Critical Listening - Basic Exercises

An often overlooked facet of audio engineering is the most important - the ability to listen...

The art of critical listening is often ignored by many beginners, but it is a vital tool that will hugely increase your capabilities across the sound engineering spectrum. Learning to listen is like working out at the gym - it is a skill that must be developed through regular practice.

First things first, you need to start listening to audio objectively. You need to dispense with all thoughts about whether the music is 'good', 'phat' or 'wack' and focus only on the facts that are in front of you.

When listening to audio we should start to identify certain criteria which can be used to help our critical listening. The obvious criteria are;

- Instruments Used
- Panorama (left, centre right etc)
- Depth (front, back etc)
- Dynamics (levels)
- Frequencies (bass, mid, treble etc)
- Effects (reverb, delay, chorus etc)

A good way to start practicing is listening to commercial recordings from many different genres and apply the above criteria to the recordings. Pick out every instrument that you can hear in the mix (this can take several listens), write them down if necessary, and then for each instrument try to identify how it fits in with the other criteria. So for instance pick the acoustic guitar and then identify where it is in the soundstage (i.e. left and near the back), how loud it is compared to other instruments, what frequencies it is most prominent in and if there are any effects on it.

It's also worthwhile spending some extra time listening to albums on good quality headphones as these can often reveal nuances that are lost over standard speakers and can make it easier to pick out details like the length of reverb tails.

Another good exercise for your ears is to use ear training software that helps you to develop your frequency recognition. Simple Feedback Trainer is a popular choice of free software for this purpose and will certainly, if used regularly, hone your listening

skills. Although this is primarily aimed at live engineers to aid the quick identification and removal of frequencies that are feeding back, it is useful for all engineers to have a modicum of ability in this area. You'll often hear people talking about a 'muddy', 'bright' or 'boxy' sound, and these descriptions usually refer to particular frequency ranges.

As you become more accomplished you will find yourself rising above this level and start to analyze with greater detail. You should soon get to the level where you can differentiate between signals that have been recorded with a DI and signals that have been recorded with a microphone. Acoustic guitars are an obvious example - the 'brittle' sound of piezo pickups differ greatly from the 'warmer' sound produced by placing a microphone in front of the guitar.

If you are lucky enough to record lots of musicians then you will start making more correlations between the equipment used and the sounds that are being produced, for instance the difference in sound between single coil pickups and humbuckers on electric guitars. If you don't have access to lots of musicians with equipment then you can, with some research on the instruments used, train yourself at home. For instance Jimi Hendrix almost exclusively used single coil pickups for instance on his early albums, whilst Angus Young has used humbuckers for all of his recordings with AC/DC. A lot of information can be found on the internet about what instruments were used in particular sessions so you can to an extent self train yourself in this manner.

The more you attempt exercises like this, the quicker your listening skills will develop. The other advantage of these exercises that you will start to spot patterns in the way some instruments are treated, particularly within certain genres. You can almost view this as expanding your audio vocabulary. There are certainly lots of little 'tricks' and 'rules of thumb' that you will start to notice. When you start hearing these methods you will find it easier to implement them into your own productions.

Source: http://www.co-bw.com/Audio_Critical_Listening_Basics.htm