

ECE 411 Servo Controller Test Plan

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Materials and Equipment Required:

- 2 servo motors
- Button pad
- Power source

Installation Test:

- Additional equipment required: computer(with USB port, with arduino IDE installed), wall to 12 V 2.1 mm DC barrel power supply input

Use Test:

- Additional equipment required: a phone, a webcam
- Pressing the button to turn the servo horizontally
- Pressing the button to turn the servo vertically
- Simultaneous vertical and horizontal motion

(User) Error Test:

- Trying to use a phone
- Trying to use a light-weight camera
- Trying any combination of multiple button presses simultaneously
- Button mashing
- Reset response

(System) Error Test:

- Check power supply
- Servo angle limitations

Stress Testing:

- Gradual increasing of weight to find degradation of servo quality
- Testing the device with heat (80 degrees)

Module Tests:

- Power (wall to 12 V 2.1 mm DC barrel power supply input)
- Output voltage and current of the voltage regulators
- Communication with the input buttons
- PWM signals to the servos
- Operation of the servos

