# Switch Debouncing

Electrical Engineering

Turning a burst of contact bounce into one press event, without blocking.

*A mechanical contact bounces for milliseconds, so the pin sees many edges.*

1. **Confirm it really is bounce**
   A scope shows a burst of edges lasting roughly 1 to 20 milliseconds.

2. **Choose hardware or software**
   An RC filter into a Schmitt input, or a periodic check in firmware.

3. **Sample, do not wait**
   Read the pin every few milliseconds rather than blocking on a delay.

4. **Require agreement**
   Accept a new level only after several consecutive equal samples.

5. **Debounce the release too**
   Contacts bounce on opening as well, and a missed release repeats the press.

**Never debounce with a blocking delay inside an interrupt: it stalls everything else the device was part-way through.**