414 in Fig 8

Filename: 414Fig8_0

Qualitative Evaluation:

This recording sounds the clearest out of the four other files. There is a comfortable amount of bass and treble and sounds present. The drums and bass are punchy and have clear articulation and intelligibility.

Quantitative Evaluation:

Spectrally, the source captured retains low end information below 50Hz and retains high end information up to 20kHz. There are no significant boosts across the frequency spectrum and transient information is not lost in this position. The room sound is not exaggerated in this mic position.

Filename: 414Fig8_45

Qualitative Evaluation:

This recording sounds boxier than the others but still keeps the punch of the drums intact relatively well. It sounds less present and has less treble than the previous recording. The bass also has less energy and intelligibility and blends more with where the guitar sits in this position. Overall, this position gives the sound source a more low fidelity feel to it in comparison to the first recording.

Quantitative Evaluation:

The most noticeable characteristic of this recording is the dip in high end information at 19kHz. The room sound is also more noticeable in this recording which seems to resonate somewhere

around 500Hz. The transients of the drums are diminished compared to the previous recording and bass intelligibility around 600Hz is lost in this.

Filename: 414Fig8_90

Qualitative Evaluation:

This recording sounds like it was recorded in another room or away from the source. The drums and bass have significantly less umph than the other recordings. The overall recording has less detail and intelligibility.

Quantitative Evaluation:

This recording has a scoop at around 70Hz which takes away the body of the bass and punch of the kick drum. There is a resonance introduced at around 3kHz that rings with the snare. This recording has an even more apparent loss of high-end information dipping down at 15kHz.

Filename: 414Fig8_180

Qualitative Evaluation:

This recording sounds very similar to the first recording. The bass sounds slightly louder but clear. The drums also have punch similar to the first recording. The overall quality sounds good.

Quantitative Evaluation:

In this recording I noticed that there was bass information below 50Hz. The high-end content at 10kHz sounds lower in amplitude than the first recording. The transient information is retained in this recording similarly to the first recording.

414 in HC

Filename: 414HC_0

Qualitative Evaluation:

This recording sounds full with a comfortable amount of bass and treble. The instruments are clear and sound like they all have their own spot. The high frequencies sound more detailed than the Fig 8 setting.

Quantitative Evaluation:

There is low end information going down to 30Hz in this recording. There is also high end information going up to 20kHz on the analyzer. There are no significant boosts or dips in amplitude across the frequency spectrum.

Filename: 414HC_45

Qualitative Evaluation:

This recording sounds more boxy and less present than the last one. The bass still gets deep but it is missing some of its body. The higher frequencies are audible but quieter than the last recording. The boxy sound is very apparent with the snare hits.

Quantitative Evaluation:

There is a boost in bass around 50Hz and a bass roll-off at 30Hz. The high frequencies have a dip in amplitude at 10kHz. There is a resonance at 950Hz that is introduced at this mic configuration. The peak level of this recording is -8.0 dB.

Filename: 414HC_90

Qualitative Evaluation:

This recording sounds thin and ringy. The guitar has a weird ringing to it and the bass and drums are not as present. The bass is less loud and the high end is less present. There is a telephone-like quality to the recording.

Quantitative Evaluation:

There is a resonant ringing at 930Hz. There is another inconsistent resonant frequency at 3.1 kHz that only can be heard when the snare is hit hard enough. There is an obvious roll-off in bass frequencies at 50Hz and a subtle high roll-off at 18kHz. The peak level of this recording is -12.7 dB.

Filename: 414HC_180

Qualitative Evaluation:

This recording sounds the thinnest and has a lack in bass and body. The snare sounds tinny and not present. The overall quality of sound is low and roomy.

Quantitative Evaluation:

The ringing around 900Hz is less apparent. The 3.1kHz resonance is more exaggerated in this recording. The bass roll-off begins at 70Hz. The peak amplitude of this recording is -11.9 dB.

