ABSTRACT

Nowadays, science and technology is growing rapidly, including in the aspect of

electrical science industry. Development of renewable electricity generation have also been

developed, such as hydroelectric, and solar power plant, so the source of electrical energy is not

only derived from PLN. However, renewable energy power plants tersebuat not have the output

of an AC voltage source, but a source is from DC voltage. So in order to be used as a power

supply for household appliances that most require an AC voltage source, it needs to be converted

first. Tool used to convert DC voltage to AC Inverter called. Therefore, the final project will be

designed power supply system of AC motor using single phase Inverter Resonant Full Bridge.

In general, the inverter produces an output voltage that is lower than the input DC

voltage. Boost converters so it needs to be installed so that the voltage generated greater. In this

Final Assignment, inverter circuit used as a regulator IC timer NE555 PWM. Where the PWM

signal is then strengthened by the IR2103 MOSFET driver circuit for IR840 switching the

inverter circuit. In the final stage, the output voltage of the inverter can drive resistive loads and

inductive loads.

In the testing, the efficiency is calculated by comparing the output power and input

power. Inverter output is tested using a resistive load 100 Watt obtained maximum efficiency of

98,57% with input voltage of 12Volt. Meanwhile, if tested using the inductive load 29 Watt AC

motor obtained an efficiency of 6%.

Keyword: Inverter resonant full bridge, Boost Converter, AC single phase, efficiency.