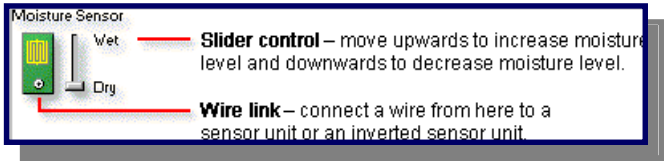
Automation and Embedded Intelligence

Embedded intelligence:

- Stamp II
- Sensors
- Remote control
- Light/sound



Automation:

- Drive & power train
- Turret control
- Pneumatic/hydraulic/pump

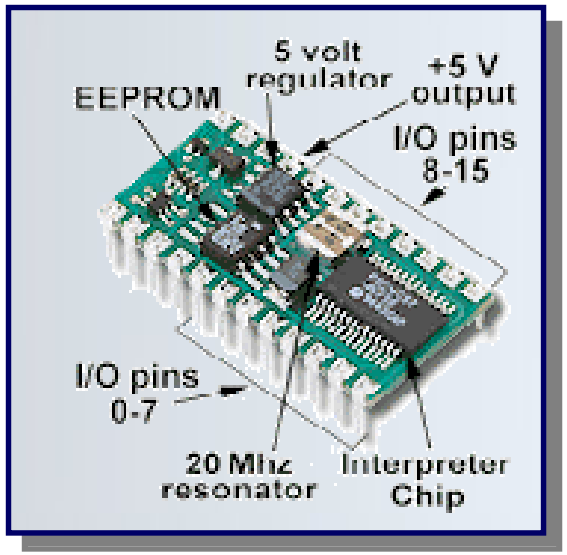
Irish Engineering!

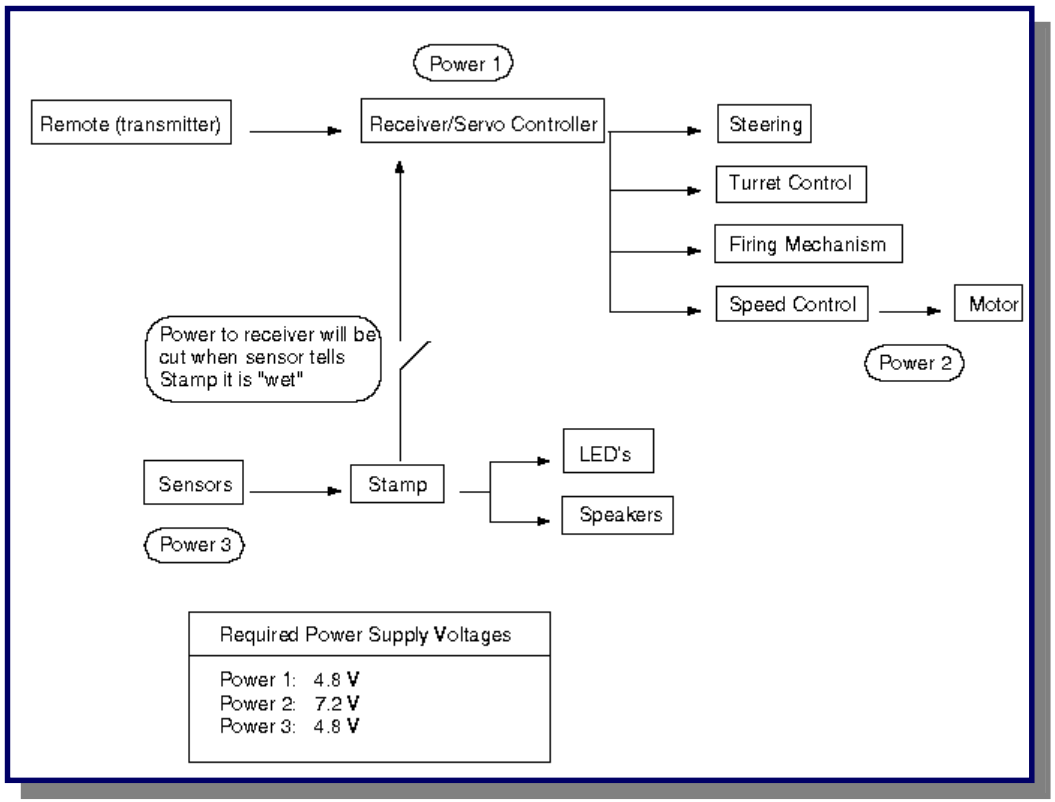
Embedded Intelligence

Stamp II & Sensors:

Irish Engineering!

