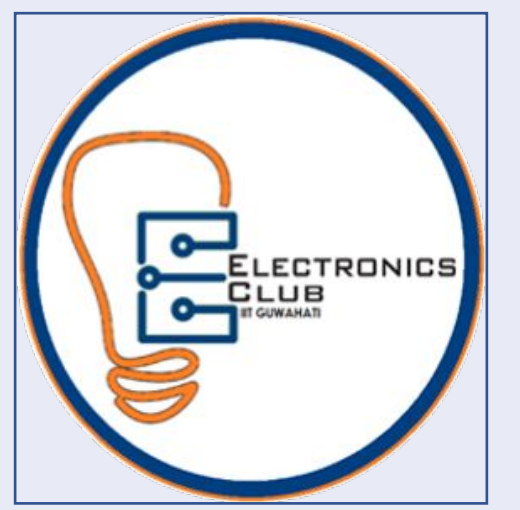




Electronic Piano

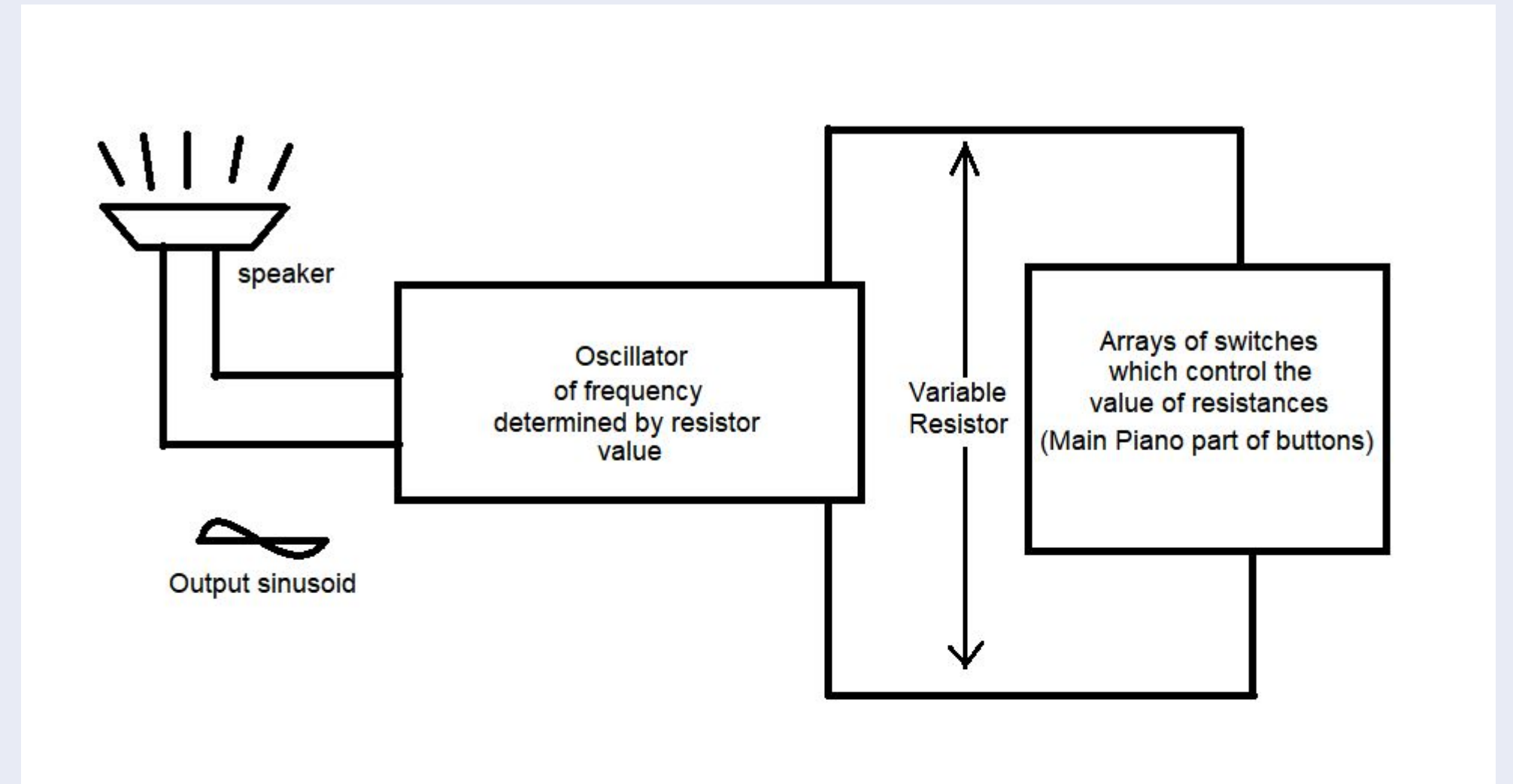
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Abstract/Introduction

- In a musical system, every musical note is simply a periodic wave of a particular frequency such as A1 is a note having 55Hz and A4 having 220Hz.
- Piano is a electronic or mechanical device consisting of many keys which allows us to play or generate waves of different frequencies creating music when played in harmony.
- Our piano is fully electronic having 7 musical notes from C4 to B4. So, basically we are generating 7 frequencies i.e., 262Hz, 294Hz, 329Hz, 349Hz, 392Hz, 440Hz, 494Hz.

