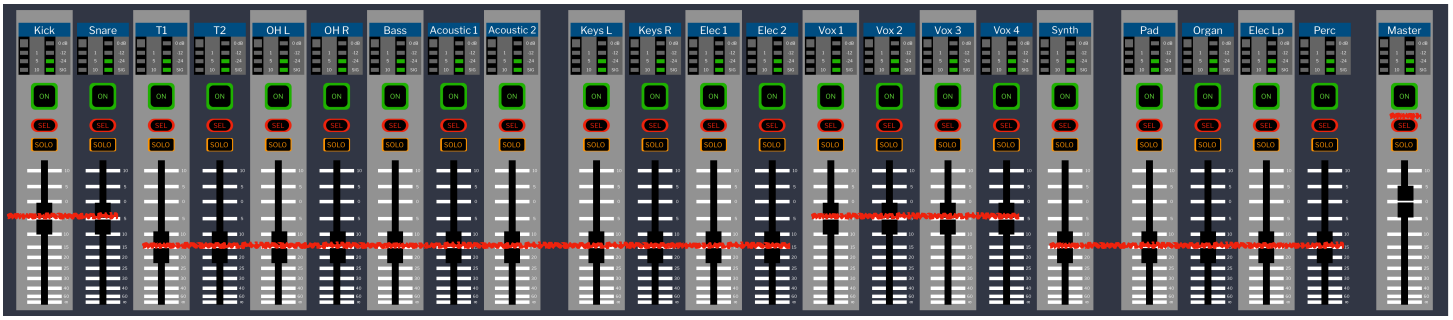
RBC | TECH
MIX METHODOLOGY

Setup

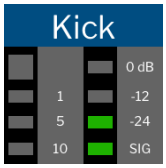
At RBC we start with a **standard fader setup** to help create a consistent starting position. It follows a very basic method that puts out two most instrument important groups in the forefront: Rhythm (Kick & Snare) and our Melody (Vocals).

- 0: Master Fader
- -5: Kick, Snare, Vocal 1, Vocal 2, Vocal 3, Vocal 4
- -15: Every other instrument



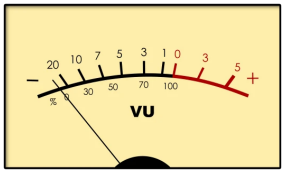
Our next step is to set our gain structure. The name of the game here is “headroom”. You do this during sound check, but it is common for a musician to not actually give you a proper sound check, so during the first song your ONLY focus should be to get your gain set to -24dBfs. Why -24dBfs, let's explain.

dB or “Decibels” is a generic term for how we measure sound. In fact many subclasses of dB are used to measure sound and it is important we are aware of them because they often don’t mean the same thing. For instance, we measure the volume in the room that measures dB SPL (Sound Pressure Level). If I looked at the sound board and my meter read -24, but my SPL meter read 89, they are both reading dB. One is just reading dBfs and the other dB SPL.

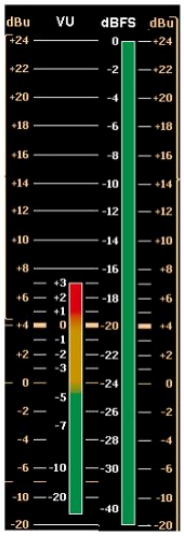


On our digital console, the SI Impact, our digital meters read in dBfs (Full Scale) which is the digital reading of the amount of signal in our system. Out meters read SIG (Signal), -24 (dBfs), -12 (dBfs), and 0 dB (dBfs). The reason we set our peak signal to -24 dBfs is actually based on older analog gear that used dBvu (Volume Units) meters.

In gear that used a VU meter, which measured the amount of signal in an analog system, not digital, the goal was to get to about 3 dBvu, in order to “keep it out of the Red”



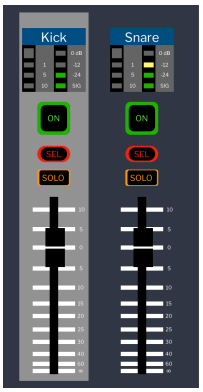
which would introduce distortion into the system. Sometimes they would want that sound breakup for style, but not often.



If we tried to hit -3dBfs, which is close to our 0 dBfs, we would be darn near clipping which sounds awful in our world! In order to convert dBvu to dBfs we need to find two points that we can compare, which is the same issue they had when analog recording first moved into the digital realm in the 80's. As the chart shows you can equate 0 dBvu to around -20 dBfs.

