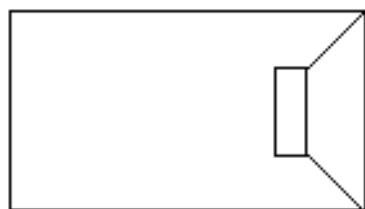
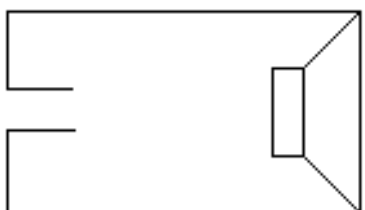


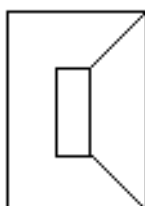
HOW BAND PASS (BASS ONLY) ENCLOSURES COMPARE TO MORE FAMILIAR ONES



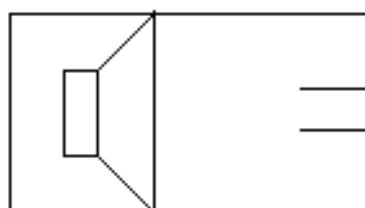
A. SEALED: Typical range, 50-2500 Hz. Common in home and car. Can be small, simple and inexpensive to build. Very low frequencies are extended at 12 db per octave. The speaker does not become un baffled at very low or subsonic frequencies, as is the case with the reflex (ported) enclosure.



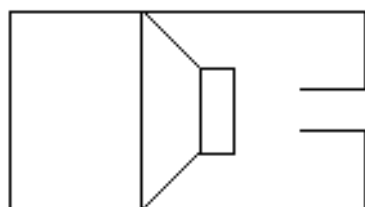
B. REFLEX (ported): Typical range, 50-2500 Hz. Common in homes and theaters. Efficiency can be higher than the sealed box, and doppler distortion reduced above tuning frequency. Transient response is inferior to the sealed box. Very low frequencies roll off at 24 db per octave. The speaker is not controlled below the tuning frequency; instead, it is virtually un baffled.



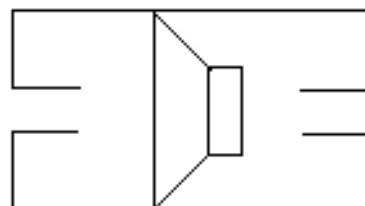
C. HORN: Typical range, 70-400 hz. Very high efficiency. Very large, complicated, and expensive to build. Used in auditoriums and stadiums. The small sealed back chamber causes a high resonance, but the weight of the air in the horn makes it much lower. Low frequency roll off is very fast, but the sealed chamber maintains control of the speaker at very low frequencies.



D. KEF-TYPE: Typical range, 50-120 Hz. Has many desirable characteristics of all of the above: the small size, slow roll off, and very low frequency control of the sealed speaker; the efficiency of the reflex speaker, and the air load of the horn to lower the resonance. Band width is even smaller than the horn, making a "sub-woofer" response range only attainable in other enclosures by the use of an active crossover.



E. SAME AS "D" but the driver is reversed to improve high power handling. This gets the magnet structure into the vented cavity for forced air cooling. Reversing the speaker has no effect on low frequencies because they are the same on both sides of the cone. Higher frequencies, above 500 Hz, are different, but they are not used in the Band Pass Enclosure.



F. DOUBLE REFLEX: Typical range, 50-120 Hz. A band pass enclosure like "D" and "E" but two cavities are tuned over an octave apart. A small gain in efficiency is possible over the KEF-type single reflex, but at the expense of worsened transient response and of no control below the tuning frequency.