

ABSTRACT

Infant Incubator is used to provide protection to premature newborns. Premature babies need monitoring of oxygen saturation and heart rate. Oxygen saturation and heart rate in premature infants is very important to know because when oxygen saturation levels in premature babies are low, care must be taken to see if there are abnormalities. The purpose of this study is to design a device that can monitor the condition of oxygen saturation in the blood (SpO₂) and heart rate (Bpm) of premature babies. The advantage of this research is that the monitoring tools (SpO₂ and Bpm) are easier to use, so that a tool that is made into one with a baby incubator can be done with complete measurement data that can be directly monitored by the nurse display on the LCD during the process. This study uses a neonatal finger sensor to detect oxygen saturation (SPO₂) and heart rate (Bpm) which have analog data output then conditioned in the PSA (Analog Signal Conditioning) circuit. The PSA output is then processed in Arduino and the character LCD display. Based on the results of reading the SpO₂ and Bpm measurements were made on 2 respondents with an average value of 98% for SpO₂ and 82 for Bpm displayed on tool. This research can be implemented in premature babies so that the condition of premature babies can continue to be monitored through the values displayed on the LCD.

Keywords: *Infant Incubator, SpO₂, Bpm*