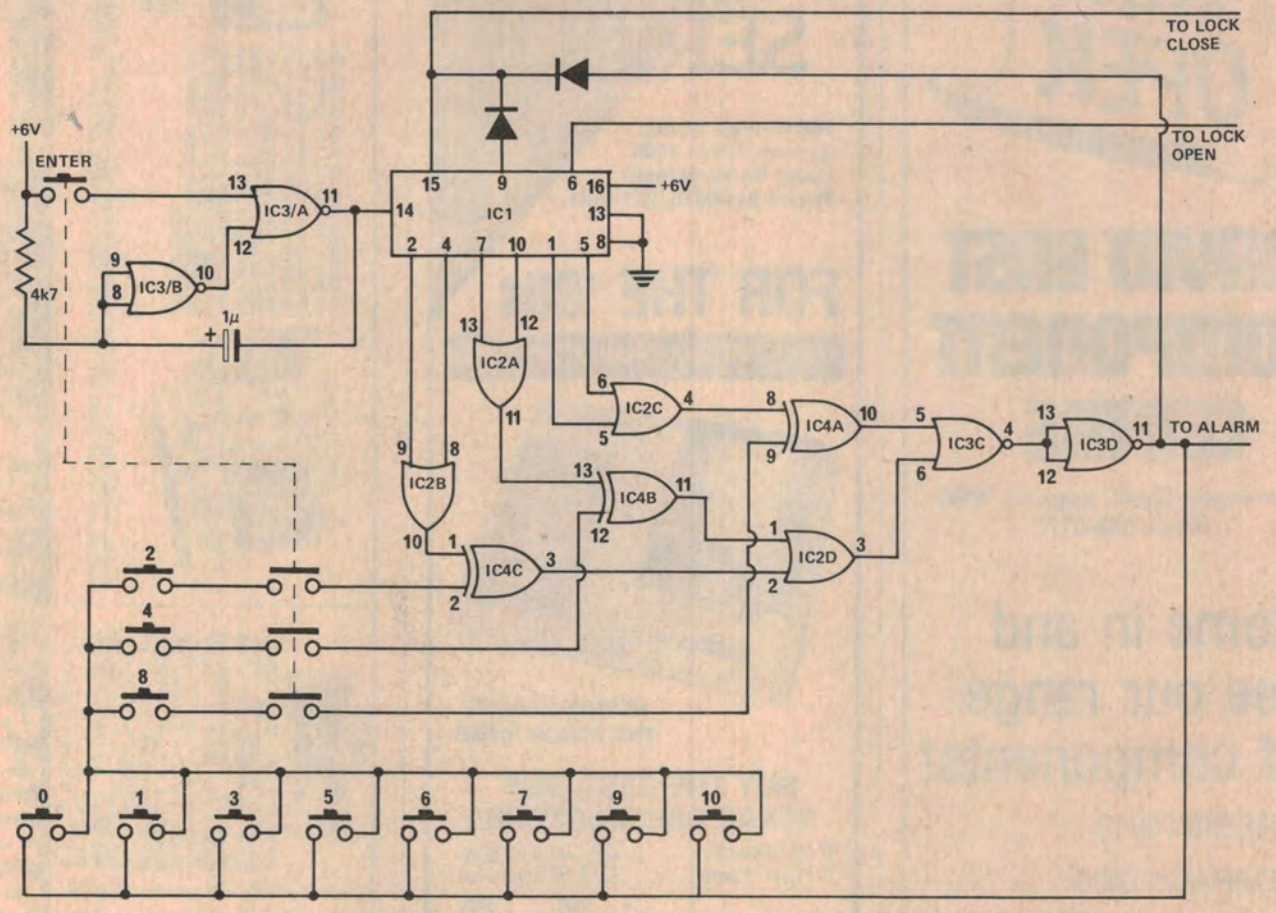
Ideas for Experimenters



Code lock

This circuit, featuring separate LOCK and ALARM outputs, was sent in by **Michael Saleeba of Croydon in Victoria.**

When the ENTER button is pressed it triggers a monostable, formed by IC3A and IC3B. The output pulse from this monostable goes to the input of IC1, a decimal decade counter. The outputs are safeguarded from shortcircuits by OR gates IC2A, B and C.

The ENTER button also takes outputs from the keyboard. If one of the correct buttons is pressed, logic 1 goes through the ENTER button to IC4A, B or C. This IC is an exclusive-OR gate, so if you press the wrong button a logic 1 will appear on the output of one of the gates. The outputs of these gates are safeguarded by IC2D and IC3C. When you press the wrong button a logic 1 appears on the output of IC3D which goes to the reset and the alarm.

The code number for this circuit is 2,8,4,4,2,8. To operate the code lock you must press this number and then the ENTER button. Then you press the ENTER button one more time for the door to open. To close and reset, press the ENTER button once again.

As the circuit is very versatile, you could get almost any code by extending the code button sequence; e.g: 1,2,3,4, 5,6,7,8,9 or 2,2,2,2,2,2,2,2,2. Another idea would be to have your phone number as a code (although that does present a security risk . . . Ed.).

The ICs are: IC1-4017A, IC2-4071B, IC3-4001A, IC4-4030A. The two diodes may be any small signal silicon diode.

Any ideas?

Have you had a bright idea lately, or discovered an interesting circuit modification? We are always looking for items for these pages so naturally, we'd like to hear from you.

We pay between $5 and $10 per item – depending on how much work we have to do on it before we publish it.

The sort of items we are seeking, and the ones which other readers would like to see, are novel applications of existing devices, new ways of tackling old problems, hints and tips.