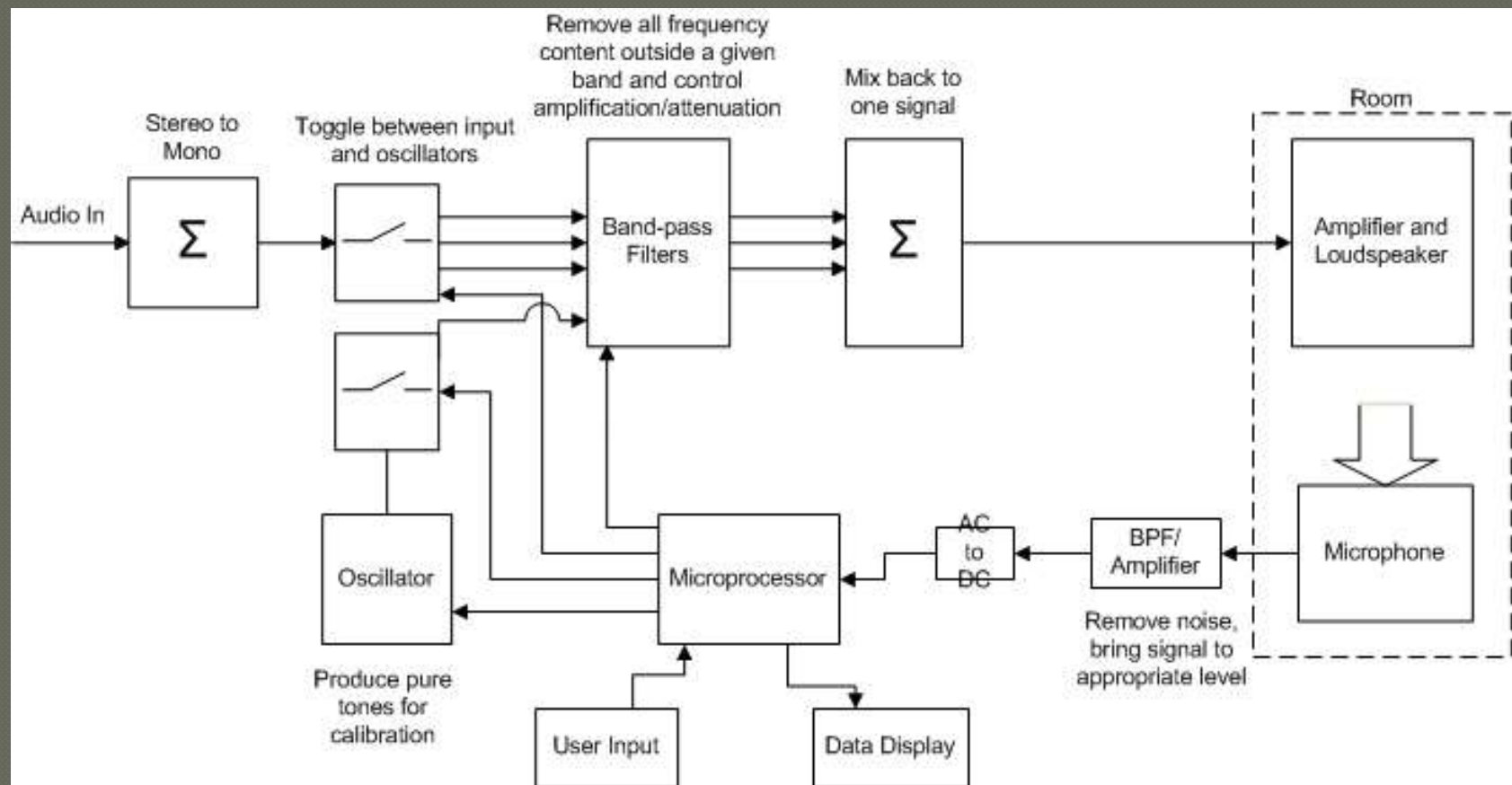


Senior Design

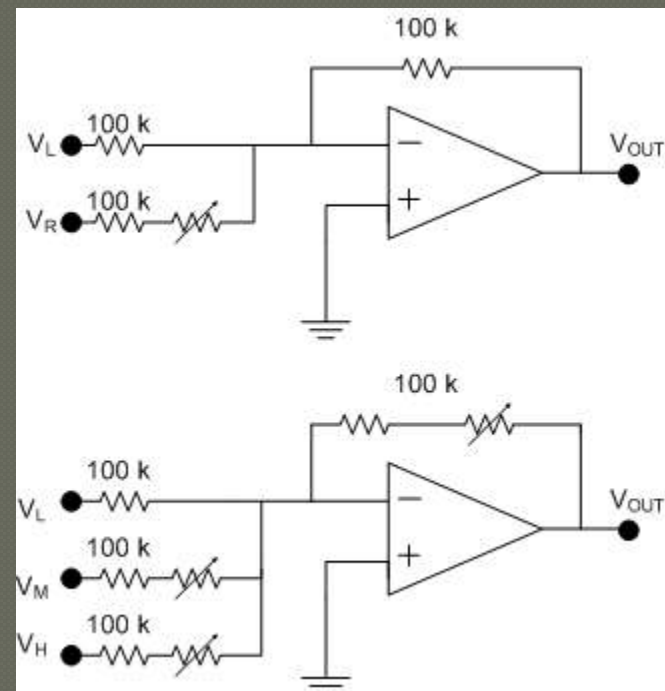
Self-Adjusting Equalizer
Scott Lair

Overall System

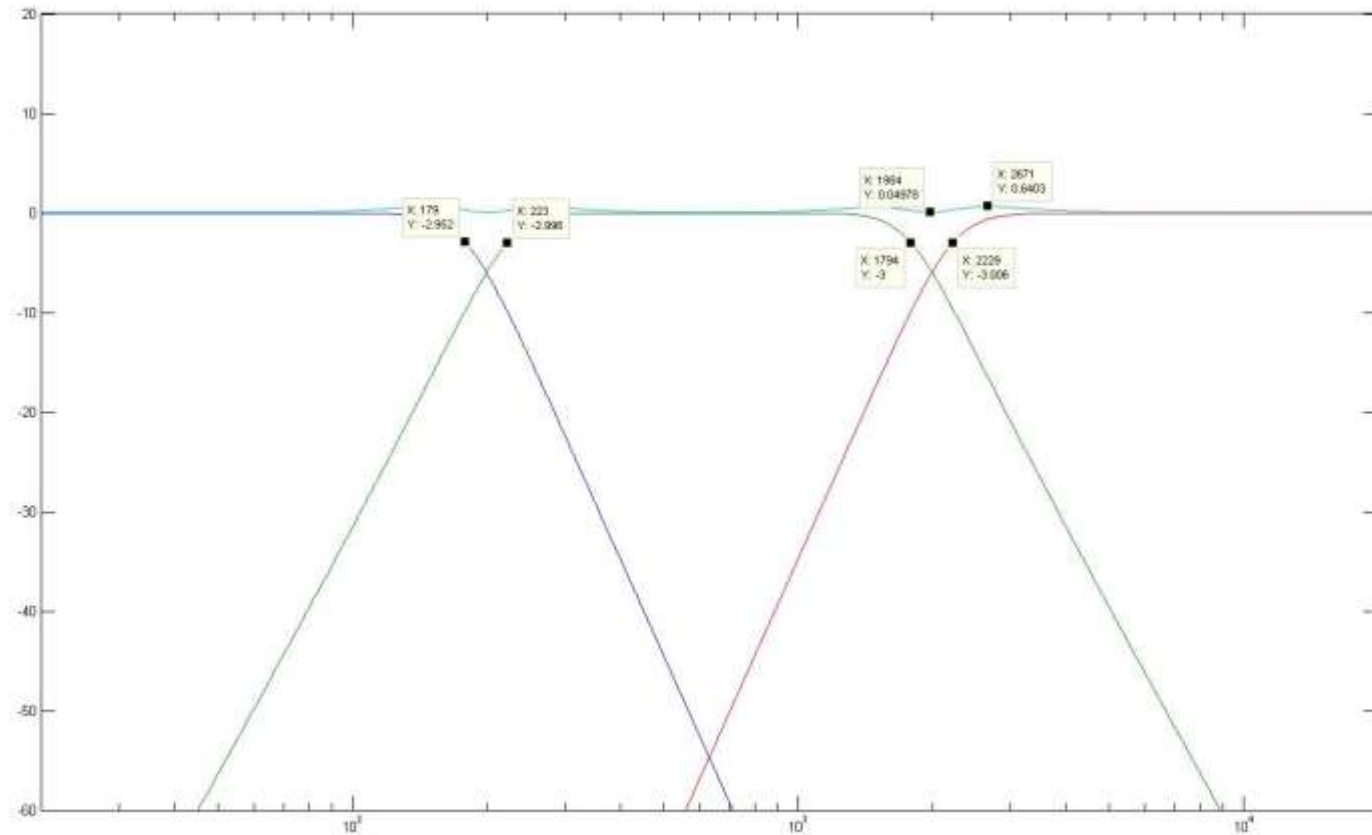


Summing Amplifiers

- Stereo to mono converter
 - High input impedance
 - Potentiometer for tuning
- Sum of bands
 - High input impedance
 - Tuning potentiometers
 - Volume control

