

ABSTRACT

Radio broadcasting in the conventional way has several limitations, that is the limited of broadcast range. The value of the investment required to build a radio is very high because it is very unfortunate if the broadcast is only enjoyed in limited area. This limitation, eventually led to the idea, how user can listen to the radio station favorite anywhere and anytime, with the advancement of internet technology and data compression techniques.

This configuration encourage to create radio station that can be heard via internet. This term is better known as internet radio. As the development of digital data and internet, this affect to development of internet radio. Internet radio using data compression or we better known as streaming. Streaming is a technology that can do compression or shrink the size of data to be easily transmitted through the internet.

In this Final Project has been created device of the internet radio receiver that using wireless router because it is more cheaper than another device. Wireless router communicate with ATmega 8535 using serial communication as user interface for show the station radio and the song title that we hear. Delay maximum that measured in this system is about 91.04925 ms for 40 kbps bitrate, this result has good category for cisco standard audio streaming and throughput used to listen the internet radio depends on the bitrate used by the Internet radio service providers, which ranged between 40 kbps, 96 kbps, 128 kbps, up to 256 kbps. Average internet radio service providers to use bitrate 96 kbps and 128 kbps for the audio quality standards, so the throughput is used about 12 KB/s and 16 KB/s.

Keyword : **Radio Internet, ATmega 8535, Streaming, OpenWrt, Wireless Router**