# The LS30 Rotary Encoder NoBounce IC Eliminated the Need for Microcontroller Debounce Code and Enabled the Use of Noisy Rotary Encoders

The Problem

Terry Smedley uses a rotary encoder to choose menu options like boot partition and write protection for an external SSD attached to a legacy Z80 computer. He was having problems with noisy rotary encoders.

The Solution
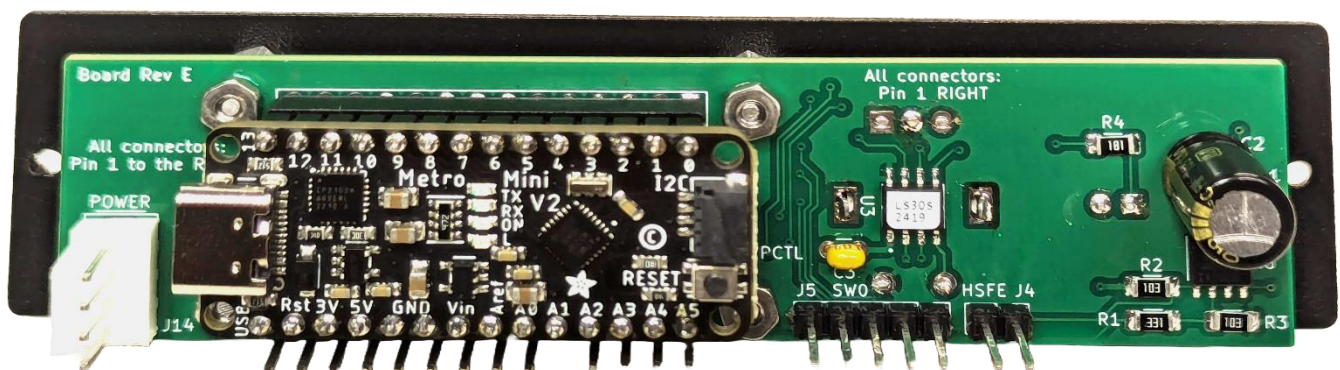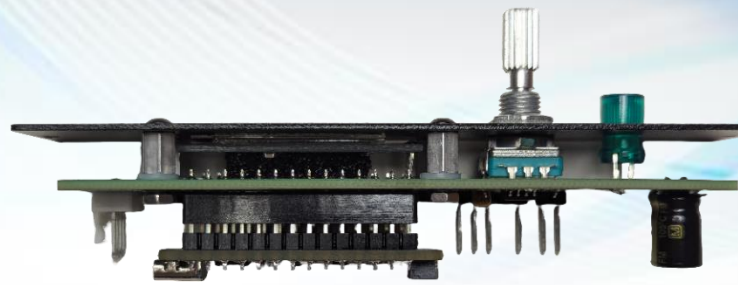
"The SOIC version of the LS30 easily fits inside the footprint of the rotary encoder, so incorporating it into new projects is painless. After putting the LS30 circuit in place, I was able to remove an entire quadrature state-engine library from the microcontroller code, remove software timing loops that had been used to debounce the "push" switch on the rotary encoder, and return one interrupt pin to the "available" pool. With the robust debouncing handled by the LS30, I was able to get good results even with inexpensive (and noisy!) encoders from Amazon."

About Terry Smedley

Terry Smedley's interest in electronics started with building Heathkits as a high schooler in the 1960s. He joined the personal computer "revolution" with the Heathkit H8 (8080) computer in the 1970s. The Heathkit HERO-I robot was a family gift for his 30th birthday in the early 1980s. After retiring from a career as an IT Manager for a forest products company, he has returned to his hobby electronics interests. Terry designed a series of PCBs for his classic Heathkit H8 computer and robot, nudging them gently into the modern electronics era. Terry and his wife Maureen make their home in rural Washington State, in an area he describes as "on the very far side of the Digital Divide".

About LogiSwitch

LogiSwitch was founded in 2016 by Mike Pelkey, a serial inventor and entrepreneur who had a long engineering career in industrial automation. LogiSwitch's NoBounce line of ICs is a result of Mike's 40+ year career in electronic design engineering where he developed switch bounce solutions for automation applications.