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## **EQ & Compression Notes**

**Equalization (EQ)** – the process of boosting or reducing the volume level of specific frequencies of an audio signal. The process of equalization creates clarity in a mix by improving blend and creating space.

**Hi Pass/Low Pass filters** – These filters help to eliminate unwanted hi or low frequencies respectively. Hi-pass filters allow high frequencies to pass and cut off low frequencies. Low-pass filters allow low frequencies to pass and cut off high frequencies.

**Hi shelf** - allows the engineer to add or subtract gain from frequencies below a chosen range.

**Low shelf** - - allows the engineer to add or subtract gain from frequencies above a chosen range.

**Peak** – Peak filters allow engineers to add or reduce gain around a selected frequency.

**Compression** – allows engineers to control the dynamic range of an audio signal. Along with compressors, limiters, gates and expanders serve similar functions.

### ***DigiRack RTAS Compressor parameters:***

**Threshold** - Level at which the compressor engages.

**Ratio** - The quantity that a signal volume is reduced in relation to the signal's original amplitude.

**Attack** – The speed at which a compressor reacts to a loud signal.

**Release** – The speed at which the compressor lets go of the compression.

**Knee:** The rate at which the compressor reaches full compression once the threshold has been exceeded.

### ***DigiRack RTAS Limiter parameters:***

**Limiter** – A limiter is a compressor that removes all signals exceeding a specified volume maximum.

***DigiRack RTAS Gate parameters:***

**Gate** – Allows audio signals above a certain level pass to through while reducing signals below that threshold.

**Threshold** – Volume level below which the gate closes and edits the signal.

**Attack** – Speed at which the gate reacts to a signal below the threshold.

**Range** - Amount of attenuation created by the gate in Decibels.

**Decay** – The rate at which the gate closes after the signal reaches the specified level.

**Hold** – Length of time the gate stays open after the signal falls below the threshold. This can cause a chopped-off sound.

***DigiRack RTAS Expander parameters:***

**Expander** – A gradual change in level of a sound falling below a designated level. Expanders reduce levels gradually as opposed to gates. Expanders tend to sound more natural on vocals and melodic instruments.

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