So, if we want to be at the -3 dBvu, which was the analog sweet spot "back in the day", we are actually looking at somewhere between -24 dBfs and -22 dBfs. Because our specific console can measure -24 dBfs on our display, that is what we chose as our global target.

The next reason why we make sure our peak is at -24 dBfs across all channels is to make the relationship between faders correct. If you have a channel (Kick) at -24 dBfs and a channel (Snare) at -12 dBfs then even if the fader is in the same spot the snare channel will sound MUCH louder in the system. This allows us to mix more actually and serves another purpose as well.



Gain is defined as "the amount of signal within a given system". That means the WHOLE system, including our worship teams in ear system. When our gain is not uniform on our console, it also affects the personal mixing systems our worship team uses.

With our setup set we can begin mixing.

Mix - Foundation

The instruments we mix first are our foundational instruments. I will give this **warning**: *If you do not get your foundation right, your mix will never be right*. Our actions here impact every decision we make during the mixing process as everything mix decision is measured against the foundational instruments. Our foundation is broken down into really 4 instruments: Kick, Snare, Bass, and Vocals.

Kick and snare make up our rhythm and the vocals make up our melody. It's incredibly important to our foundation that you can clearly hear the kick and snare in the main speakers. Rhythm and melody are the two most important aspects when it comes to like music. You can't feel the beat if you don't have rhythm and you can't sing along if you don't know the melody. But why Bass?

Bass gives tone to our kick. In most music, the bass and the kick as locked in, giving depth, fullness, and tone to our kick drum. The bass is also the primary source of our "low end", which is your don't have your mix will be massively thin. Do **NOT** skimp out on the bass.

Based on our standard starting mix, assuming gain stage is equal, your kick, snare, and vocals "should" be relatively equal in volume. If you need more kick or snare, close your eyes and listen first before touching a fader. If you still think you need more, then adjust it in relationship with the vocals. Once kick and snare are done, move to the bass. Mix it in relationship with both the kick, which is its companion, and the vocals.

Mix - Drum kit

With your foundation set, we need to mix in the rest of the kit. Your goal here is to have your toms loud enough that you hear them when struct and clearly hear them out of your main speakers, but not loud enough that the ride cymbal or crash cymbal come through the tom mics. Using a Gate can help with that, but for now I want to focus on the mixing principle. It is tricky. Most modern worship uses toms on a very regular basis so it should be a focus.

Next, be careful with your Overheads. They serve 2 purposes: mic the cymbals for high end fullness and mic the drum set as a whole from…overhead (hence the name). These channels will fill out the rest of your drum sound and make it sound a bit more natural and less disjointed. But, it will introduce a TON of high end in your mix that will not let you mix to our 89 dB SPL without ripping people's heads off (maybe more on that later). Just be careful, these mics are helpful but can be a hinderance.

Mix - Acoustic

Within the RBC methodology, the acoustic holds more of a rhythmic role than a tonal one. More often than not in modern worship music the acoustic does FAR more strumming than anything. Your goal here when mixing is to hear less of the "tone" of the acoustic, but more the "strumming" of the acoustic. Please ensure that the acoustic is not all high end when strumming, you still want tonality or else your acoustic will sound incredibly thin.

Listen to how it interacts with the drums and the bass. It is possible to have too much acoustic and it has the possibility of ruining a mix. It will finish out your rhythm section which is why you want to spend a whole section of mixing and evaluation on it.

Mix - Style

Style is where subjectivity comes into play. Once your foundation is set and your acoustic is in the correct place you can now start filling out your mix with electric guitar and keys. The hard line **RULE** is thus: *make sure everything can be clearly heard*. We do NOT bury electric guitar because we may not like it, we will however lower it in our mix if electric

does not make sense as a main instrument. Regardless of song, musical style, preference, ect. These instruments should and will be able to be heard, even if it is a loop.

With that out of the way, lets discuss these instruments. Both electric guitar and keys (meaning Piano, Organ, Synth, Pad, Arps, etc) play a major role in our the overall song feels. For example, if a song needs to sound more “somber”, a nicely placed piano will get you there. If you want a song to sound more aggressive, a hot electric guitar will fill that role. Missing fullness? Look at your pads, or maybe your rhythm electric. These instruments fill so many roles and can be used in a ton of ways to craft your mix.

Each song is different in how it uses these instruments. It is imperative you have some knowledge of the song and what instrument is used to drive certain parts. We have many resources to accomplish this but the BEST would be Prime. You can isolate parts and hear exactly what each one is doing. Band Maps in PCO also provide a complimentary function to Prime as it grids out the Prime track and gives you a overview what instruments are carrying what parts.