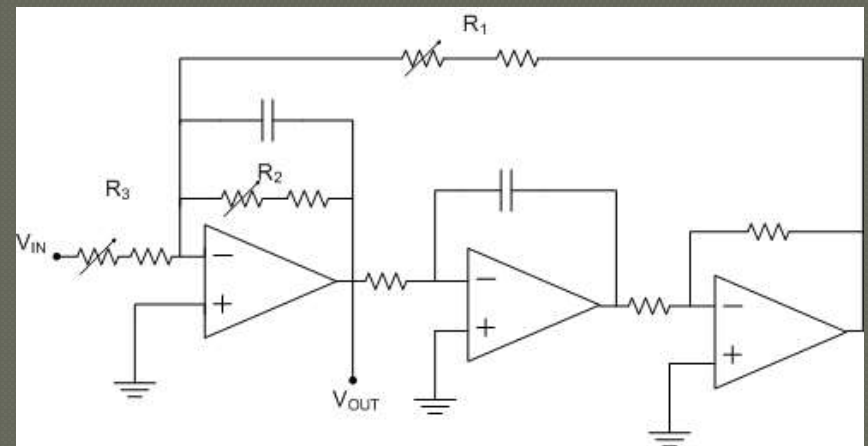


Bandpass Filters



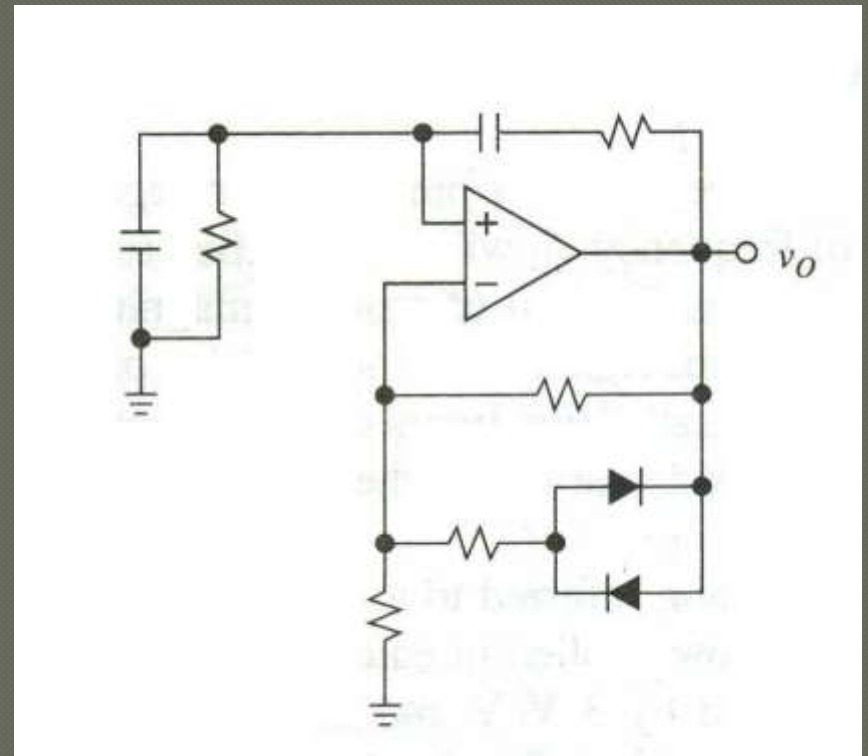
Bandpass Filters

- $\Delta |H| = 0.64 \text{ dB}$
- 3 dB frequencies
 - 179 Hz
 - 223 Hz, 1795 Hz
 - 2229 Hz
- 2nd order
- Orthogonal Tuning
 - R_1 for w_0
 - R_2 for Q
 - R_3 for H



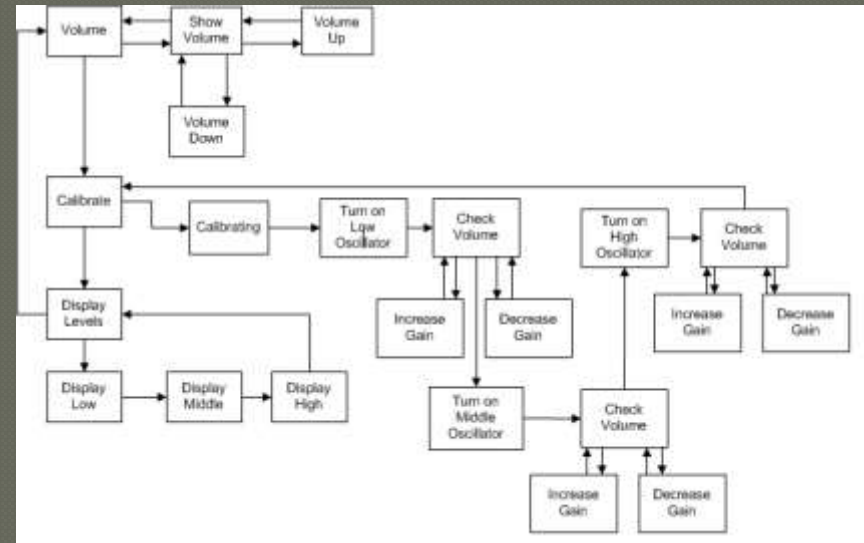
Oscillators

- Produce sinusoid for calibration
- Wein-Bridge



Microprocessor

- Three functions
 - Volume control
 - Calibration
 - Viewing gain levels
- Three button input
 - Up, down, enter



Other Concerns

- Switches
- Input device
- LCD
- Conditioning circuit
 - Bandpass filters
 - AC to DC converter
- Microphone?