

ABSTRACT

At war vehicles will usually be found a place for snipers at the top of the vehicle. That place is a threat to the sniper and an easy target for the enemy. Because the shooter is a crucial position, finally there is the idea to make a shooter into a safe position on the vehicle and can freely aim at the target. By separating the shooter with turret gun then the possibility of the shooter becoming an easy target can be reduced and will be a superiority in battlefield.

The development of automation control engineering then separate turret with the shooter could be done. By creating a joystick inside the vehicle could reduce weaknesses of shooter position that is outside become inside the vehicle. The function of joystick are *Joystick* are for controlling the turret and for aiming the target which are usually done manually by the shooter. Joystick also use as an input which is give a set point as a reference for microcontroller. Then microcontroller will continuing set point value to the DC motor as actuators. PID control is expected to be the appropriate method to control the turret position.

The result of this final project is a turret that capable of leading to the initial position, center of position, in average time of 0,81 second dor the x-axis DC motor and average time of 3,61 second for the y-axis DC motor. And the motor can also move well in accordance with the addition of an analog joystick set point either vertically, horizontally or diagonally.

Keyword: control position, analog joystick, microcontroller, PID, turret, feedback