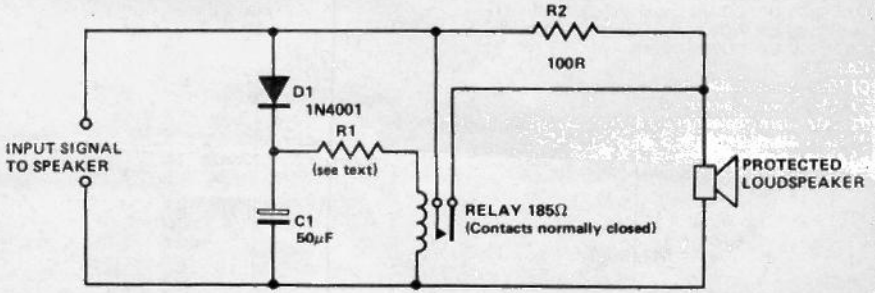
LOUDSPEAKER PROTECTION UNIT

The following circuit will protect loudspeakers against overload if the correct components are used.

Operation of the circuit is quite simple, Diode D1 rectifies the signal across the speaker, which developes a fluctuating DC voltage across C1. When this voltage exceeds a certain level, the relay contacts open, which disconnects the lodspeaker and if required puts a resistor across the signal. In the case of valve amplifiers it is usually necessary to keep a load on the output when there is an input signal present, therefore R2 will have to be included in the design. With most types of transistor amplifiers today, the resistor R2 may be omitted.



R1 is adjusted to give adequate protection at whatever power is being used. Resistor R1 value should be selected according to the power at which the speaker will need to be limited and of course the impedance of the speaker. In my case the resistor R1 was made 220R but this may be too low for very high power applications.