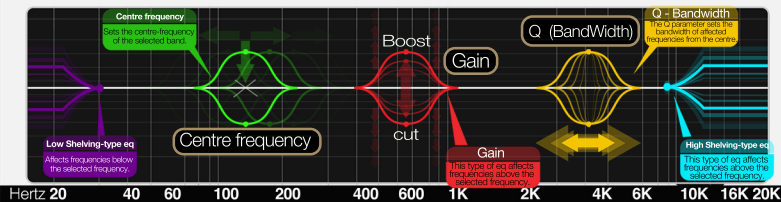


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EQUALIZER BANDS



Bell type EQ ■ ■ ■

A bell type equalizer can be used to cut or boost a selected group of frequencies. It gets its name by its shape. The boost or cut of the bell-eq is the most in the centre of the bandwidth and decreases towards the end of the bandwidth. The bandwidth of the bell eq is defined with the Q parameter. This sets the amount of frequencies that will be affected from the centre-frequency. Low Q values represent a large bandwidth, so many surrounding frequencies will get affected. High Q values set a small bandwidth.

A full parametric bell-equalizer has all these three functions: Gain, Frequency & Q.

Shelving EQ ■ ■

A shelving type EQ-band can either be a low-shelving or a high-shelving type.

Low shelving equalizers 'work' below the selected frequency and can be used to cut or boost low frequencies.

High-shelving equalizers 'work' above the selected frequency and can be used to cut or boost high frequencies.

Equalizing in a nutshell.

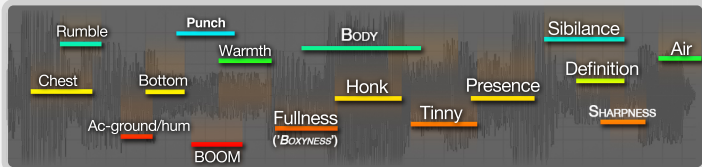
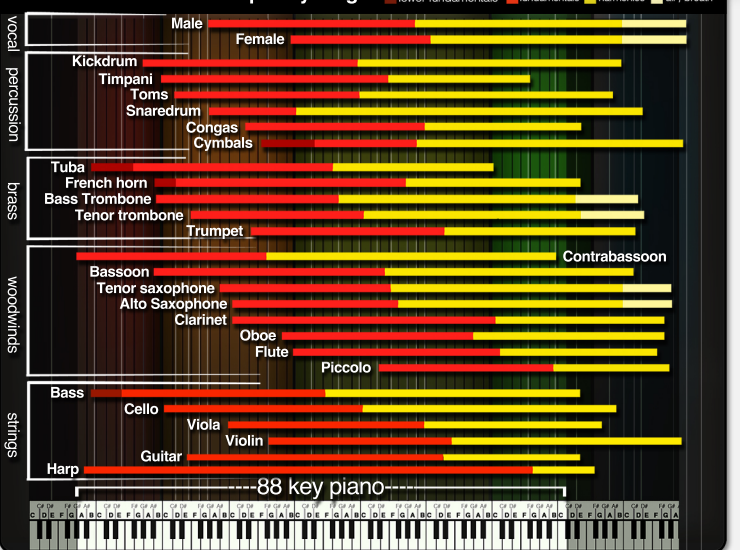
An equalizer can affect the frequency content of an audio-signal. They are capable of gaining or attenuating a frequency-band. There are various types and models of EQ's, each with their own distinct way of working. The amount of bands on an equalizer determines how many frequency-groups we can affect. The main use of an equalizer in the studio is to create some separation between sounds with overlapping frequencies.

Knowing frequencies is the first step to become 'good at equalizing'. Knowing which frequencies you hear and knowing which frequencies you are looking for are essential in becoming 'fast' with equalizing. This chart shows frequency-bands and the name we can give to the human perception of those frequencies...

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Instruments & note / frequency range



KNOWING FREQUENCIES

This chart shows the fundamental frequencies and the harmonics of various instruments.
It can be really helpful to know where to find frequencies and synonyms to describe frequencies..

If you want to know more about how a compressor works, check out my book: 'Audio Engineering - Dynamic processing' on www.wickiemedia.net and check out the tutorials about compression on youtube: www.youtube.com/wickiemedia.

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Vocals.

Fullness: 120 Hertz
Boomy : 200 - 250 Hertz
Boxyness: 400 - 800 Hertz
Body: 800 - 1400 Hertz.
Sparkle: 2 KHz and up.
Presence: 5 KHz
Sibilance: 7.5 KHz+
Remove: +/- 50 or 60 Hertz and below

Kickdrum.

Bottom : 60 - 80 Hertz
Body : 120 Hertz
Boxy sound : 400 Hertz
Attack / drum-skin : 2.5 KHz
Overtones : 4 KHz

Snare drum

Body : 120 Hertz
Fullness : 240 Hertz
Boxy sound : 400 - 600 Hertz
Snare : 1.5 - 2.5 KHz
Attack : 4 KHz - 5 KHz
Overtones : 8 KHz and up

Hi-hat

Bottom (warm Hi-hat) : 200 Hertz
Attack : 4 KHz
Sparkle : 7.5 KHz - 12 KHz

Toms

Fullness : 120 - 250 Hertz
Attack : 2 - 4 KHz
Cut : 5 KHz

Drums

Boomy Sub : 40 - 70 Hertz
Body : 200 - 400 Hertz
Presence : 2.5 KHz
Clarity : 5 KHz

Cymbals

Bell : 250 Hertz
Definition : 7.5 KHz
Air : 10 KHz

Electric Guitar

Body / fullness: 240 - 500 Hertz.
Warmth: 200 Hertz.
Crunch : 500 - 600 Hertz
Clarity: 2500 Hertz
Air : 5000 Hertz

Bass Guitar

Bottom : 60 - 80 Hertz
Warmth : 300 Hertz
Attack / pluck : 800 - 1000 Hertz
String : 2.5 - 3 KHz

Piano

Bottom : 60 - 80 Hertz
Warmth : 300 Hertz
Attack / pluck : 800 - 1000 Hertz
String : 2.5 - 3 KHz

Acoustic Guitar

Warmth: 200 Hertz.
Body / fullness: 300 - 500 Hertz.
Clarity: 2 KHz - 5KHz Hertz
Attack (strings): 3.5 KHz
Cut: 7 KHz

Violin

Warmth : 240 Hertz
String : 2.5 KHz
Attack (brightness) : 7 KHz - 10 KHz

Viola

Warmth : 240 Hertz
String : 2 KHz - 2.5 KHz
Scratching sound : 4 KHz
Attack (brightness) : 7 - 10 KHz

Trumpet

Fullness : 120 - 250 Hertz
Brass/bell sound : 5000 Hertz
Attack : 8 KHz

Horns

Fullness : 120 - 250 Hertz
Horny : 2 KHz
Open : 4 KHz - 6 KHz

Clarinet

Bell / Round : 300 Hz
Clarity : 2.5 KHz
Air : 5.2 KHz

Cello

Warmth : 100Hz- 200Hz
String : 2 KHz - 2.5 KHz
Attack (brightness) : 7 - 10 KHz