## ADC supports up to 256 inputs

When a lot of analog measurements are required from a number of different sensors, finding an ADC computer interface card that supports the required number of inputs can be costly. For less than $40 the following circuit can provide an 8-bit ADC with up to 256 analog inputs, with all interfacing through the parallel port of a PC.

Using a TLC548 8-bit serial ADC IC, along with two 4067B analog multiplexers wired in a matrix configuration, any one of 256 inputs can be accessed, with U1 switching the positive side of the selected input to through to the ADC, and U2 switching the negative side to ground. A simple BASIC program sets the appropriate row and column addresses using the port's eight data lines, and the digitised data is sent back to the computer through the port's Error-bar line (pin 15), with the strobe line (pin 1) being used to clock the data through at the correct rate.
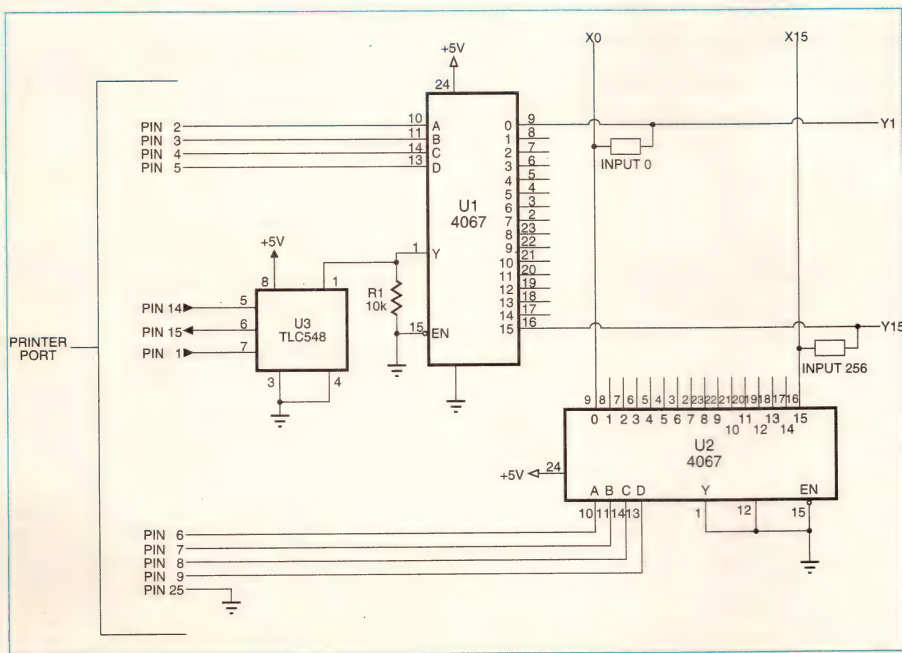
(It is important to note that each of the analog sensor inputs must be completely isolated from the others, that is they can't share a common ground, as this would defeat the switching performed by U2.)

The BASIC program to select an input channel and read in the data is available from the Electronics Australia BBS (02) 9353 0621, as the file 256ADC.ZIP, or can be obtained from our Reader Services Department by sending in a blank disk and $5.00 P+P.

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