# ProTools - Audio Suite Greatest Hits

**EQ**
- **High Pass**: reduces gain under a certain frequency. Choose the frequency change point. Good for rumble. AKA low cut.
- **Low Shelf**: either boosts or reduces gain under a certain frequency, depending on what you want to do. Choose the frequency change point and whether you want to increase or decrease the gain under that frequency.
- **Peak**: boosts or cuts frequencies around a selected center frequency. Can change width from bell-shaped to narrow notch.
- **High Shelf**: either boosts or reduces gain above a specific frequency.
- **Low Pass**: reduces frequencies above a certain frequency. AKA high cut.
- Can also isolate various frequencies with q10, etc.

**Compressors**
- Rides the volume of a signal, keeping it within a pre-determined dynamic range. Leveling out peaks and valleys.
- **Threshold**: Signals that exceed this level will be compressed. Signals that are below it will be unaffected. A level setting of 0 dB is equivalent to no compression.
- **Ratio**: Sets the compression ratio. The range is based on decibels above the threshold. For example, if this is set to 2:1, it will compress changes in signals above the threshold by one-half.
- **Attack and Release**: the compressor’s ‘grip’ on the signal; how long it activates and de-activates the attenuation on the signal.

**Limiters**
- Variation of a compressor; acts only on signals above a certain threshold. Prevents signal peaks.
- **Reduction**: Indicates the amount by which the signal is being attenuated.
- **Threshold**: Sets the threshold level. Signals that exceed this level will be limited. Signals that are below it will be unaffected.
- **Attack and Release**: the limiter’s ‘grip’ on the signal; how long it activates and de-activates the attenuation on the signal.

**Expander/Gate**
- reduces noise by decreasing the gain of signals that fall below a user-selectable threshold. AKA “noise gate”
- **Threshold**: Sets the threshold level. Signals that fall below the threshold will be reduced in gain. Signals that are above it will be unaffected.
- **Ratio**: Sets the amount of expansion. For example, if this is set to 2:1, it will lower signals below the threshold by one half. At higher ratio levels (such as 30:1 or 40:1) the Expander/Gate functions like a gate by reducing lower level signals much more dramatically.
- **Range**: how much will volume be reduced.
- **Key HPF/LPF**: high pass and low pass filters can be added.
| **DeEsser** |  
|---------------|--------------------------------------------------|
| • reduces sibilance (“s,” “sh,” and “t” sounds) and other high frequency noises that can occur in vocals, voice-overs, and wind instruments such as flutes. | • Reduction: Indicates the amount of gain reduction in dB. It remains at 0 dB level when the input signal is below the threshold.  
• Threshold: Signals that exceed this level will be compressed. Signals that are below it will be unaffected. A setting of 0 dB is equivalent to no de-essing.  
• Frequency: Sets the frequency band in which the DeEsser operates. Frequencies in the specified range will be gain reduced. To find the optimum frequency setting, sweep this control back and forth during audio playback. |
| **Pitch shift** |  
| • Changes frequency of signal as happens with slowing down or speeding up the signal; may or may not compensate for time duration change. | • Ratio: amount of pitch change. More than 1 is faster/higher; less than 1 is slower/lower.  
• Big changes with coarse, small changes with fine.  
• Choose time correction box if you want duration/pacing to stay the same, but just the pitch to increase/decrease. Otherwise it will slow down/speed up the sound. |
| **D-verb** |  
| • Places the signal in different ‘rooms’  
• Mix: how much of the signal you want affected.  
• Diffusion: airiness/looseness of the signal. High settings result in high initial build-up of echo density. Low settings cause low initial buildup.  
• Decay: how long does each element persist. How echoey. | **True verb**  
• Basically creating the model of the sound envelope  
| **Normalize** |  
| • boosts the highest level of the waveform to the maximum amplitude of the system, short of clipping, and then raises the rest of the signal by the same proportion. This maximizes resolution and minimizes certain types of noise. | **Gain**  
• Boosts or lowers the amplitude of a signal by a specific amount. Does not take into consideration the total dynamic range like normalize.  
| **Delay** |  
| • Like singing in rounds  
• Should create discreet echoes | **Modulation**  
• Chorus adds a pitch-shifted, time-delayed copy of the audio signal to itself.  
• Flanger adds a time-delayed copy of the audio signal to itself.  
• Wetness: The output of an effects device is 100% wet when only the output of the processor itself is being heard, with none of the dry (unprocessed) signal.  
• Change Feedback on right side = robot-like voice. |