Skip Control of a CD player:-

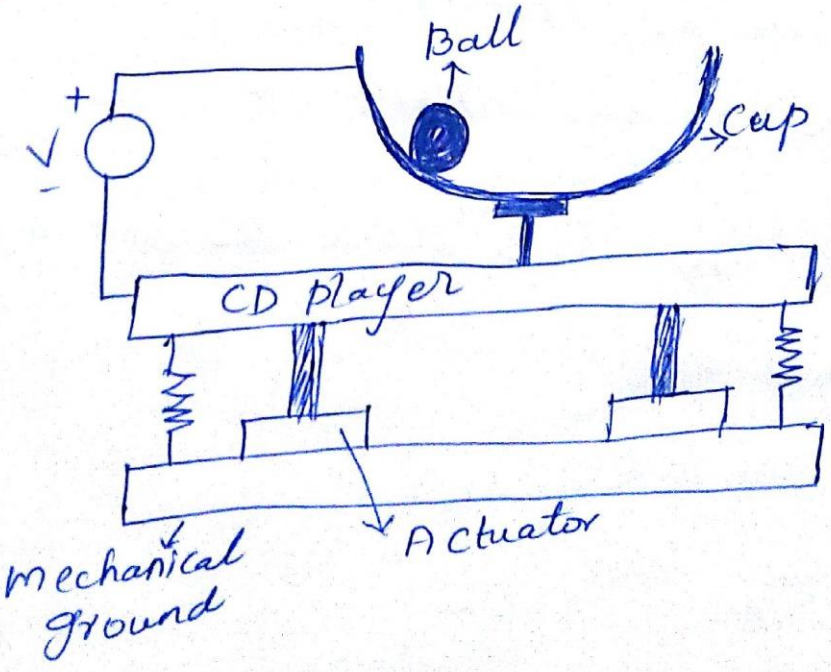
- Anyone who have used a portable CD player in their automobile has encountered the "skipping" effect that occurs due to jolting of the CD player while in use.
- Commonly used remedy is nano-static ram, which is expensive.
- The alternate approach which utilizes a 'tilt' sensor will be good one.

Parts:-

- Dc power supply, pinball machine tilt sensor, 4 induction magnet actuators, GPIO Card, etc,

Experiment/Design setup:-

The tilt sensor operation is based on the metal ball completing a circuit, when the ball is not centered in the bottom of the cup (level), the circuit is open.

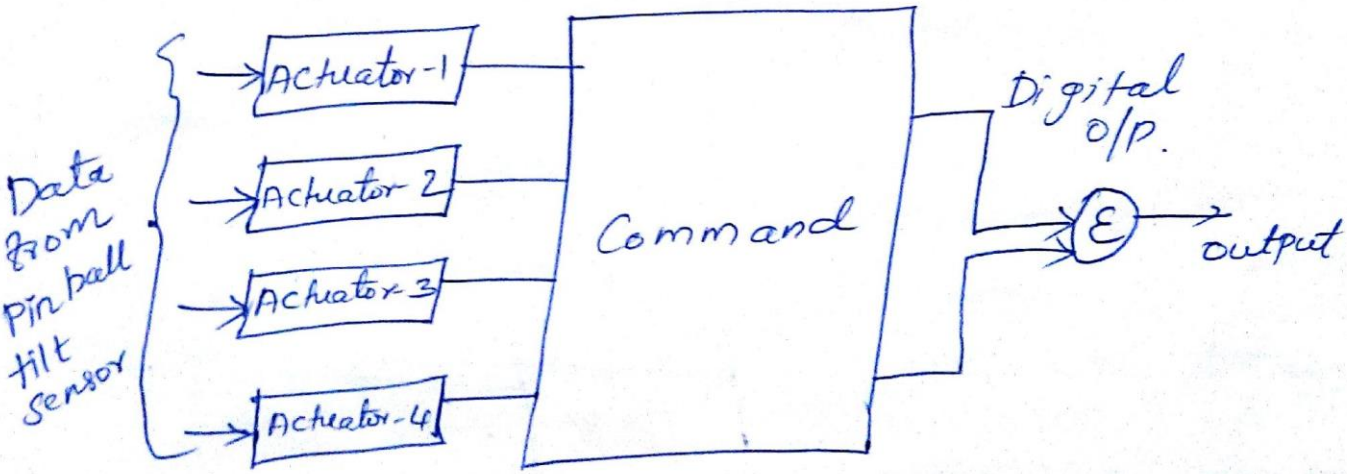


- The bottom contact in the cup has four different contacts, two contacts are for fore and back tilting and two for side-to-side tilting.

- The o/p of the tilt indicator is a binary (digital) signal where '1' means that all four contacts are active and '0' means that one (or) more contacts are inactive, which means tilting is occuring.

- The signal produces four separate signals corresponding to four tilt directions (i.e) fore, back, left and right.

- Four induction magnet actuators are mounted between CD player and structural ground. These actuators are connected to the respective application programs.



CD player levelling system.

- Induction magnet actuators are selected due to their low power requirements.

- The axes under control is designated as 1-2 axis. It will reflect the left/right motion (or) the fore/back motion of the CD platform.

- To prevent the actuators from limiting the command to actuator 1 and 2 were slaved such that when actuat was commanded to increase, actuator 2 was commanded to decrease.