

## Warbling alarm

A warbling alarm has a certain attractiveness compared to the usual nerve-racking attention getters. This circuit, rescued from deep within our files, is quite simple and may be activated in a number of ways. Centred on a 555 timer IC, the alarm works as follows: the CONTROL pin activates the oscillator when it is taken high (to the supply rail). Capacitor C2 will charge up via R1, R2 and D1. When the voltage across C2 reaches 2/3 of the supply voltage (i.e. 6 V), pin 7 of the 555 goes low (to zero volts). This reverse biases D1 and C2 is effectively taken out of circuit. The 555 then operates as an astable oscillator, the frequency being determined principally by R2 and C1. Meanwhile, C2 will discharge via RV1

until the voltage across it is low enough that D1 again becomes forward biased. The whole cycle then repeats. The charging cycle of C2 causes a frequency variation in the oscillation of the 555, giving the warbling sound. Output is via pin 3 of the 555 and either a 16 ohm or higher impedance speaker is recommended.

The alarm is controlled via pin 4 of the 555. When held low (connected to zero volts) the circuit is inactive. Connecting this pin to the positive supply rail will activate the oscillator after a short delay. Either logic circuitry or a simple switch may be used.

Diode D1 may be any silicon switching diode (1N4148, 1N914, 1N916 etc) and C2 may be either a standard electrolytic type or a tantalum capacitor.

