

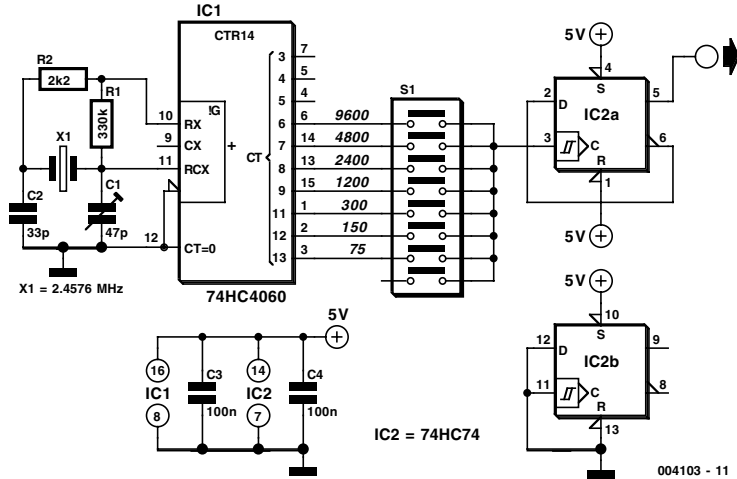
# 030

## Baud Rate Generator

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Elsewhere in this issue, an RC oscillator is used as a baud rate generator. If you can calibrate the frequency of such a circuit sufficiently accurately (within a few percent) using a frequency meter, it will work very well. However, it may well drift a bit after some time, and then.... Consequently, here we present a small crystal-controlled oscillator.

If you start with a crystal frequency of 2.45765 MHz and divide it by multiples of 2, you can very nicely obtain the



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well-known baud rates of 9600, 4800, 2400, 600, 300, 150 and 75. If you look closely at this series, you will see that 1200 baud is missing, since divider in the 4060 has no Q10 output! If you do not need 1200 baud, this is not a problem. However, seeing that 1200 baud is used in practice more often than 600 baud, we have put a divide-by-two stage in the circuit after the 4060, in the form of a 74HC74 flip-flop. This yields a similar series of

baud rates, in which 600 baud is missing. The trimmer is for the calibration purists; a 33 pF capacitor will usually provide sufficient accuracy.

The current consumption of this circuit is very low (around 1 mA), thanks to the use of CMOS components.

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