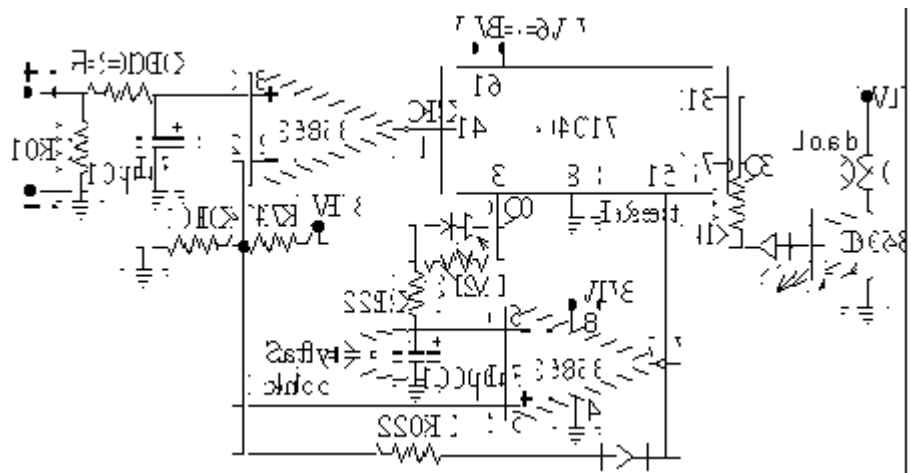


## Simplified Pager System



This circuit can be used with almost any Motorola pager.

Two wires should come out from the pager; one is connected to the wire connected to the +ve of the vibrating motor (after disconnecting it from the motor) and the other is connected to the -ve of the vibrating motor.

These should be connected to + and - inputs of the circuit respectively.

A new alkaline battery should be used and vibrating or silent mode should be chosen.

The shown circuit is designed to activate the load if and only if the pager received three paging signals within a specified limited time (one minute as an example).

### Circuit Analysis:

At powerup the safety knob should be in place (shorting the terminals of the 100μF capacitor) then 6 is at 0V, 7(358) is high, 4017 is reset (the voltage at 5 is about 1.1V why?) and the load can not go ON.

When safety knob is removed the 100μF is fastly charged through the 22kΩ, putting 7(358) low and 4017 ready to receive the paging signals.

When the 1<sup>st</sup> paging signal is received, 3(358) goes higher than 2 and 4017 is clocked Putting 3(4017) low (while 2 of 4017 goes high).

The 100μF thus begins discharging slowly through the 2MΩ and after about one minute (determined by the 2MΩ potentiometer) 6 goes lower than 5 at which 4017 is reset and the circuit goes to the initial condition before receiving any paging signal.

The load can be activated if and only if 4017 is clocked three times within this time interval at which 7(4017) goes high and the load is activated.

This time interval should be preferably 2 minutes maximum; why?

Because after every 2 minutes from receiving the 1<sup>st</sup> paging signal a reminder short pulse will be introduced at the circuit input. This should put a restriction on the value of R in case where the interval is more than 2 minutes so that 4017 is not clocked by any of these reminder pulses.

The feed back from 7(358) to 5 is to ensure proper reset of 4017 at any time.

How can you modify the circuit to get four activating paging signals instead of three?