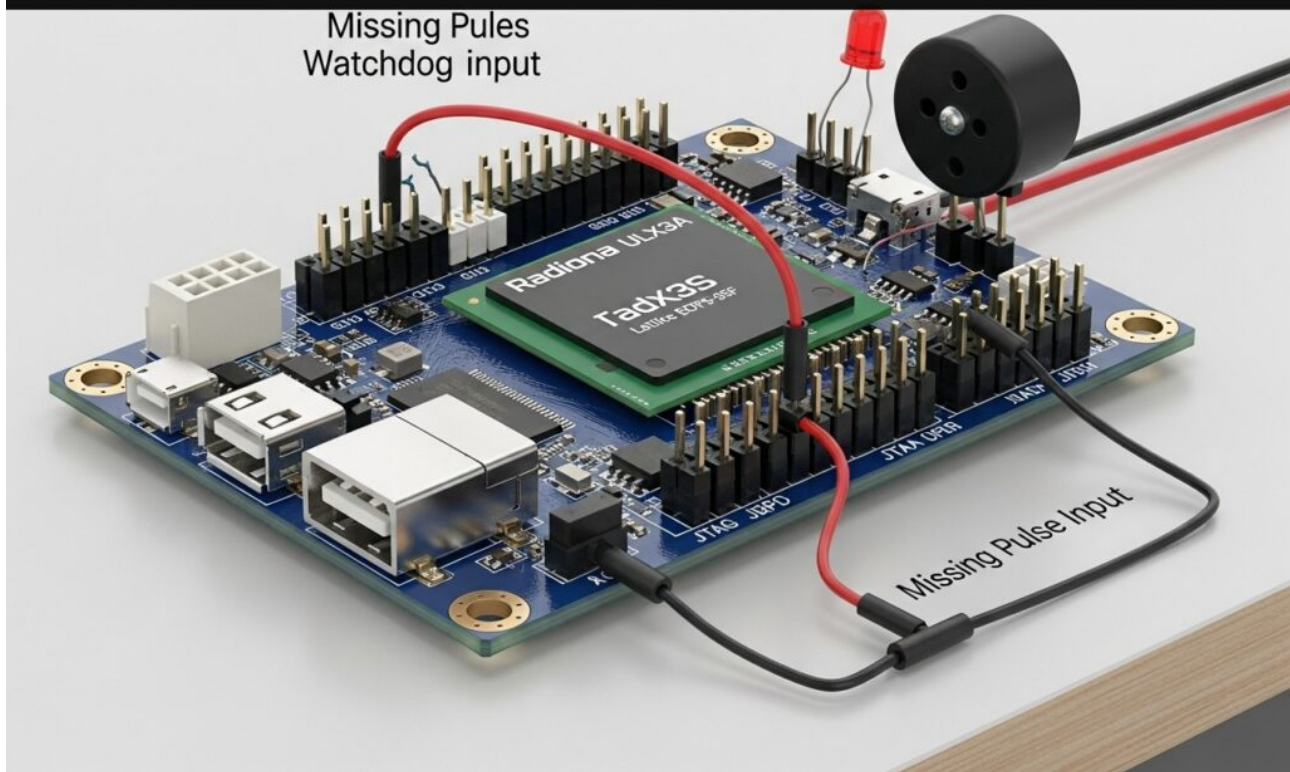
ULX3S Reaction Time Trainer



A standalone hardware reaction-time trainer utilizing a Linear Feedback Shift Register LFSR for randomized delays and a precision hardware timer to measure...

Practical case: Missing Pulse Watchdog Alarm with ULX3S

Missing Pulse Watchdog Alarm with ULX3S



A hardware-based missing-pulse watchdog alarm that continuously monitors a periodic heartbeat signal. It triggers an audible piezo buzzer and visual LED with...