

ABSTRACT

The continued development of technology, triggering the development of a wide range of communication and control technology. Communication tools always follow the development of one of them is radio. And along with the development of information tools is not a few problems or disorders that occur in the development of this information tool. For example, a problem or a disorder that occurs in radio frequency signal captured is not optimal, and also is often a problem in terms of audio signals generated less stable radio. Therefore needed a tool that can automatically control the gains of this tool called the Power Control Automatically Using Sensor. The system consists of hardware and software. The hardware consists of a sensor senses of vision which get feedback based on the intensity of light, water, and temperature and will issue a logic 1 or 0 when reading the weather conditions around, ATmega328 as a control system that processes input from sensors and output PWM (Pulse Width Modulation) for the strengthening and weakening of the power control, transmitter system as a signal transmitter, receiver as a signal receiver and LCD (Liquid Crystal Display) as the sensor data viewer in the form of weather data. The software using C language to create programs that will be implanted into the microcontroller. In this processing system is changed to a signal transmitter Armstrong oscillator circuit and signal receiving system is changed to an oscilloscope while the data processor and controller power continue to use microcontroller. The workings of this system is that if there is audio input signal is too weak then automatically this circuit will amplify the input signal using a PWM signal with Duty Cycle calculation and vice versa if the audio input signal is too strong then automatically also this circuit will weaken the signal these inputs. So that where the audio signal obtained will be more stable and can reduce the damage of all radio devices. Results of this tool made befunksi well when done by using Oscilloscope data retrieval. This all can be seen from the data that has been obtained elsewhere if no input signal is too weak then this tool will strengthen the input signal, and when the input signal has a frequency that is too strong then the signal will attenuate the input signal as well.

Keywords: Oscilloscope, Oscillator Armstrong, Sensor, Microcontroller