

AUDIO FREQUENCY HANDOUT

20Hz-80Hz

LOW BASS

First and Second Octaves

These are frequencies associated with power, boom, and fullness. The lowest notes of the piano, organ, tuba, and bass are in this range, as are the low frequencies of traffic and thunder. Sounds in these octaves need not occur often to maintain a sense of fullness. If they occur too often, the sound can become thick or muddy.

80Hz-320Hz

UPPER BASS

Third and Fourth Octaves

Too many frequencies from this range make sound too boomy; too few make it thin. Pitches in this range are perceived as anchoring sounds.

320Hz-2,560Hz

MIDRANGE

Fifth, Sixth, and Seventh Octaves

The midrange gives sound its intensity. Too much emphasis of these frequencies is heard as a horn-like quality.

2,560Hz- 5,120Hz

UPPER MIDRANGE

Eighth Octave

Frequencies in this range improve the intelligibility of speech. These frequencies are roughly 3,000Hz to 3,500Hz. If these are unduly emphasized, however, sound becomes abrasive and unpleasant; and speech, in particular becomes harsh and lispsy.

The upper part of the eighth octave (above 3,500Hz) contains rich pitches that give sound definition.

5,120Hz-20,000Hz

TREBLE

Ninth and Tenth Octave

Although human hearing does not extend much beyond 16,000Hz, tones in this range give sound vital, lifelike qualities of brilliance and sparkle.