Cost analysis:

|  |  |  |  |
| --- | --- | --- | --- |
| Pre-emphasis filter | | | |
| element | unit price($) |  | price($) |
| 0.002 uF capacitor | 0.18 | 2 | 0.36 |
| 1000 pF to 0.01 uF capacitor | 0.14 | 2 | 0.28 |
| Resistor | 0.07 | 8 | 0.56 |
| LM348N Op-Amp | 1.01 | 1 | 1.01 |
| Total Price: | | | 2.21 |
|  |  |  |  |
| De-emphasis filter | | | |
| element | unit price($) | amount | price($) |
| 0.002 uF capacitor | 0.14 | 2 | 0.28 |
| 0.02 uF capacitor | 0.18 | 1 | 0.18 |
| 0.01 uF capacitor | 0.14 | 1 | 0.14 |
| Resistor | 0.07 | 10 | 0.7 |
| LM348N Op-Amp | 1.01 | 1 | 1.01 |
| Total Price: | | | 2.31 |
|  |  |  |  |
|  | part cost ($) | labor cost ($) | price |
| Pre-emphasis filter | 2.21 | 0.54 | 2.75 |
| De-emphasis filter | 2.31 | 0.54 | 2.85 |
| total cost of Pre-emphasis filter and De-emphasis filter: | | | 5.6 |

To produce a noise reduction system, we used some very low price components. This system may cost couple hundred dollars, and we took about 20 hours to finish this system which may cost a hundred dollars. I think we can get 8 dollars per hour.