SM57

Filename: SM57_0

Qualitative Evaluation:

This recording has a more harsh and nasally tone. The bass and kick sound thin and lack foundation. There is a buzzy noise that is most noticeable at the beginning.

Quantitative Evaluation:

The recording has a boost in amplitude at 1.6 kHz and has a boost in amplitude at 100 Hz. The peak level for this recording is -7.5 dB. There is a slight ringing that can be heard in the guitar at 880 Hz.

Filename: SM57_45

Qualitative Evaluation:

There is a ringing sound that accompanies the guitar that is very obvious. This recording is less harsh than the on-axis recording but has sounds more telephone like characteristics. The cymbals are also a lot less harsh.

Quantitative Evaluation:

There is a resonant ring at 1.6 kHz and 922 Hz that is apparent in the frequency range the guitar sits at. There is also an inaudible resonance above 20 kHz that can be seen in the spectrograph. The low frequencies roll-off around 60 Hz. The peak level for this recording is -9.8 dB.

Filename: SM57_90

Qualitative Evaluation:

The buzzing is most apparent in this recording. Ringing from the guitar is still present as well. Bass and treble have a lot less energy. The middle frequencies where the guitar sits are most prominent.

Quantitative Evaluation:

At 930 Hz there is still a ringing that can be heard. At 1.8 kHz there is a wide boost in amplitude. The peak level I recorded this recording at was -13.7 dB. Information below 40 Hz is nearly inaudible.

Filename: SM57_180

Qualitative Evaluation:

This recording sounds like it was recorded far away from the source. It is the thinnest of the four examples. The bass blends in with the guitar and the kick and snare sound weak. Ringing is not very noticeable in this recording.

Quantitative Evaluation:

The frequencies at 240 Hz are scooped out in amplitude. There are no real noticeable resonances unlike the previous examples. The peak level is -20.6 dB.

SM81

Filename: SM81_0

Qualitative Evaluation:

The overall recording sounds full and has nice sounding bass and detailed high end. The guitar sounds clear and faithful to the original source. The kick drum is punchy and sounds crisp.

Quantitative Evaluation:

The peak level of this recording is -8.5 dB. The overall frequency response is well balanced. At 50 Hz, there is a boost in amplitude. There are no unpleasant resonances throughout the frequency spectrum.

Filename: SM81_45

Qualitative Evaluation:

The overall sound quality sounds diminished and thinner. There is no apparent ringing in this recording. The low bass is much quieter in this recording position. The high frequencies are also quieter in this. The guitar sounds boxier than the other example.

Quantitative Evaluation:

At 850 Hz there is an emphasis on the guitars which adds a nasally or boxy quality. The punch of the kick drum is still intact at 50 Hz while the bass guitar sits more around 100 Hz. The peak level of this recording is -11.2.

Filename: SM81_90

Qualitative Evaluation:

The clarity of the bass is even more diminished in this recording. The only more resonant harsh frequencies sit where the guitar is. The source is sounding less like the original and more like the room it is being recorded in.

Quantitative Evaluation:

At 1.2 kHz there is a boost in amplitude which exaggerates the frequencies that the guitar creates. The high frequencies roll off at 19 kHz and the low frequencies roll off around 40 Hz. The peak level of this recording is -15.6 dB.

Filename: SM81_180

Qualitative Evaluation:

This recording sounds more bassy and open. There are no harsh frequencies being exaggerated. The room sound is obvious in this recording. The kick and bass sound very boomy compared to the other recordings. Although not practical, the sound is pleasant but not faithful to the original source.

Quantitative Evaluation:

Frequencies below 50 Hz are much louder in amplitude. Between 800 Hz and 2 kHz is lower in amplitude as if it was scooped out in frequencies. The bass sits at 100 Hz and is higher in amplitude than the other frequencies. The frequency response of this 180 degrees off axis recording has a peak volume of -7.4 dB.