

VOCALS

FULLNESS - 120 Hz, BOOMINESS - 200-240 Hz

VOCALS, MALE (PRESENCE 5k, SIBILANCE 7.5-10k)

VOCALS, FEMALE

(SAX CLOSE MIC'D
KEY NOISE SET HPF @ 200 Hz)

HONK 400 Hz

SQUAWK 2k

ALTO SAX (REED BUZZ 6-7k)

HONK 250-300 Hz

SQUAWK 1k

TENOR SAX (REED BUZZ 5-6k)

WINDS

TRUMPET

TROMBONE

TUBA

VIOLIN, MANDOLIN

CELLO

STRINGS

BOOMINESS - 120-200 Hz

ACOUSTIC GUITARS (HARSHNESS - 2k, CUT 7k-10k)

FULLNESS - 240 Hz

ELEC GUITARS (BITE - 2.5k, AIR 8k)

4 STRING BASS

BOTTOM - 60-80 Hz

5 STRING BASS (ATTACK 700-1k, STRING NOISE 2.5k)

DRUMS

CLANK - 200 Hz

SIZZLE 7.5k-10k

CYMBALS

FATNESS - 240 Hz

CRISPNESS 5k-6k

SNARE

FULLNESS - 120-240 Hz

ATTACK - 5k

TOMS

THUMP - 60-80 Hz

ATTACK - 4k

KICK DRUM

KEYS

SYNTHESIZER

EXT RANGE

FULL RANGE

PIANO
NORMAL RANGE

FULL RANGE

EXT RANGE

Middle C

20.6 Hz 27.5 Hz 55 Hz 110 Hz 220 Hz 440 Hz 880 Hz 1720 Hz 3540 Hz 7080 Hz 14.16 k 21.24 k

SUB-WOOFERS

HORNS/TWEETERS

**SUB-BASS
FREQUENCIES
20 - 40**

(More felt than heard,
requires an enormous
amount of energy,
& Hi quality transducers)

**BASS BAND
40 - 160**

(where fundamentals for
kick and bass are, can easily
get cluttered and woofy
sounding. This is where
the thump comes from)

**UPPER
BASS BAND
160 - 300**

(warmth, or a
muddy, woody
sound. fundamental
for snare, toms,
guitars, male vox)

MID-RANGE SPEAKERS

**LOW-MID
300 - 800**

(this range has lots
of upper resonance
& droning. Think of
AGT feedback)

**MID RANGE
800 - 2.5k**

(where clutter happens,
our ears are sensitive,
too much sounds
hard, nasal,
obnoxious)

**UPPER
MID-BAND
2.5k - 5k**

(where our ears
are most sensitive
& where brittle
harsh, screechie is)

**HIGH FREQ
BRIGHTNESS
5k - 10k**

(lots of
harmonics, plus
vocal sibilance,
and cymbals)

**ULTRA-HIGH
FREQUENCIES
10k - 20k**

(not much
energy or
musicality)