

## ABSTRAK

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Teknologi komunikasi nirkabel semakin berkembang dan semakin banyak digunakan. Dan penggunaan antenna pada sistem nirkabel tersebut semakin berkembang karena antenna merupakan dasar teknologi nirkabel. Pada pembuatan Antena *Tracker* terdiri dari perangkat keras dan perangkat lunak. Antena *Tracker* terbagi dari 3 bagian sistem utama yaitu *Ground Station*, *Tracking System* dan *Quadcopter*. Pada bagian *Quadcopter* terdapat GPS dan Telemetri sebagai pengirim data yang kemudian ditangkap oleh bagian *Tracking System* melalui antenna yagi 433 MHz dan diteruskan ke aplikasi *Mission Planner* pada bagian *Ground Station* untuk menampilkan dan mengirim data ke Arduino pada bagian *Tracking System* untuk diproses dengan menggunakan bahasa pemrograman C. Hasil dari proses data berupa PWM yang akan menggerakkan servo ke arah *Quadcopter*. Berdasarkan pada hasil pengujian, kemampuan daya tangkap sinyal antenna yagi bisa hingga jarak 210 meter dibandingkan dengan antenna omni yang daya tangkap sinyalnya hanya 100 meter.

Kata kunci: Antena *Tracker*, Antena Yagi, GPS, Telemetri, *Mission Planner*.

## ABSTRACT

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*Wireless communication technology is growing and is increasingly being used. And the use of antennas in wireless systems is growing because the antenna is the basis of wireless technologies. Wireless communication technology is growing and is increasingly being used. And the use of antennas in wireless systems is growing because the antenna is the basis of wireless technologies. In making Antenna Tracker consists of hardware and software. Antenna Tracker divided into three main sections system, Ground Station, Tracking System and Quadcopter. At the Quadcopter has GPS and telemetry as the sender of data which is then captured by section Tracking System via 433 MHz yagi antennas and forwarded to the Mission Planner application on the Ground Station to display and send data to the Arduino on the Tracking System to be processed using C programming language results of the process data in PWM which will move the servo to the direction Quadcopter. For the ability to capture power signal yagi antenna can be up to a distance of 210 meters compared with omni antenna that capture the signal power is only 100 meters away.*

*Keywords: Antenna Tracker, Yagi Antenna, GPS, Telemtri, Mission Planner.*