


# Lecture 13

## Switches

Nearly all electronic devices use mechanical switches

Simple idea: make or break contact between two wires:

A  B : open, no connection from A to B

A  B : closed, A & B connected by wire

But a variety of configurations

Special terminology to describe

# of poles = # of different switches controlled together

Example:

A  B = two poles

C  D

Single switch actuator simultaneously controls  
A/B and C/D

# of throws = # of connections each individual  
switch can make

Example:

[  single throw

[  double throw

[  triple throw

Combine these and abbreviate:

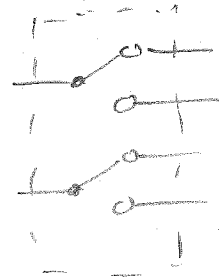
SPST = single pole, single throw



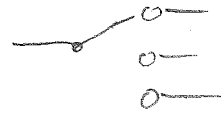
SPDT = single pole, double throw



DPDT = double pole, double throw



SP3T = single pole, 4 throw



Generally nPmT, use S for 1  
d for 2

Many kinds of actuators: lever, button, rocker, knob,...

Momentary switch: normally open or normally closed  
changes when you hold actuator  
goes back when you release

Our project uses SP3T: set gain

SPDT: select battery / ext power

SPST (mom): battery check