- Sensor interface
- Remote/servo controller interface
- Light/sound interface
- Power supplies





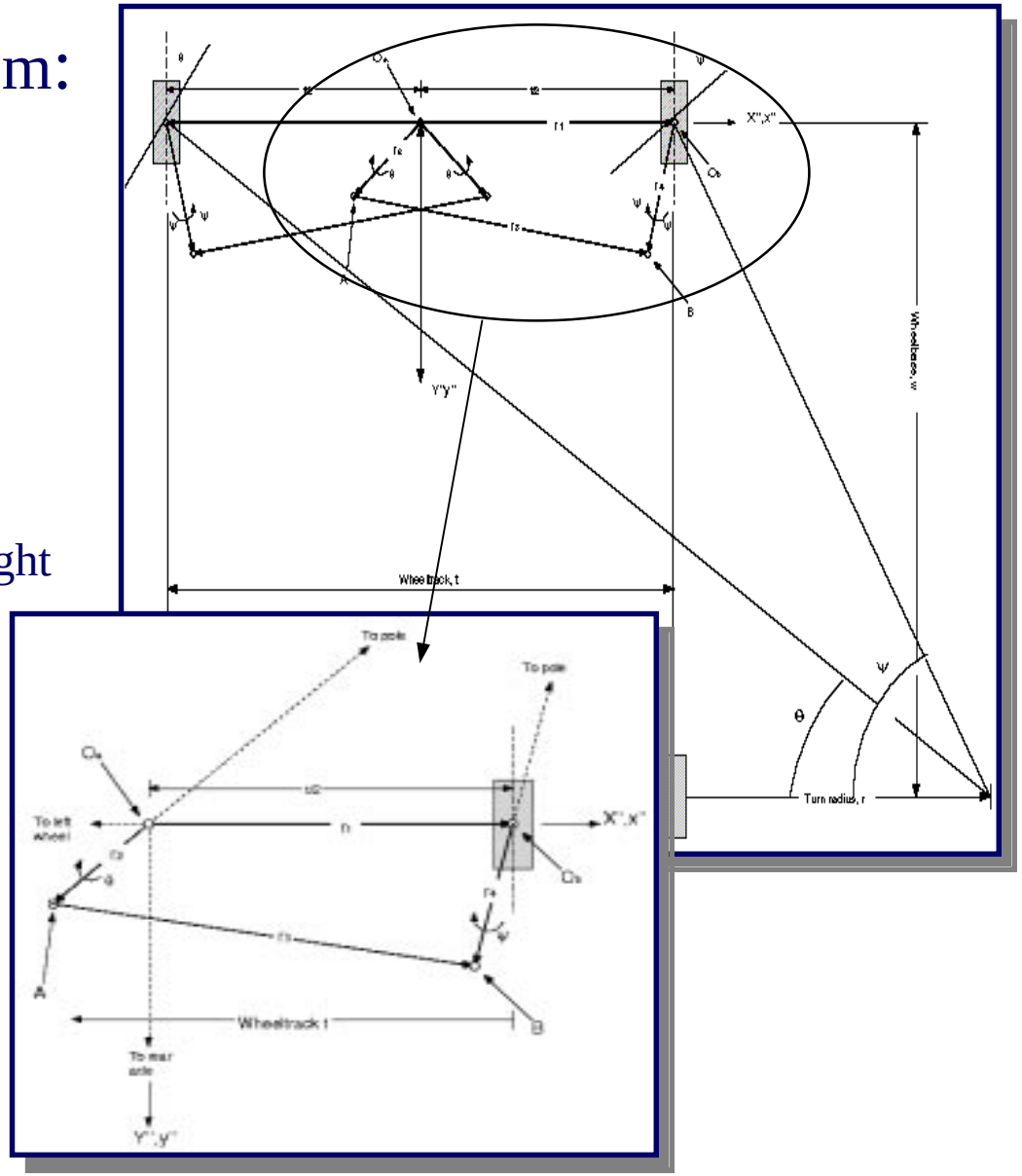
Automation

Chasis and Steering mechanism:

