Optocouplers for teletype current loop

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Old teletype machines decode serial data mechanically using a mechanism keyed by a selector magnet. It has huge inductance so requires a high voltage to switch positions quickly enough. Typical loop voltage is 120 vdc and current is 60mA. Idle state is with current flowing (space state) and the loop opens up to signal data bits. Because of the inductance of the magnet coil, there are big inductive spikes when the circuit opens, so a snubber circuit is a good idea. It seems wisest to drive the loop using optocouplers, given the voltages involved.

Here are a few optocouplers with suitable specs for driving teletype current loops. They're all double-MOSFET output so they are polarity agnostic.

Fairchild HSR312L

expensive, slow, tested, works fine

Panasonic AQV257

even more expensive, a little faster than HSR312, same pinout, tested, works fine.

Toshiba TLP222GF

cheap (~$1.32), four pin, much faster than the two above, and better specs. Should try it.

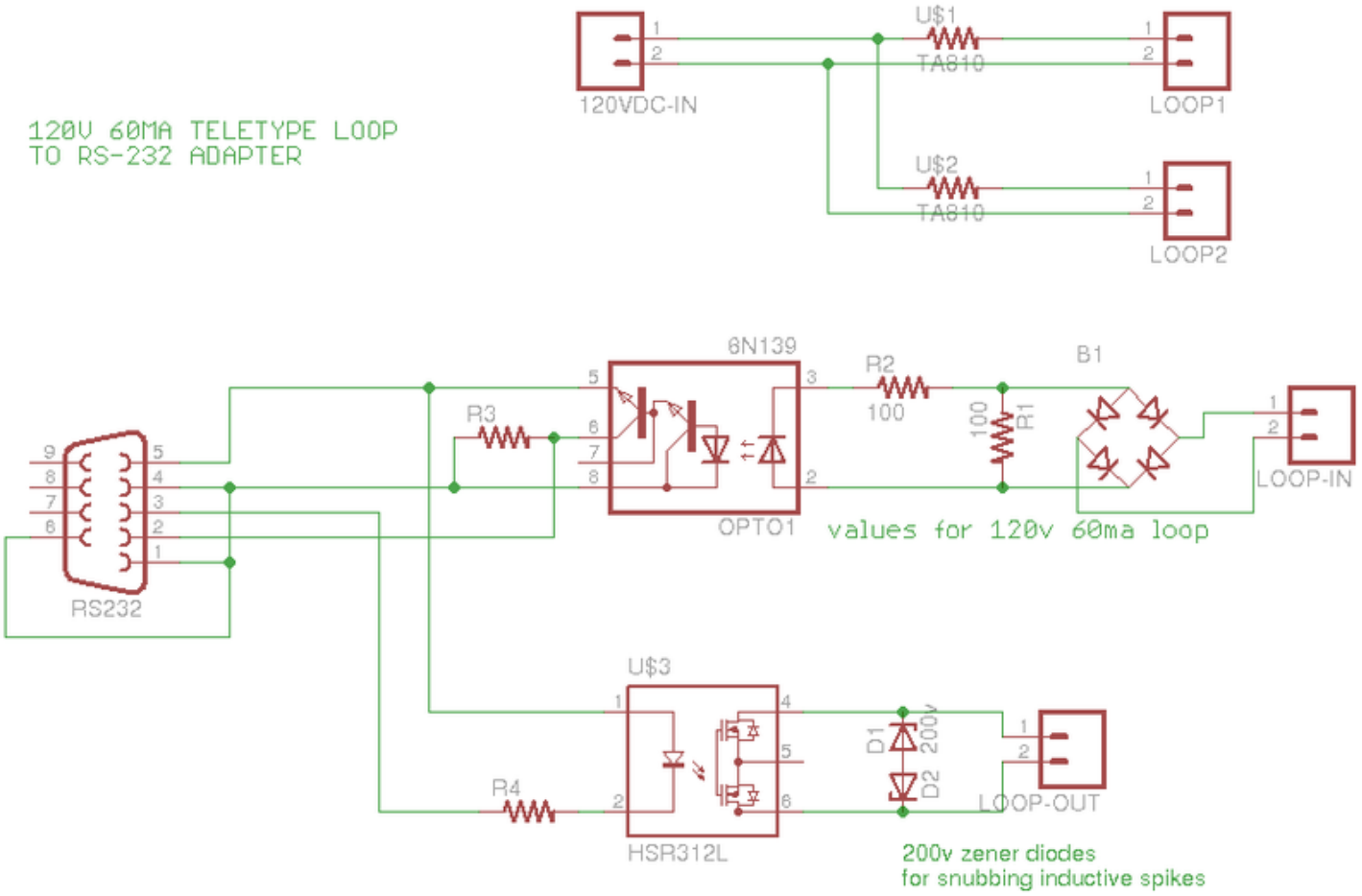
Toshiba TLP592G

same pinout as AQV and HSR, cheaper ($1.26 quantity 10), try this too.

CEL PS7141E-1A-A

same pinout, very fast, $1.56 Q10, good to 400V off voltage, 120mA.

Example usage



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