# Author’s Response to the Review Comments

***Journal* : Jurnal Elektronika dan Telekomunikasi**

***Title of Paper* : *Active Filter Analysis on The Design of Electronic Stethoscope***

We appreciate the time and efforts by the editor and referees in reviewing this manuscript. We have addressed all issues indicated in the review report, and believed that the revised version can meet the journal publication requirements. We have included the line numbers in the revised manuscript to help the reviewers identify our changes.

| **Comment** | **Response** | **Location of Response in Revised Manuscript** |
| --- | --- | --- |
| **REVIEWER 1 COMMENTS** |  |  |
| The theoretical base is not too enough for this research. As an example, the  author didn't discuss the phonocardiograms from normal and abnormal heart sounds. Please, put the figure of this phonocardiograms and its  characteristics to the manuscript. | We have clarified that the normal and abnormal heart sounds using phonocardiograms images from the literature. | Section:  Heart Sound  Page(s) 2  Paragraph(s) 2  Line(s) 19  Figure 1 |
| 1. There are some characteristics of the heart sounds such as normal, aortic stenosis, mitral regurgitation, aortic regurgitation, mitral stenosis, and ventricular septal defect. 2. Which character does the author want to detect? | 1. Some characteristics of the heart sounds already explained in the figure 1 and Table 1 2. We have clarified that in the initial stages, the device is limited to filtering frequencies of 20-200 Hz, to test the normal heart sound area first. | 1. Section:   Heart Sound  Page(s) 2  Table 1  Figure 1   1. Section:   Heart Sound  Page(s) 2  Paragraph(s) 3  Line(s) 3-4  And Section:  Design of System  Page(s) 2  Paragraph(s) 3 Line(s) 14-20 |
| The author still needs a second opinion from a doctor to know the device  accuracy. | This research is preliminary research, which in the next process is data processing by taking data in real-time at the hospital by comparing the diagnosis results from cardiologists. We have collaborated with a heart specialist/ cardiologists at one of the Jakarta hospitals. | Section:  No revision made |
| Please, give more discussion on how to select the bandwidth for the filter  design! | The first thing to do is search the literature for the heart sound frequency range for normal and abnormal, frequency limits are implemented to the filter circuit that will be applied to the stethoscope, so that you will get a signal pattern that is only expected to be recorded. Actually already explained in the introduction page(s) 1. | Section:  Introduction  Page(s) 1  Paragraph(s) 1  Line(s) 15-19 |
| **REVIEWER 2 COMMENTS** |  |  |
| State the improvement of your systems compared to another electronic  stethoscope such as in references | We have clarified that the the improvement of my systems, namely performance of various analog filters used for the processing of electronic stethoscope signals with a low cost, and compare with commercially The Littman Electronic Stethoscope. It is expected that from the results of this research, a groundbreaking electronic stethoscope with a quality commensurate with Littmann's commercial stethoscope will be obtained | Section:  Introduction  Page(s) 1, 2  Paragraph(s) 5, 6  Line(s) 1-5, 4-11 |
| The discussion of this paper is only focused on filters design, rather than  discussing filters, it is better to discuss the design of electronic  stethoscope as describes in references | We have clarified that the discuss done by review literature from R. M. Potdar, et al., and D Kadam Patil D. D, et al., indicated that using only one LPF filter, the results obtained are less good, when compared to the results of our research that combines 2 fiter, namely LPF and HPF, except using two amplifier circuits, namely before and after the filter circuit, as did by Kadam Patil D. D, et al. | Section:  Experimental (Results)  Page(s) 4  Paragraph(s) 3  Line(s) 34-41 |