Section 1.01   Sound Waves & Frequencies

(a) Frequencies (Highs, Mids, Lows)

(i) Highs – High Pitch: Violins, Flutes, Piano's high notes, Guitar's high notes, etc.

  a) Too much of the highs => piercing, crunching paper sound.

(ii) Mids – Mid-Range Pitch: Regular Guitar notes, mid-range piano notes (most of the piano notes), viola, cello, saxophone, trumpet, the majority of the human's voices, etc.

  a) Too much of the mids => too strong, punching, attacking your ear, not very pleasant, etc.

(iii) Lows – Low Pitch: Bass Guitar, lowest piano notes, Orchestra's Tuba and Bass, etc.

  a) Too much lows => muddy, muffled, not clear, overpowers the mids and high

(b) Frequencies Breakdown

(i) Human Ear can hear from 20 Hz to 20,000 Hz

(ii) Highs = 4,000 – 20,000 Hz

(iii) Mids = 400 – 4,000 Hz

(iv) Lows = 20 – 400

(v) Deeper breakdown with the terminology on the mixer:
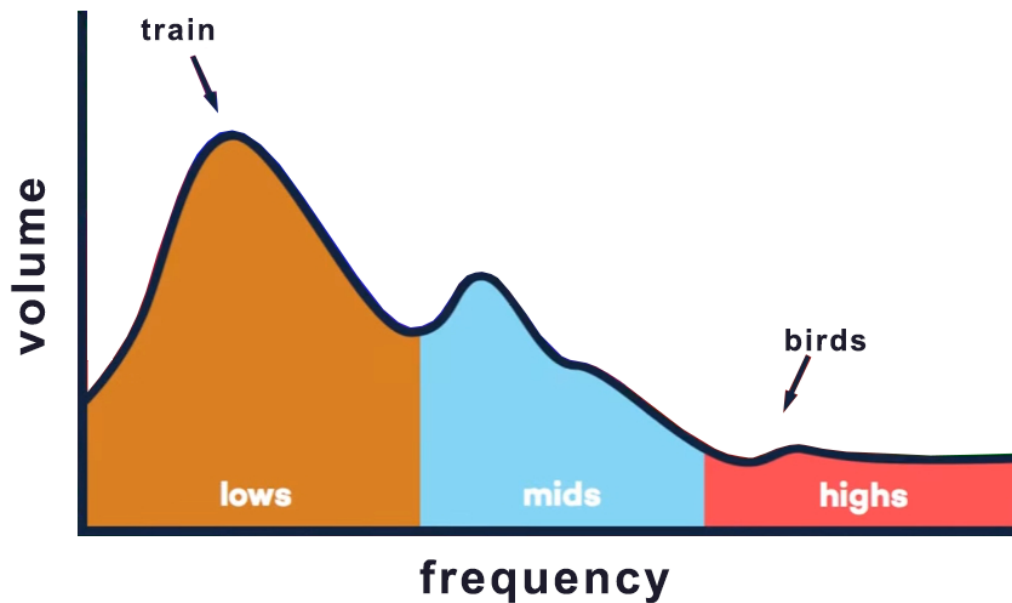
  a) Treble = 4,000 – 20,000 Hz

  b) Upper Mids = 900 – 4,000 Hz

  c) Lower Mids = 400 – 900 Hz

  d) Mid Bass = 200 – 400Hz

  e) Bass = 50 – 200 Hz

  f) Sub-Bass = 15 – 50 Hz

(c) Examples – live on Acoustic Guitar and Microphone.

Section 1.02	**Levels Guidelines**

(a) Monitors on the stage – just a little bit of sound of your instrument/voice in each of them (or most of them), and more of the sound in the ones you're facing or hearing.

(b) Sound Structure.

  (i) **Stage** – gets tuned up according to the players/singers' recommendations

 (ii) Sanctuary – the sound person decides but **ALWAYS** keeps the following structure in mind:

     i. **First Place (the loudest)** – Main Voice (Song leader who leads the song vocally) – this should be above all, but not very loud compared to the rest of the band

    ii. **Second Place (lower than the loudest)** – Backup Vocals – this should be lower than the main voice, but louder than the rest of the band

   iii. **Third Place (the lowest)** – all the instruments very well balanced – this should be lower than the main voice and the backup vocals, but every instrument should be heard at all times. There are exceptions when an instrument goes louder for a while just when that instrument has a solo part dedicated for it.

(iii) **Online** – the sound person decides but **ALWAYS** keeps the above structure in mind without exceptions.

(c) Microphones – they get adjusted depending on the person singing in them.

    a) If the person has a lot of lows in the voice, then adjust the microphone with some extra highs and mids making it sound natural and clear.

    b) If the person has a lot of highs in the voice, then help that with some mids and lows to make it sound full, strong and clear.

Section 1.03   Sound Setup Guidelines

(a) Best practice is to remember the settings for each player and singer – if the mixer doesn't have the memory option, then take pictures of them for your record when you're pleased with the settings for future reference.

(b) Use the 2-hour practice to get all the settings right – on the stage, sanctuary & online. Remember who is leading or if the leader changes and what song you have to adjust the levels, etc.

(c) Create a main folder with their settings and label everything – this is for future reference and quick adjustment from the hours previously spent on setting the instruments/voices up.

(d) Create tutorials for how to do sound, record, stream, etc.

Section 1.04   Online Resources

(a) **Get songs with chords that are placed in the right locations –** put the extra effort and go through the songs you get from the internet and adjust the chords to fall exactly when they should be changed – use "Courier New" font which has all the letters and numbers with the same width, making your work a lot easier.

(b) **Print the online songs in such a way that you can see the chords clearly –** if the chords cannot be seen very well, then create a word document with the song and make the chords bigger and bold.

(c) **Take notes of your keys for your own songs (leaders) –** make sure you know exactly what key you'll sing the song in and print that song with the right key.

Section 1.05   Songs and words

(a) **No lies, nothing that doesn't apply to sons –** if the song has an amazing melody but the words are not quite there, just fix the words and do the song

(b) **No separations of any kind between us and the Lord –** if the words express any separation between the Lord and us, that is sin and it should be corrected without questioning

(c) **ALWAYS, ALWAYS, the words of the songs should have the SPIRIT / the SON identity first then anything else –** for example if the song is praising the Lord from the soul's perspective without the identity of being a son/spirit first and foremost, then it should be adjusted and corrected, because every other generation did that before this last generation of sons which is different.