No 44861
21 JUN 2006

Wireless Pillow Alarm

Circuit Description :

U1 in the Transmitter Unit serves as a clock circuit. This clock IC included the LCD driver, hour alarm and pre-set alarm functions. Switch S1 is for selection of alarm only or alarm plus vibration. When choice of vibration plus alarm is selected, the "BB" signal conversion circuit of D1 and Q1 becomes a switching signal and turned on Q2. Now the Q3 and Q4, as the RF circuit and U2, the encode signal circuit are connected. An encode signal is generated from U2 to make Q3 to produce a RF oscillation signal, this signal is being amplified by Q4. This amplified signal is being delivered to the antenna for signal transmission.

The Receiver unit now receives the signal which is being amplified by the RF circuit Q3 and the super-regenerate Q1. The circuit decode the signal and through the U1 and again amplify this signal. The decode signal now will introduce an on-off signal and turn on the Q2 and Q4. The motor is now supplied voltage and starts turning. The motor is inserted with an eccentric metal piece at its axle, this makes the unit vibrated when it starts turning.

Antenna And Ground Circuitry :

Transmitting antenna is of a 5mm diameter coil made with varnished copper wire of 0.5mm diameter thick. This antenna is than connected to a 'S' shape copper pate of 0.2mm thick as the extension of the antenna. The ground plane is printed on the circuit board of the copper side.

The receiving antenna is use a UL1007AWG #26 flexible wire. The length is 400mm long. Power supply is using two pieces of AAA size battery.