

Complete Cinema Camera Control System

Implementation

- Dual Bluetooth Microcontrollers.
- Wireless remote acts as the central device, while the Gimbal acts as the Peripheral Device.
- Functions such as Zoom and Focus are controlled using Servo Motors on the Gimbal

System Overview

Main Components: Wireless Remote, Wireless Gimbal.

Remote Settings: Copy Movement, Calibration, Freeze, Off.

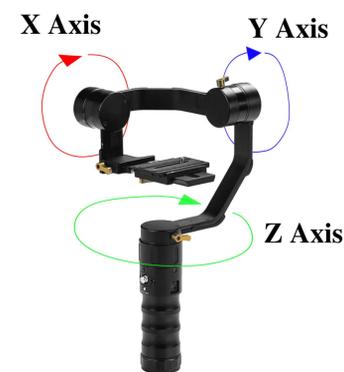
- 3-Axis Gimbal is comprised of 3 Brushless Direct Current Motors, each with their own dedicated driver circuit.

- An Arduino BLE Microcontroller is used for the handheld remote, while the Gimbal utilizes a ESP32 Microcontroller.

How It Works

- A wireless remote controls all 3-Axis Gimbal Functions, utilizing an Accelerometer/ Gyroscope.
- The remote also has functionality to control settings on the camera itself.
- Designed to mimic hand movements 1:1.

X, Y and Z Axis Control



Results

- My Project has successfully implemented the 3-Axis Gimbal with Wireless control.
- I was not able to implement any other camera functions, or sliding functionality.
- The frame for the 3-Axis Gimbal can be made with more robust materials.