

# Ideas for Experimenters

These pages are intended primarily as a source of ideas. As far as reasonably possible all material has been checked for feasibility, component availability etc, but the circuits have not necessarily been built and tested in our laboratory. Because of the nature of the information in this section we cannot enter into any correspondence about any of the circuits, nor can we produce constructional details.

## Simple LED bar/dot level meter

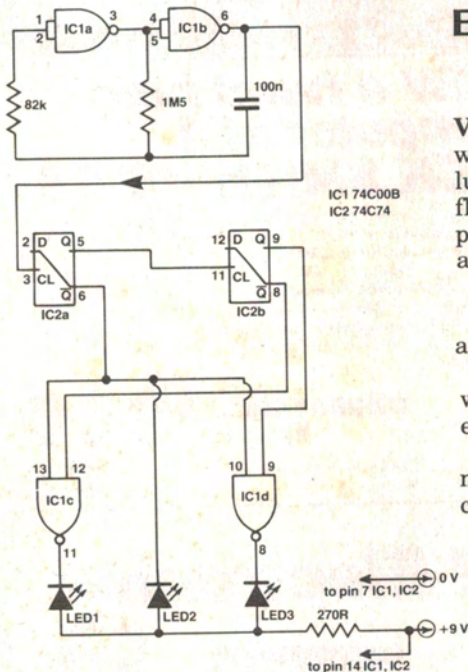
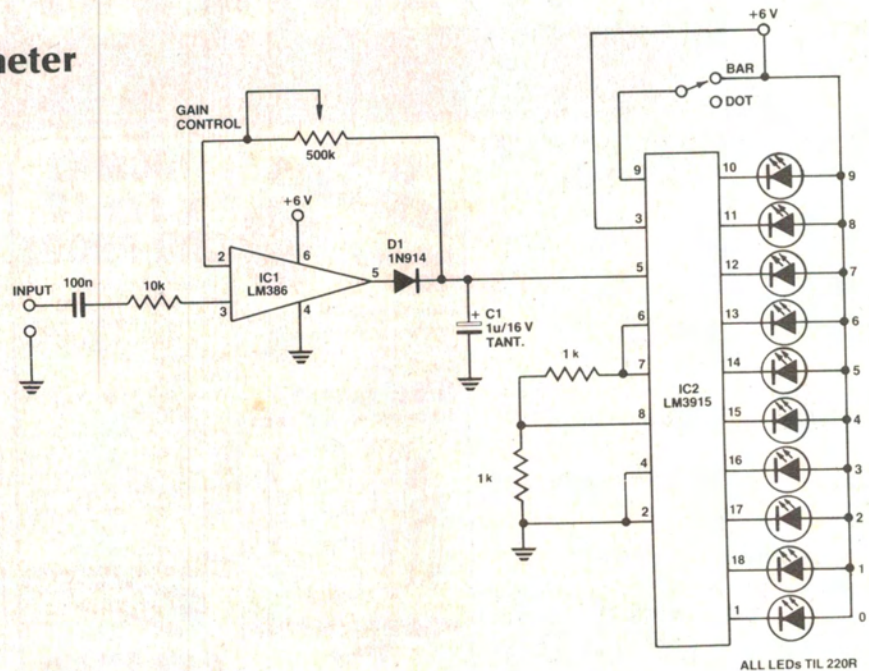
This simple level or 'power' meter can be arranged to give a bar or dot display for your hi-fi system, according to **D. Ellis of Glengowrie, SA.**

The LM386 op-amp plus D1 and associated components provide an 'absolute value' signal to charge C1. The voltage on C1 hangs on, enabling transients to be seen. The voltage on C1 is applied to the input of an LM3915 log LED display driver.

For LEDs 0 to 7, I used green LEDs, for no.8 I used a yellow one and for LED 9 a red one — the last to indicate peak power.

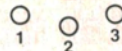
The gain control is provided to enable calibration on the equipment with which the unit is used.

The unit draws some 200 mA, so a power supply is advisable, rather than running the unit from batteries.



## Electronic pendulum

The following circuit, from **G.N. Vayro of Broadmeadows, Victoria,** was used to provide a simulated pendulum effect in an electronic clock by flashing three LEDs in a particular repetitive sequence. The LEDs were arranged as follows,



and the sequence is 1, 2, 3, 2, 1.

The sequence is set for one second with the values shown and the visual effect is excellent.

The clock is a digital modular type, mounted in a highly polished wooden cabinet, resembling the grandfather

clock style, but it is only 150 mm high.

The circuit was added to my clock for aesthetic reasons and has nothing to do with the clock timing. Readers may find other uses for the circuit as it is simple and uses all gates of two ICs.

It works as follows. Two gates of the 74C00 are used as a clock driving the two D-type flip-flops, which are connected to toggle by joining the D and Q.

Frequency of operation can be changed by changing the C on the clock circuit.

The two flip-flop outputs are decoded using the remaining two 74C00 gates to provide the required effect.