BCD to Analog Converter

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This circuit will convert four-bit BCD into a variable voltage from 0-9V in 1 volt steps. Only two ICs are used, both are readily available.

The SN74141 is a 'Nixie' driver, and has ten open-collector outputs. These are used to earth a selected point in the divider chain, determined by the BCD code at the input, and so produce a corresponding voltage at the output.

The accuracy of the circuit depends on the tolerance of the resistors and also the accuracy of the reference voltage. However, presets can be used in the divider chain, with correct calibration. The 741 is used as a buffer.