



Rainbow PROFI line

Completely different. Experience music in a new way. Visually, acoustically, dynamically.

Made in Germany

Distributed in the UK by



fourcaraudio.co.uk

GETTING TECHNICAL

STAGE SHOW Part 2

Stereo image is very important to enjoyable music listening and so is depth. Read on as we go rolling in the deep!

In part 1 we looked at the width of a soundstage and discussed its importance and the challenges thrown at equipment manufacturers by car companies. Here we look at depth of soundstage, an altogether more difficult proposition.

Depth in a soundstage refers to the apparent placement of instruments and sounds from front to back. Continuing with the symphony orchestra analogy from part 1, the left to right position of an instrument is all well and good but to bring a recording to life, the soundstage also needs to have depth so that you can tell the trumpets are at the back and the strings at the front. Depth helps to define a unique place for each instrument or sound.

Achieving the illusion of depth in a recording is an important skill of the recording and balance engineer(s) although hearing it is often harder in a difficult listening environment like a car. As well as a pan control, an engineer will use level (volume) and equalisation to help listeners distinguish between instruments. However, sound engineers have other tools at their disposal in order to give the impression of depth and isolation. Dynamics are extremely important and sometimes it is necessary to limit the dynamics of an instrument using a compressor to keep it in a single point in the mix regardless of what else is going on around it. Control over effects such as reverb can also help to provide a distinct area for each sound to reside in. Depth is often very difficult to demonstrate to listeners even though its presence really lifts musical performance and certainly helps with instrument separation.

The clearest distinction between a high-resolution

digital audio file reproduced at say, 24-bit 96kHz and any other format is instrument separation. This is largely due to the additional dynamic range available. There are many critics out there claiming that you can't hear the difference as modern music only has a dynamic range of 3dB or something. This is a misgiving based on measurements of average dB levels of a recording and may also come from listening to too many low sample rate MP3 files or hanging around in poor quality online forums for too long! Sound and music can be extremely emotive subjects. There is no doubt that some have better ears than others just as it is true that some people listen more deeply than others. It is probably the case that a small number of people have no need to listen at a higher quality, as they perhaps have no emotional connection to music. Fortunately, there are many others who can be moved to extreme joy or equally extreme melancholy when listening to a particular piece of music that perhaps they haven't heard since childhood. There are also times when, on recalling and seeking out a once-loved recording, the experience is spoiled by scratches, pops and crackles from a piece of vinyl or the loud accompanying hiss of a cassette tape.

Music has always been very important in my life and I am fortunate to have had an early education that amongst other things taught me how to listen. This perhaps helps me to make the judgements I make when reviewing car audio systems. It does not explain however, how the vast majority of people I sit next to in a car at a show will express wonder at the sound that is possible in the secluded and personal environment of a car's interior.

“Just because you recognise the brand name, doesn't mean the sound will be good”



“Depth is often very difficult to demonstrate to listeners”

A top quality system in a car will offer listeners a soundstage that seems to stretch beyond the confines of the vehicle they are in. This is in terms of both width (stereo image stretching out to the edge of the wing mirrors), and depth (with instruments playing from the bonnet behind a singer standing on the top of the steering wheel). Any aftermarket car audio upgrade will offer additional width and depth to the narrow squawking mess that comes out of most factory fitted car “entertainment” systems and I’m afraid this includes many car dealer upgrades! Just because you recognise the brand name, doesn't mean the sound will be good, so do take some time to really listen in the showroom. My advice would be to avoid ticking the audio upgrade box altogether. You will do much better at a FOUR MASTER and the system can be moved to your next car! ☐

To find your local FOUR MASTER, visit www.fourmasterscaraudio.co.uk or call 0800 652 5125