ABSTRACT

Guitar is a very popular music instrument througut the world. We can meet this tnstrument in every element of the society, they even know and play this instrument. To produce more attractive sound, invented a guitar effect. One of the functions of guitar effect is looper, it is a phrase where the guitar plays can be stored and played back repeatedly with another guitar plays to become a harmonic.

This final project designed a guitar effect based on microcontroller supported by several components which can be used as controller of looper software, that it can run as looper process in dicrete signal on a PC. Jack cable used as input to store input signal and speaker as an output. The design focusing on controlling looping system to store and played back well, in this case is the signal from strum of guitar strings. So it can poduce general guitar effect performance.

It has designed a device that is able to control looping system. Use an Arduino connected to pedal shield. From the implementation of the system, generated the guitar effect that is able to operate real time with good output with small process time and noise, as well. As the result, the smallest process time is 1 ms taking 64 samples every 1/11025 second, and the biggest process time is 377 ms taking 2048 samples every 1/192000 second.

Keywords*: Guitar, real-time, looping, cable jack, guitar effects*