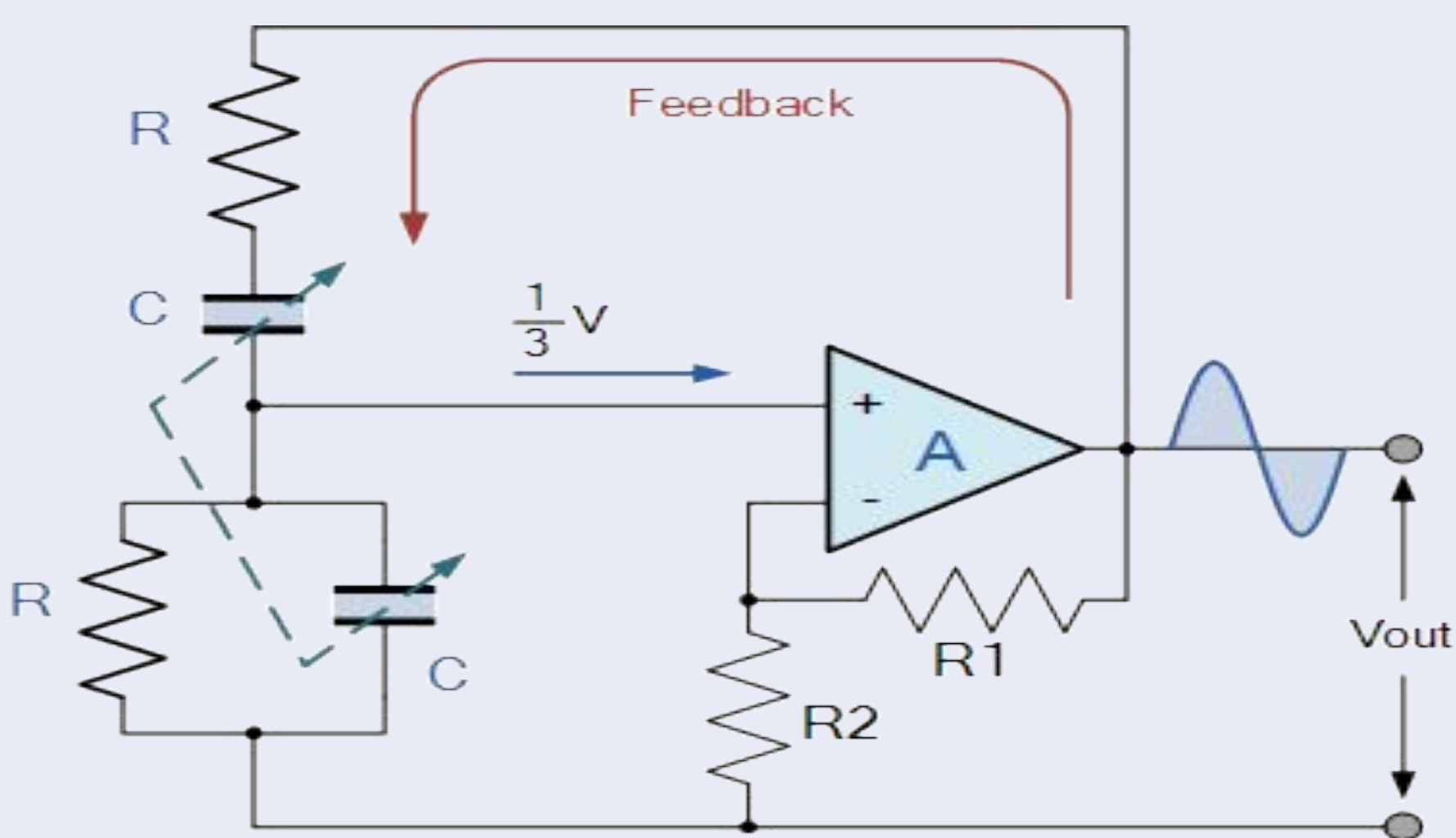
Block Diagram



- This is the basic block design of our Piano. Here, we have two main blocks of circuit and where first block is used for generating particular frequencies and second block allows us play a particular frequency among seven frequencies.

Methodology

- We are generating all the above mentioned frequencies using WEIN BRIDGE Oscillator whose circuit diagram is shown below.



- Frequencies depends on resistance and Capacitance values of above circuit model.
- For changing the notes i.e., frequency we used switches (Push Buttons) to change the value of resistance(R) hence the frequency.

Conclusion

- We have generated seven types of sinusoids waves using a wein bridge oscillator by changing the resistance value through a switch box.
- then we finally transferred the generated sinusoids to a speaker which finally allow us to play them harmonically.

References

- https://www.electronics-tutorials.ws/oscillator/wien_bridge.html
- https://en.wikipedia.org/wiki/Wien_bridge_oscillator
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