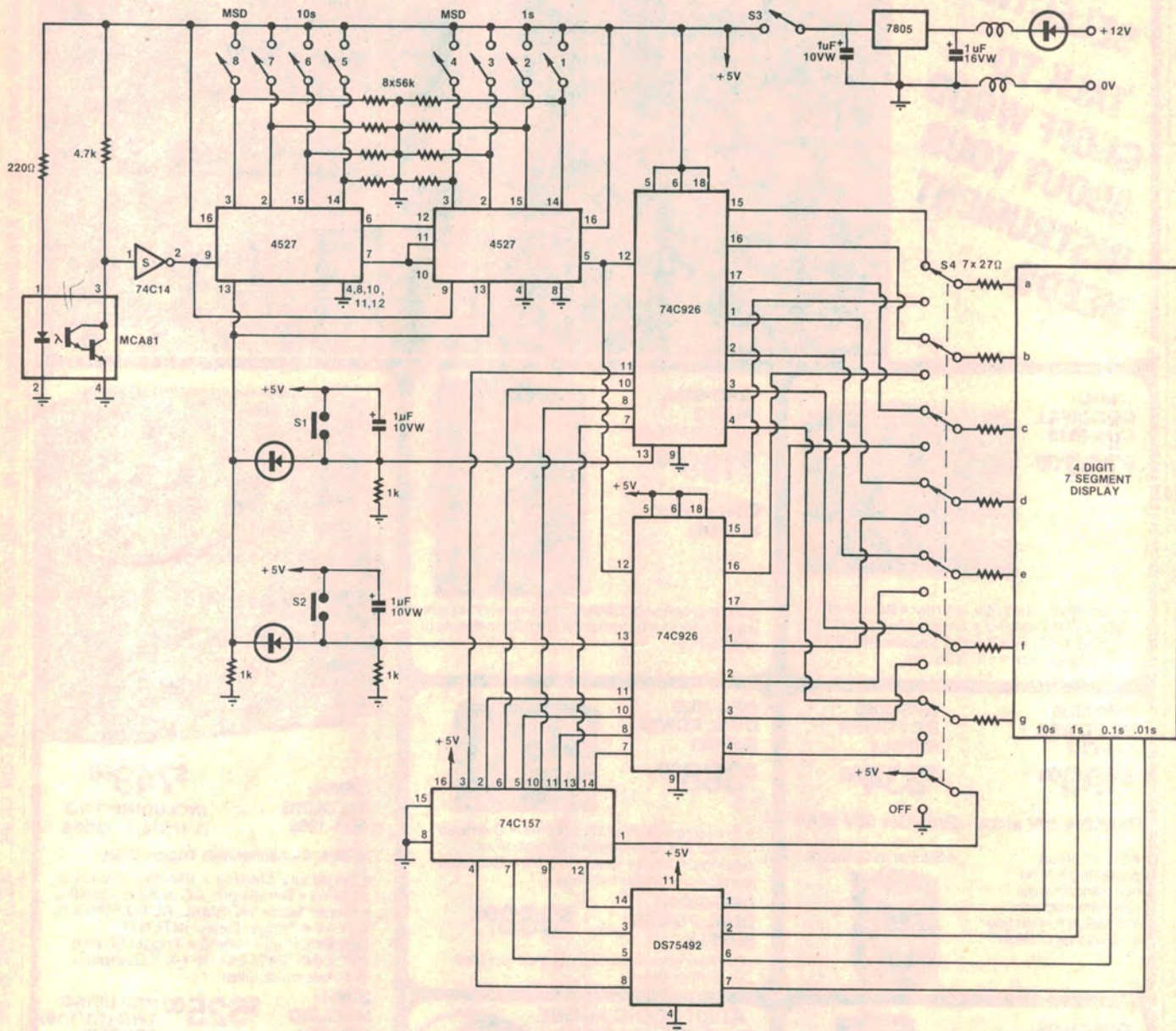


Circuit & Design Ideas

Interesting circuit ideas from readers and technical literature. While this material has been checked as far as possible for feasibility, the circuits have not been built and tested by us. As a consequence, we cannot accept responsibility, enter into correspondence or provide constructional details.



Dual Counter Trip Meter

This circuit provides two individually resettable counters driving a common 4-digit 7-segment LED display. The counters are the familiar 74C926 with the digit outputs connected via a 74C157 quad 2-input multiplexer which feeds a DS75492 hex digit driver. This latter device could be replaced by four BC338 transistors.

Distance pulses are obtained using a Motorola MCA81 optical switch linked to the speedo cable via a commercially

available T-junction. Alternatively, you could use the in-cable sensor or the magnetic pickup sensor used in the EA Car Computer (see also Speed Sentry, October 1983). The distance pulses are squared up by a Schmitt trigger (74C14) and fed to two 4527 BCD rate multipliers which multiply the input clock pulse rate by 1/10 times the BCD input number.

For example, if five is the BCD input number, there will be five output pulses for every 10 clock pulses. The correct BCD number is determined experimentally by driving the car over a known test distance.

The pin 5 output of the second 4527 drives the two 74C926 counters in parallel. Switches S1 and S2 independently reset the counters, while S3 switches the supply line. S4, an 8-pole 2-position switch (from a telephone switchboard), selects the required counter.

Note that the author found it necessary to incorporate two DC smoothing chokes in the supply lines (eg, DSE Cat L-1900).

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