

## ABSTRACT

The microprocessor is one of the compulsory courses for Telkom University students, especially the Bachelor of Telecommunication Engineering study program, Faculty of Electrical Engineering (FTE) which can be taken at level 2, namely in semester 4. To make learning method to be more effective and efficient, in the microprocessor learning process a teaching aid was created that aims to make it easier for students to understand learning microprocessor courses, because microprocessor courses require practical understanding.

With the making of teaching aid in this final project as a support for the microprocessor course, it will facilitate the communication of teachers to students in delivering material because knowledge visually will help students understand abstract concepts. This trainer or instrument interconnection microcontroller with input/output can be observed directly and is accompanied by a module and Student Worksheets (LKS) which have simple program exercises so that users can be better in understanding the teaching aids used.

This teaching aid using the ATmega328p microcontroller. It will demonstrate with an input in the form of a DIP switch and a potentiometer that has been programmed in the microcontroller, and the output is an LED indicator that lights up. In this final project, the analysis was carried out by inviting several respondents to determine the performance and success rate of the teaching props that have been used as teaching props for students in the Microprocessor course to determine the interconnection material of the microcontroller with I/O. The test results using the MOS method by 5 respondents of Microcontroller Interconnection Props with Input/Output of 78%.

**Keywords:** *trainer, microcontroller, I/O.*