- Double four-bar bell-crank steering mechanism
- Servo articulation
- Design in terms of wheeltrack and wheelbase design variables

Motor – Speed and Power:

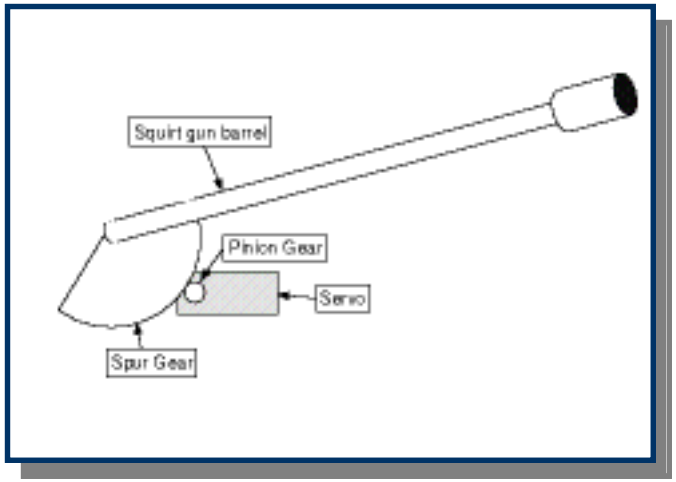
- Motor size dependent primarily on weight and desired speed
- Acceleration also a concern
- Single or double wheel driven



Automation

Turret Rotation:

- Servo driven
- Pinion and ring gear configuration

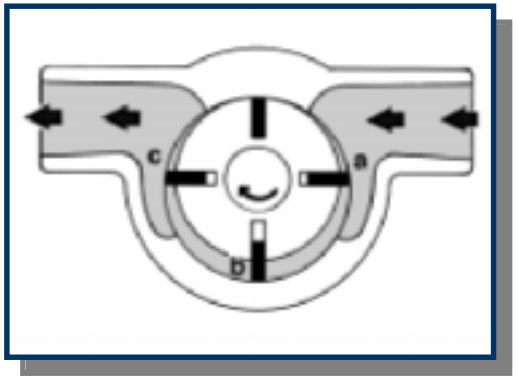


Barrel Elevation:

- Servo or motor driven
- Gear train used to determine position
- Alternatives include four bar linkage and direct articulation

Automation

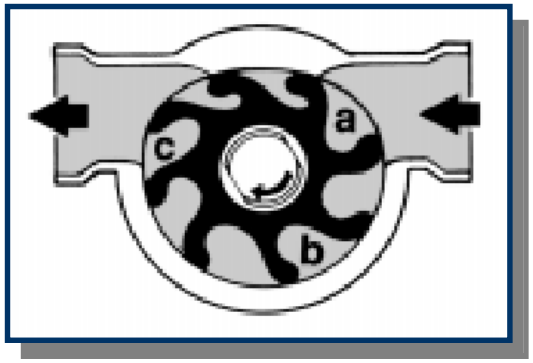
Pneumatic/Hydraulic/Pump Firing Mechanism:

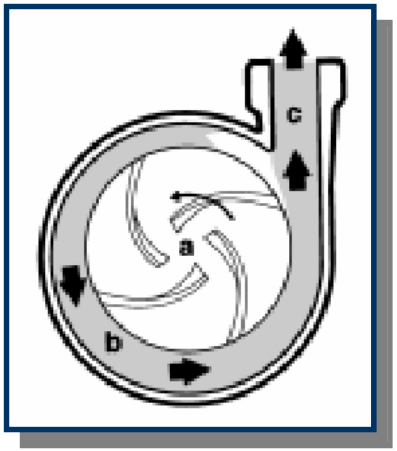


- Motor driven

- Limitations

  -Size
  -Power consumption
  -Pump pressure
  -Tank weight





- Pump types

  -Impeller
  -Centrifugal
  -Diaphragm
  -Vane