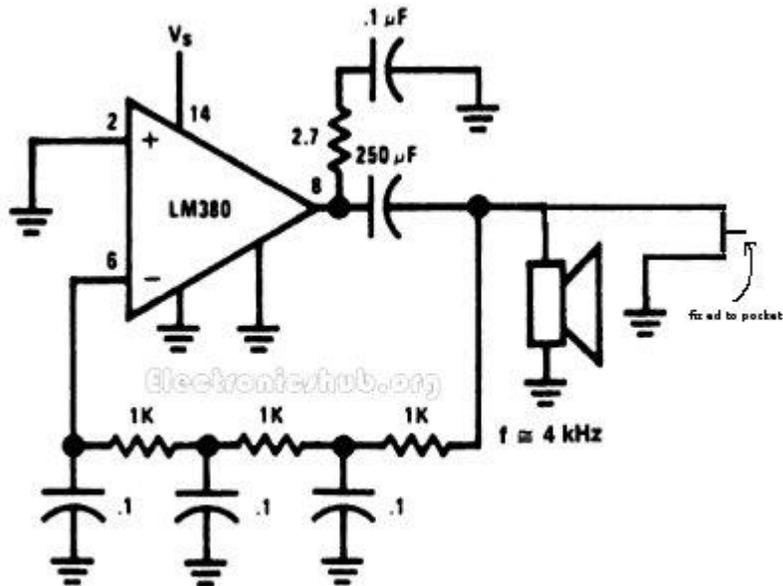


Pull Pin Security Alarm System

This circuit helps us to get alerted when anybody picks our pockets or bags. The circuit is very helpful to prevent our goods getting pick pocketed. The circuit is called a pull pin [security alarm](#) because it gets activated as soon as the pin is pulled.

Pull Pin Security Alarm Circuit Diagram:



Description:

The arrangement of the circuit is as follows. The circuit has a pin which is fixed to the pocket and the other end is attached to the circuit. The circuit remains inactive until the wallet is in your pocket as the circuit gets activated when the wallet is pulled from your pocket.

When the wallet is in the pocket, the circuit has the pin attached thereby the circuit remains inactive. Whereas when the wallet is removed from the pocket, the pin gets detached from the circuit thereby the circuit gets activated. When the circuit gets activated, the circuit turns ON the mini loudspeaker. The mini loudspeaker is fed with an alternating signal of audio frequency. This signal vibrates the loud speaker at an audio frequency so that it is well heard to us.

This can also be used to protect our purses, carry bags, and any other things. The applications of this are not just limited to this but there can be many other applications which you may get on imagining and when you face a problem. The circuit is made to be portable in size so that it can be carried easily with us. It uses a battery power supply.

The main component of the circuit is an oscillator which generates a sine wave of definite frequency. The oscillator which is used is an RC phase shift oscillator which produces the sine wave of definite frequency. The frequency of the RC phase shift oscillator is determined by the three stages of resistance and capacitance. Each stage of the resistor capacitor circuit consists of a resistor of 1 K-ohm and a capacitor of 0.1uF. Each of these RC stages theoretically produce a value of 90

degrees phase shift but practically they produce a phase shift lesser than that. In general, they are expected to produce a phase shift of about 60 degrees practically. That is why we have placed three such similar RC stages each of which produce about 60 degree phase shift and thereby combinedly produce a phase shift of 180 degrees. The amplifier circuit produces an additional phase shift of about 180 degrees. So, the total phase shift of the loop is the combination of phase shifts of the phase shift offered by the amplifier as well as the phase shift offered by the three RC stages which combinedly amounts to 360 degree phase shift. As you all know, this is one of the criterion's of Barkhausen criterion's for the circuit to function as an oscillator. The circuit should be provided a voltage of about 6V power supply.

The loud speaker which is used as a load at the output generates sound in audio frequencies. It is a mini loud speaker with an internal resistance of about 8 ohms. When the circuit is activated, the signal from the audio oscillator is fed to the mini loud speaker which then generated a beep sound of that specific audio frequency.

Source: <http://www.electronicshub.org/pull-pin-security-alarm-system/>