

ABSTRACT

Signal instruments are musical instruments used not only for music but also to provide signals as a form of auditive communication. Along with the development of civilization, signal instruments are now digitized, and many instruments are popping up, for example, megaphones, one of which is in the future. This signal will also be highly used to help humans facilitate and improve their quality of life.

Arduino is a micro-controller device often asked to be able to communicate with speakers and become a signal instrument that can output sound signals. However, because the signal generated by Arduino is digital, it must be converted into an analog signal first by converting the digital signal generated by Arduino into an analog signal using a DAC circuit. After converting the signal into a digital signal, it will be forwarded to the amplifier, which uses a transistor BC337 as a switch to make Arduino a signal instrument.

The system design is based on Arduino nano as a data processing tool, where the data stored in Arduino nano will be forwarded to the DAC circuit and then will be returned to the amplifier before finally being channeled to the speakers to produce a sound output that matches the data stored on the Arduino nano.

Keywords: Arduino, Signal Instrument, DAC, Amplifier,