ABSTRACT

UAV (Unmanned Aerial Vehicle (UAV)), is a flying machine that functions with the remote control or autonomous, using the law of aerodynamics to lift himself. UAV technology has been widely used in various fields, especially the military. Currently, the research that has been done is to design a system Quadrotor autonomous balance seekers are utilizing the accelerometer sensor.

Quadrotor designed using a Basic Stamp microcontroller 2p40 as a Control Unit, Dual-Axis Accelerometer Sensor MEMSIC MX2125 as a measure of data rotation that occurs in Quadrotor, Brushless motor and propeller as an actuator Quadrotor, and Lippo 11.1 Volt battery as power supply and Actuator Control System Quadrotor. The expected result is Quadrotor designed to move to find balance in accordance with a given set point autonomous.

The test results on the Quadrotor designed is an Accelerometer sensor can detect any changes in rotation on Quadrotor. Value change in rotation was used as input to determine the rotations per minute (rpm) as a determinant of the speed of rotation actuator. Rpm values will always adjust the setpoint value to acquire the balance of the Quadrotor. Test results done by entering a value quadrotor controller parameters (Kp = 1, Kd = 1, Ki = 1) and (Kp = 2, Kd = 3, Ki = 4). Search success rate Quadrotor balance is low, it is because the value of the rotational accelerometer sensor which constantly change as the reference value obtained from the sensor (MX2125) Dual-Axis Accelerometer values are not constant.

***Keyword** : Quadrotor, sensor Dual-Axis Accelerometer MX2125, BS2p40.*