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2.1

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2.2

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Metropolitan Hyattville, MD (<http://www.praizevision.com>)

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Olivet Camden, New Jersey (<http://churchpond.com>) Pine

Forge Church, Pine Forge, PA (<http://www.ustream.tv/channel/pine-forge-sda-church>)

Sharon Church, Baltimore, MD (<http://www.praizevision.com>)

Willow Grove PA (<http://www.ustream.tv/channel/willow-grove-sabbath-service>)

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Equalization to Make it Pop!

By Loren Griffin

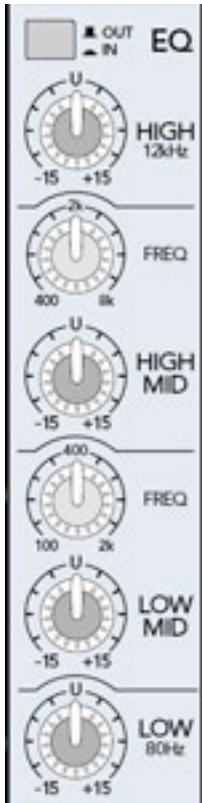
What I will be sharing today is what I teach to the Audio Techs at Rock Community Church (my home church) as well as to other techs during training seminars. While there are many things to know and understand probably the most basic and many times truly least understood is Equalization, aka EQ. I have heard it said that EQ is just basically a glorified set of tone controls. While that may be true, understanding it can make all the difference in the world. There are various types of EQ which include Graphic EQ, Parametric EQ, Frequency Filters, Shelving EQ, Peak EQ, Band Pass, and you will find various combinations working together in many audio systems. In this article I will only be giving an entry point to the whole subject and I will continue to visit it time and time again. I think that with time you will see that the various types of EQ also relate to other subjects involved in being a good audio engineer and I will be addressing the various types and techniques in a context and relevant manner as we go along.

The title of the article is "Equalization to Make it Pop!" and while there will be times you will use EQ to minimize the popping sounds in a mix, what I am referring to is making things POP out in the mix. Have you ever had a time where it seems everything is really LOUD!! But nothing was clear and when you tried to make the worship leader louder, all you got was feedback? The typical solution I have seen people do is cut (reduce) high frequencies and in doing so make vocals sound like you are covering

your mouth with your hands while you sing or talk, kind of a muffled sound results ...Not Cool. So let's take a look at a typical channel strip EQ section.

This particular example shows a high mid and a low mid sweep type of EQ. What the sweep means is that you can sweep (or dial in) to a specific frequency and then cut or add gain to that frequency. The other two are what are known as shelving EQ controls. Today we are going to focus on the sweep and how to apply it, I'll touch the other type briefly in the application process. You will find a Frequency Chart at the end of this article to help you know how to choose frequency to dial in [the process of choosing the proper frequency and cutting or boosting as needed]. In the example you'll notice everything is set to a Neutral position. For our practical application what we will do is from Neutral we will dial in a female voice. And from the chart we see that it is in the range of 5k – 8k. We will say this lady likes to sing high and she needs help cutting through so we are going to start by dialing in closest to the 5k and know have her speak or if she is willing to sing a cappella all the better.

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But using small movements add a little gain in that frequency range. There will be a point that her voice will seem to POP. Like seasoning there is a reason to add just a little at a time as too much can ruin the taste and not enough makes no difference anyway, so the goal is to listen for the POP point then if she needs a bit of warmth again with small movements add a bit of LOW. I know this is brief but it is my experience that a little at a time goes a long way and I will continue to open more and more regarding EQing techniques. In the mean time I welcome your questions. Please send me an email and let me know how I can help you further and it will also help me know what will be the best way to address things going forward in these articles.

Peace and Favor to you all in Christ Jesus

FREQ.:	USES:
50 Hz	<ol style="list-style-type: none"> 1. Increase to add more fullness to lowest frequency instruments, like foot, floor tom, bass. 2. Reduce to decrease boom of the bass and will increase overtones and the recognition of the bass line in the mix. This is most often used on loud bass lines like rock.
100 Hz	<ol style="list-style-type: none"> 1. Increase to add a harder bass sound to lowest frequency instruments. 2. Increase to add fullness to guitars, snare. 3. Increase to add warmth to piano and horns. 4. Reduce to remove boom on guitars & to increase clarity.
200 Hz	<ol style="list-style-type: none"> 1. Increase to add fullness to vocals. 2. Increase to add fullness to snare and guitar (harder sound). 3. Reduce to decrease muddiness of vocals or mid-range instruments. 4. Reduce to decrease gong sound of cymbals
400 Hz	<ol style="list-style-type: none"> 1. Increase to add clarity to bass lines especially when speakers are at low volume. 2. Reduce to decrease "cardboard" sound of lower drums (foot and toms). 3. Reduce to decrease ambience on cymbals
800 Hz	<ol style="list-style-type: none"> 1. Increase for clarity and "punch" of bass. 2. Reduce to remove "cheap" sound of guitars.
1.5 KHz	<ol style="list-style-type: none"> 1. Increase for "clarity" and "pluck" of bass. 2. Reduce to remove dullness of guitars.
3 KHz	<ol style="list-style-type: none"> 1. Increase for more "pluck" of bass. 2. Increase for more attack of electric/acoustic guitar. 3. Increase for more attack on low piano parts. 4. Increase for more clarity/hardness on voice. 5. Reduce to increase breathy, soft sound on background vocals. 6. Reduce to disguise out-of-tune vocals/guitars.
5 KHz	<ol style="list-style-type: none"> 1. Increase for vocal presence. 2. Increase for low frequency drum attack (foot/toms). 3. Increase for more "finger sound" on bass. 4. Increase for more attack of piano, acoustic guitar and brightness on guitars (especially rock guitars). 5. Reduce to make background parts more distant. 6. Reduce to soften "thin" guitar.
7 KHz	<ol style="list-style-type: none"> 1. Increase to add attack on low frequency drums (more metallic sound). 2. Increase to add attack to percussion instruments. 3. Increase on dull singer. 4. Increase for more "finger sound" on acoustic bass 5. Increase to add sharpness to synthesizers, rock guitars, acoustic guitar and piano. 6. Reduce to decrease "s" sound on singers.
10 KHz	<ol style="list-style-type: none"> 1. Increase to brighten vocals. 2. Increase for "light brightness" in acoustic guitar and piano. 3. Increase for hardness on cymbals. 4. Reduce to decrease "s" sounds on singers.
15 KHz	<ol style="list-style-type: none"> 1. Increase to brighten vocals (breath sound) 2. Increase to brighten cymbals, string instruments and flutes. 3. Increase to make sampled synthesizer sound more real.