ABSTRACT

In the last decade Unmanned Aerial Vehicle (UAV) is widely projected as a replacement for some of the crew pilot flight missions . In order to fulfill the mission that requires minimization of human intervention , operational UAV must be able to run autonomous , from the top level of motion planning waypoint tracking , to the level of control loops on the inside of the system . At the top level of the hierarchy of control , motion planning algorithms duty gives waypoint tracking motion action of flying a UAV from a free position to the next waypoint . In the end waypoint tracking algorithm is responsible for directing the UAV to the point of a predetermined waypoint following the optimal flight path between the waypoints .

Problems in the control of aircraft UAV is how an aircraft controls itself automatically without human intervention to steer. The control will not be achieved without value as a reference. To get a value to be used as a reference on UAV aircraft equipped with sensors. Of this problem, it is necessary to have a method of UAV flight control system with remote, equipped with location detection coordinates. This system using GPS and flight controllers Ardu Pilot, so the location can be known.

The results of this research is to control a system can automatically UAV aircraft in the air so that can get to the destination within a radius of 35m which tolerated the system and return to the home (RTL). Altitude aircraft as it passes through the point waypoint has also been desired. The aircraft is capable of sending telemetry data to the GUI via the 433 Mhz frequency.

Keywords: UAV, *Autonomous, Waypoint*