Learning to Listen.

An iFi audio Guide to Critical Listening

At iFi audio, we believe in the power of music – its ability to energise, inspire, and unlock a wellspring of emotions that, sometimes, might not be reached any other way. We understand that music is one of the most deeply personal things in this world, and we would never wish for this to change, as the art of music is all the better for it.

Everything we do at iFi audio is in service of this deeply personal, indescribable connection that we all share to our own favourite music – every technical or design decision made during development is ultimately in service of sound quality, emotional connection, and the bond between the two.

Because of how personal this is to each of us at iFi audio, and each of our users, we're encouraging listeners to find their own favourite test tracks, as this is a great way to examine how your iFi device can break down the barrier between you and your music, bringing you closer to the intent of the artist and allowing you to fall in love with your music all over again. To help each listener on their journey, we've developed a guide that can assist with knowing what to listen for, and how to choose the songs from among your favourites that will bring this to the forefront.

Selecting Your Songs

First and foremost, we'd recommend you pick songs you're very familiar with, so you can examine the details carefully, as these will help you to hear what your iFi audio device brings to your listening experience. Examining these details will only really work effectively if you know what details you're listening for, or are familiar enough to understand where a new detail has been revealed – the light shimmer of a brush against a snare drum, the gentle tapping as fingers find their place on a guitar's fretboard, even a musician adjusting their watch. These moments of discovery can only be truly impactful in songs you know.

Next, we would note that, as might be expected, songs with good production value tend to work best. While anything you listen to should be notably improved, the impact of that difference will be drawn into sharper relief if there is a rich, detailed, dynamic source recording to work from. This is the part that may require a little more trial and error to find what's going to work best for you, so don't worry if it takes a little time to find the tracks that really stand out for you.

If you're wondering whether it's a better choice to select older or newer music, there is some nuance to this. Older recordings may require more careful selection, as it was only during the mid-to-late 1960s that recording studios began to widely adopt more modern studio concepts, such as multitrack recording, isolation booths and sound dampening. Likewise, some of the very latest pop music in your library may also require more careful selection, as much of the recording industry has adjusted to listening trends that lean towards listening in-car or from phone speakers, resulting in a saturated, highly compressed sound that often attempts to bring everything forward at once. Again, this is not universal, but may require some trial-and-error to find the artists and engineers who are bucking this trend and giving the music room to breathe.

Finally, please let us assure you that our guidance is intended to aid your understanding of how to listen, and is not an instruction on which genres or artists you should or shouldn't utilise – if you experiment using the principles we've outlined, we're confident you'll find your own favourite test tracks, no matter the genre.

Soundstage

Soundstage is often one of the first and most obvious improvements that can be felt when upgrading your audio setup, and is an essential component of feeling that tangible connection to the music you're listening to. In short, it represents the imagined space that the instruments playing occupies. Upgrading your audio setup can often widen this perceived soundstage, creating a greater sense of immersion, and a greater sense of being 'in the room' with the performance.

Shut your eyes and listen carefully to one of your favourite songs. Now, as you listen, imagine that the song is being performed live in front of you, and try to build the mental image of where your ears are telling you the sounds are positioned. Before long, you should find yourself being able to perceive the position of where each player is on stage, based on where they are sitting within the mix of the song. Some of this is built into the music itself, while some is about your ear and brain's natural intuition for placing the things it hears.

To examine the soundstage, we recommend listening to instrument-based music, typically with a wide variety of instruments, and ideally where the production pans

certain instruments more strongly towards the left or right channel, as this will help your ear to determine more easily how wide that perceived space is. However, depending on how the production has been handled, many EDM records can create this same perceived space using a mixture of synth effects, percussion, and so on.

Instrument Separation

Instrument separation refers to the audible definition of each specific instrument in the mix – your ability to hear what each instrument is playing, or not playing, at any given moment. While not the same as soundstage, these two are strongly linked, as an improved soundstage makes it easier to perceive instrument separation, and being able to clearly hear each instrument within a song helps your ear and brain to build the perception of soundstage.

Once again, shut your eyes while listening to one of your favourite songs, and listen carefully to what each instrument is doing. Can you identify it and separate it from everything else within the song? For rock music, this will often involve separating two guitar players from one another so you can hear what each is doing. On a larger scale, this can be found by listening carefully to each player within the brass section of a soul band, or the various instruments contributing to a bold orchestral piece.

Instrument separation is again most clearly identified in songs with a wide variety of instruments (such as jazz and orchestral music, or other music with brass sections, string sections, etc.), as the variety gives your ear a number of distinct tonal signatures to identify, making it easier to examine the fine details of what each player is doing.

Detail

Detail is perhaps one of the simplest aspects of critical listening to understand, but this doesn't make its effect any less potent. Indeed, detail is at the heart of hi-res listening - the retrieval of each little subtle nuance in the music, be it the rasp of rattling strings, the breath a hip-hop artist takes between bars, or the buzz of a sawtooth wave from a synthesizer.

Detail retrieval tends to be quite self-evident when listening, but for those looking for a little additional guidance, try to listen carefully to what happens as a song becomes more musically dense and layered. With a good setup, the music should not become muddied or unclear, and instead each layer of the music should be clearly defined, whether that's each instrument in a band, or multiple synth and percussion layers building an EDM song.

