

“One of the challenges with low frequency 520 Hz alarms is that they require additional electrical power which has made the development of low frequency battery-operated alarms difficult.” - Valerie Ziavras
NFPA Technical Services
Engineer

Highly Efficient Low Frequency 520 Hz Sounder

For use with single station 120v detectors

Problem:

Currently there are no 120v hardwired versions of a low frequency detector on the market. Local jurisdictions are requiring low frequency detectors in all commercial residential occupancies where only low voltage systems are available.

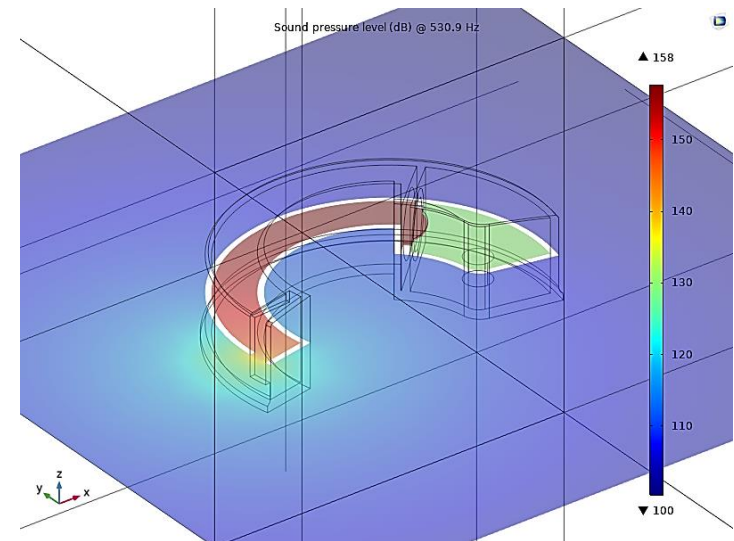
Eventually this requirement could be part of the building code for private residences.

Low frequency sounder solutions available today are low efficiency and bulky.

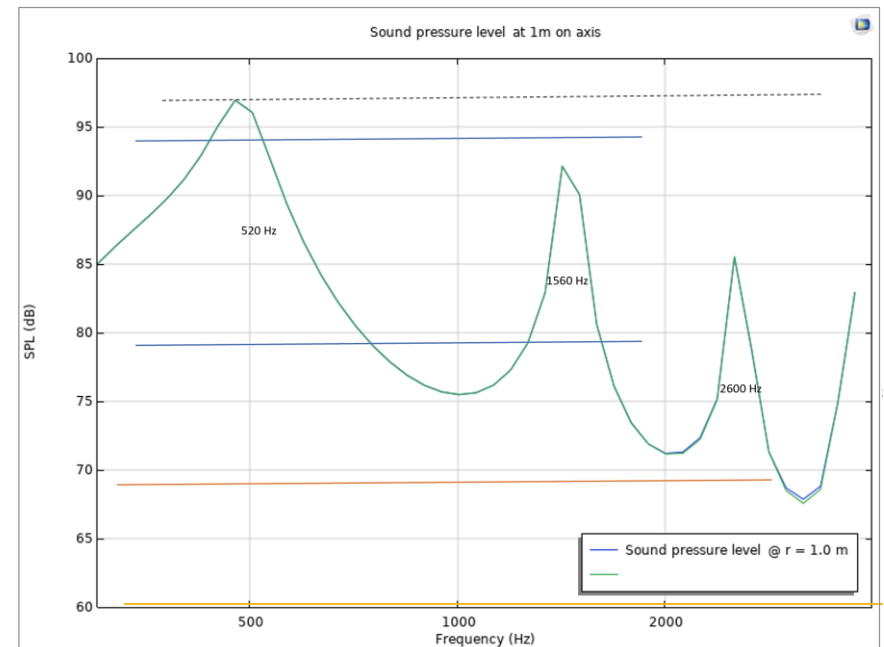
We envision a low frequency detector product that is like conventional 3000Hz 120v products available today.

Technical:

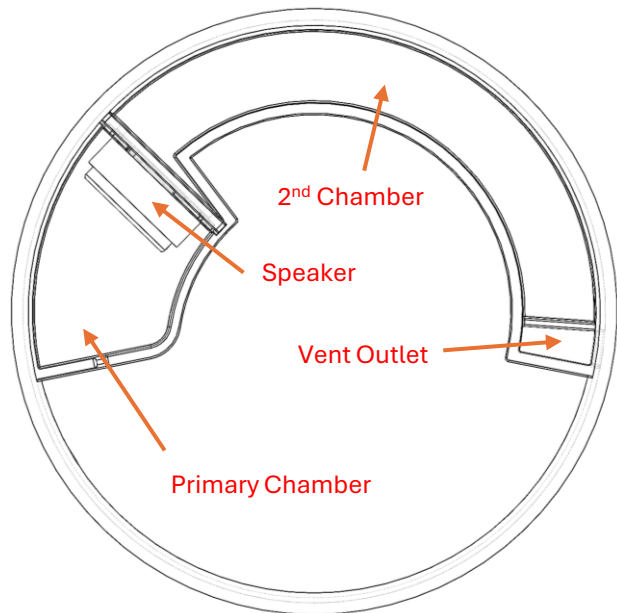
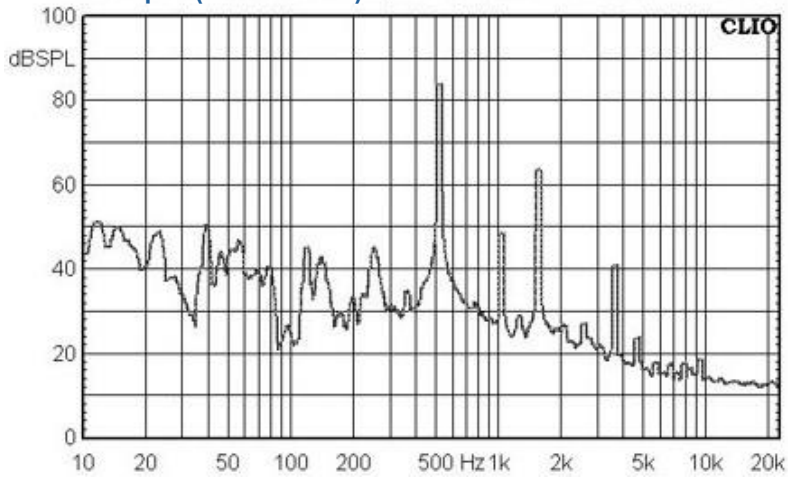
- 0.35 Watts amplifier power to produce a 76 dB A-Weighted SPL.
- Simple 520 Hz square or Sine wave input. ****The architecture creates the F3, F5, and F7 harmonics at their appropriate levels****
- Flexible design will fit any housing shape.
- Minimal Power Draw.
- 65% Free Area for detector electronics.
- Tuned Resonance Chamber Design
- 30mm transducer



