

## **ABSTRACT**

*With the development of technology that exist today and their potential for power generation especially abundant hydroelectric potential, therefore, is developing small-scale power generation by utilizing hydropower called micro hydro power plant (MHP). Power plant micro-hydro energy is one alternative that is very likely to be developed in countries with hydroelectric resources widespread as Indonesia.*

*To facilitate the study of this micro hydro power plant, it takes emulated model of the MHP. This final project describes the actual state of the MHP. Controls used is dick PI (Proportional Integrative), PI controller is a controller that serves to determine the precision (stability) of an instrumentation system with the characteristics of feedback. Converters that are used in the form of buck boost converter, which is able to raise and lower the input voltage.*

*The results of this thesis in the form of a constant voltage of buckboost, The constant voltage approaches the value of 12V. Average - average power efficiency of a buck boost created is 82%.*

*Keywords: electrical energy, water power, MHP, PI controller, buckboost converter,*