041 Serial-to-Parallel Converter

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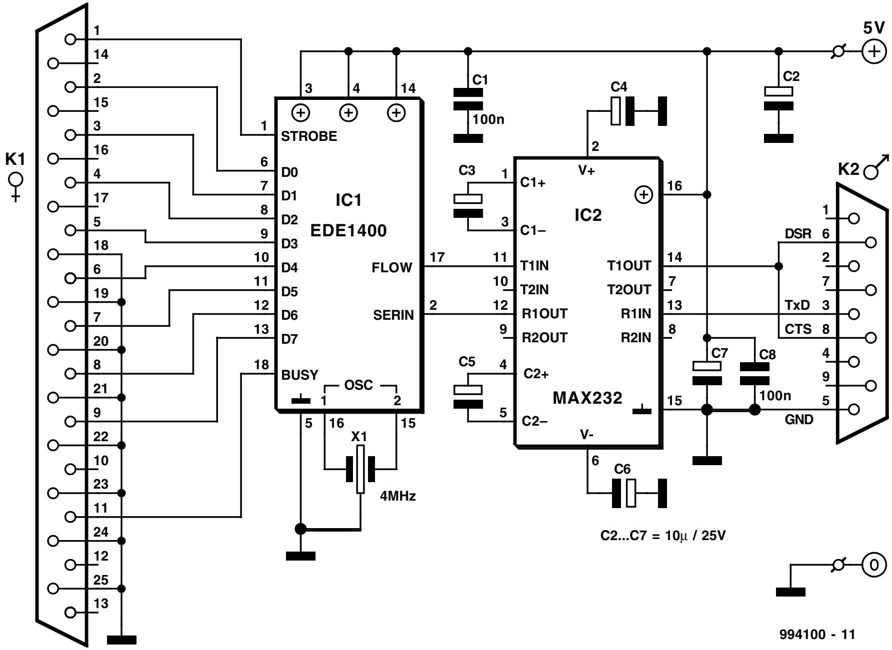
This converter may help if just the serial port on a personal computer is free, whereas the printer needs a parallel (Centronics) port. It converts a serial 2400 baud signal into a parallel signal.

The TxD line, pin 3, CTS line, pin 8 and the DSR line, pin 6, of the serial port are used — see diagram. The CTS and DSR signals enable handshaking to be implemented.

Since the computer needs real RS232 levels, an adaptation from TTL to RS232 is provided in the converter by a MAX232. This is an integrated level converter that transforms the single +5 V supply into a symmetrical ±12 V one.

The serial-to-parallel conversion is effected by IC1. This is essentially a programmed PIC controller that produces a Centronics compatible signal from a 2400 baud serial signal (eight data bits, no parity, one stop bit). The IC also generates the requisite control signals. If there is a delay on the Centronics port, the RS232 bitstream from the computer may be stopped via the Flow signal (pin 17). This ensures that no data is lost. The controller needs a 4 MHz ceramic resonator, X1.



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