DIY Remote Control

# Needs to be done

Witch platform Arduino-msp430-Raspberry-BeagleBone-Nycleo   
Primary communication with an HC-12 module on 433MHz  
How much latency between TX and RX?

First test idea:

1. Light up a LED when holding down a button.
2. Get a servo to follow the stick.

## Primary protocol

TX and RX can speak together

* Witch and how many variables?
* Telemetry?
* Speed?
* Length of packet?
* Error?
* Aski, hex, deci, binary?
  + Hex value for the axis controls / analog controls
* Send/receive library
* Different packets for:
  + First 4bit / one hex determine packet type
  + Axis / potentiometer
  + button / switch
  + other

## Receiver:

Receive commands / return telemetry

* something that reads the protocol
* what to do with what it receives
* Sensor for telemetry?

## Transmitter:

* How many inputs and what type?
  1. 2x 2-axis gyro
     1. 4 ADC pins
  2. 9x buttons (1-9 thingy / matrix) ????
     1. 9 i/o pins?
  3. 5x menu buttons?
     1. 5 i/o pins?
  4. 2x 3-way switch on-off-on
     1. 4 i/o pin or 2 ADC pin
     2. Hardware on the switch?
  5. 4x 2-way switch on-on
     1. 4 i/o pin
  6. 4x 2-way switch (on)-off-(on)
     1. 8 i/o pin or 4 ADC pin
     2. Hardware on the switch?
  7. 4x potentiometer
     1. 4 ADC pins
  8. Total IO/ADC case 1:
     1. Max i/o pins
     2. 8 ADC
     3. 30 i/o
     4. +5 i/o for screen
  9. Total IO/ADC case 2:
     1. Max ADC pins
     2. 14 ADC
     3. 18 i/o
     4. +5 i/o for screen
  10. Total IO/ADC case 3:
      1. Matrix of i/o pins
      2. How????
* Calibration of inputs, inputs/range/endpoints
* Screen?
  1. If possible
  2. Controlled by menu buttons
  3. 5 i/o pins
* Speaker?
  1. If it makes sense
  2. Maybe later
* Sensor?
  1. Not at the moment
* Form factor?
  1. Something for a crane or something
  2. Maybe a small aluminium suitcase
* More than one profile / RX binds
  1. Boot up programming of HC-12 module
  2. Save HC-12 module setup to Eprom