DESIGN IDEAS

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LOW-COST V/I DISPLAY MODULE

by Mohd Abdul Sami

The circuit described here is a modification to the "Digital V/I Display" published in this magazine some years ago[1]. It can display more than one analogue input (on different read-outs), although it uses only one analogue-to-digital converter.

The circuit diagram shows that the multiplexer, IC4, is clocked by the MSD (most significant digit) output of analogue-to-digital converter (ADC) IC1 via switch IC5c. As soon as the MSD output reveals that the relevant input has been converted and channelled to the output, the counter increments and another analogue input is selected by the ADC. The design is such that only one switch and one BCD-to-7-segment decoder (IC2 or IC3) are enabled at any one time.

When the counter increments, its output disables the blanking input of the appropriate 7-segment decoder. At the next increment, Q3 resets the counter and the cycle repeats itself.

Although it is possible to have three read-outs, the clock of the CA3162 is not really fast enough to ensure correct persistence of all three displays, although they remain perfectly readable.

If a third read-out is used, Q3 of IC4 must be connected to the control input of an additional switch, Q4 to the blanking input of the decoder, and Q5 to the reset of the counter.

The input voltage range is 0–0.999 V. The reference potential of all inputs is the L0 input of IC1. ∎

(1) July/August 1987, Supplement, p.5

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