Detail is by far the most genre agnostic aspect of critical listening, but it's also where familiarity with the song will be most beneficial. Listeners who have upgraded their setup, especially those new to hi-res listening, often report hearing entirely new parts of the music that hadn't been revealed to them before, even with songs they've been listening to for years.

Dynamics

In its simplest sense, dynamics are the way we discuss the difference in volume between louder and quieter parts as a song is playing. This is an important component of conveying emotion and impact in music, as it creates the space for periods of quiet, and for music to build to emotional peaks – the greater the dynamic range, the more effectively these emotional peaks are conveyed. This is why the crescendo of an orchestral piece, or the drop in an EDM track, can feel so satisfying and cathartic, but dynamics are also essential for certain musical effects such as tremolo, oscillation, and gating – without good dynamics, these simply cannot hit as hard as they should.

When listening, try to pick out how noticeable any big increases or decreases in volume are – can you feel the ebb and flow of the music from moment to moment? Do quiet moments feel appropriately contrasted with the rest of the music? Do musical peaks feel big, impactful and satisfying? Additionally, play close attention to how the difference in volume between various instruments or layers of the music are handled.

Dynamics are an essential factor in all genres, but how and where to find them is not always as clear in all genres. In particular, dynamics can achieve very interesting effects in EDM music, where effects such as gating are often used to provide contrast in the moment before a drop, or to double down on the impact of a thumping beat.

Noise Floor

Noise floor refers to all unwanted background noise, interference, or other background sound introduced within a setup while listening. While there are some instances where artists may introduce an artificial noise floor for stylistic effect, such as the crackle of an old record throughout a modern recording, these are not unwanted effects, and are therefore not typically what noise floor refers to in a critical listening context. A low noise floor is essential for a clear, defined listening experience, and is essential in maximising the dynamic range we referred to previously, creating a feeling of space and atmosphere in the music.

Listen to a song that has periods of silence, where no music is being played – for the specific period of listening for the noise floor, the longer these periods the better. With a good setup, there should be no hiss, hum, interference, or any other form of noise.

Rather, all you should be able to perceive is silence – the 'inky black background' that many audiophiles refer to when discussing noise floor.

Again, keeping the noise floor low is essential for all genres, but this will be of most importance for songs and genres where there are long or frequent periods of quiet or silence – remember that, in music, there is as much impact from the notes you choose not to play as the notes you do. Acoustic or piano-focused music, songs with a single performer, and jazz music from smaller ensembles are often where the greatest benefits will be found.

Inspiring Your Listening

We hope that the guidance we've provided will help you take your first steps down the path of rediscovering the power and emotion of your favourite music all over again, and maybe even help you find a few new favourite test tracks to help you hear what your iFi device is doing to break down barriers between you and your music, and elevate your listening experience.

While we are dedicated to helping listeners rediscover their own favourites, we also understand that sometimes a little inspiration can go a long way. For that reason, we've put together a playlist that we feel provides a diverse range of exciting and engaging songs that demonstrate everything we've discussed above. Please follow the link below to our 'Songs to Inspire' listening guide playlist – you can refer to the tracks outlined below for some good examples of each feature we've outlined.

The iFi audio Listening Guide Playlist – Songs To Inspire

Soundstage

Cherry Blossom – Matthew Halsall

The lilting ensemble introduction to the song builds a soundstage which persists across the gentle movement between trumpet and piano solos, invoking true live performance.

Take Five – The Dave Brubaker Quartet

An extraordinary recording for 1959, the careful positioning of players across the soundstage creates the spaciousness of the quartet on an open stage.

Instrument Separation

September – Earth, Wind & Fire

Precise positioning and separation of instruments takes a dense arrangement that includes brass, strings and layered backing vocals, and gives each player a place.

Vivaldi: The Four Seasons, Violin Concerto in G Minor, "Summer" III. Presto – Arabella Steinbacher

Careful placement of strings creates a dynamic listening experience that bucks any sense of repetition in favour of exhilarating call and response.

Detail

Wichita Lineman – Glen Campbell

Exceptionally detailed in each moment, pay particular attention to the multiple effects invoking the electrical lines of the song's lyrics – musical storytelling at its finest.

Right In Two – Tool

Not a genre typically associated with careful definition and detail, layered percussion adds depth and tension while each guitar and bass note rings thunderous and clear.

Dynamics

How Soon Is Now? – The Smiths

The wonderfully unusual tremolo effect applied to the main rhythm guitar is a perfect example of how dynamics contribute beyond a simple sense of 'loud' and 'quiet'

Saint Saëns: Symphony No. 3 in C Minor, "Organ Symphony" III Maestoso - Allegro – Chicago Symphony Orchestra

Everything an emotional orchestral piece should be – the resounding organ chords set a tone against which the song then moves gently towards it's triumphant crescendo.

Noise Floor

Seed of a Seed – Haley Heynderickx

A noise floor so exceptionally quiet, you can even hear the fabric of the guitarist's sleeve brushing against the body of her instrument as she strums.

Sobering – Hetta Falzon

A perfect presentation of how the ‘inky black background’ can saturate us in the atmosphere of a song – just you, the artist, and the emotion they want to share with you.