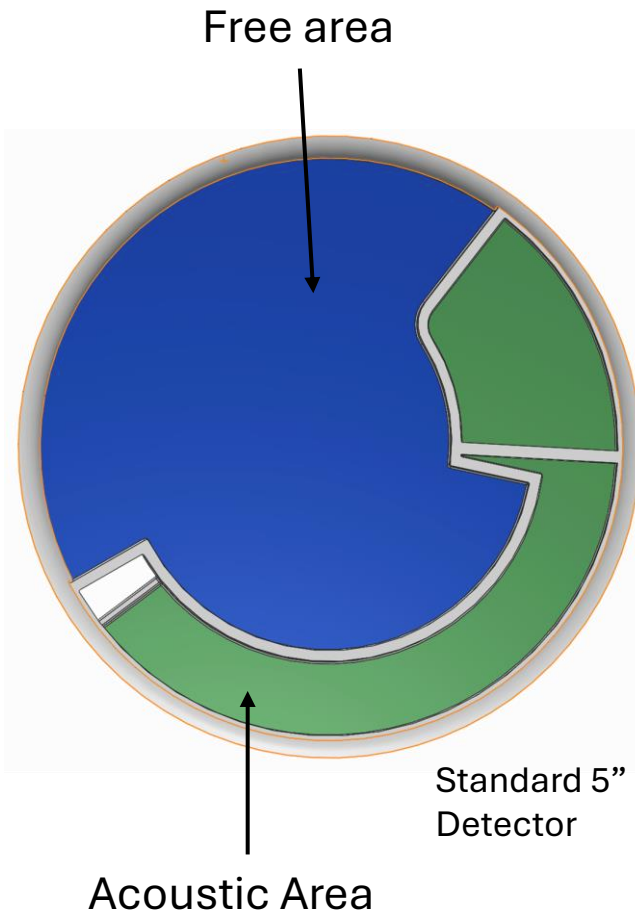
Design Simulation



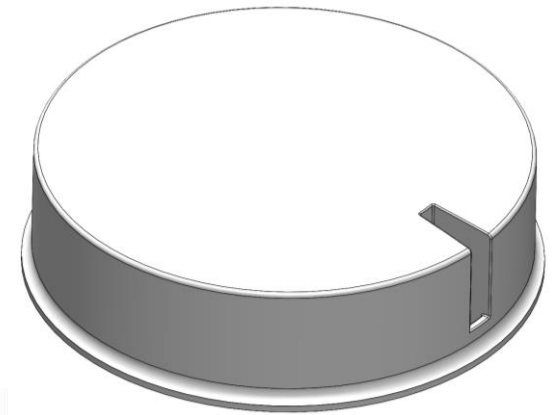
Prototype measurement RTA with a 520 Hz sine wave input (Uncorrected)



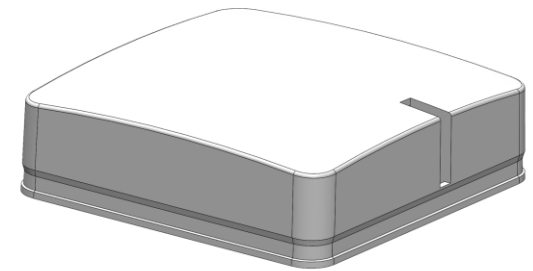
Round interior view



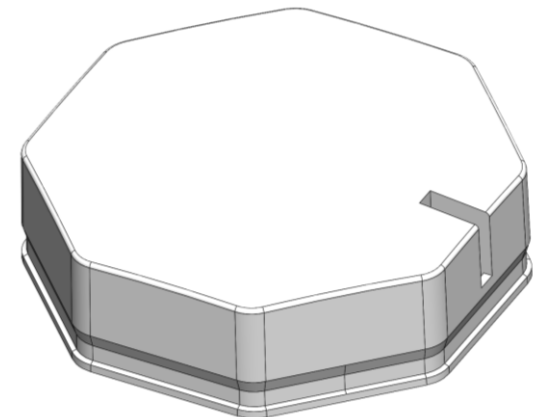
Acoustic Area



Round



Square or Rectangular



Octagonal

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Patent Pending