copy of the plans. For larger speakers that incorporate a compression tweeter and crossover network, kits also include the crossover, Zobel woofer damper, and all cable assemblies are completed and ready to install. Every kit containing a compression driver also includes the horn flare and the bolts to mount the driver to the horn.

As for the differences between the stock and upgraded drivers, the higher-end compression driver is smoother and the upgraded midwoofer is both smoother and lower distortion. This is largely because of the use of shorting rings in the magnet structure.
Magnet structuresThe reduced distortion is measureable, but don't take this to mean there is a huge difference. It's a subtle diference, but it is audible.

One of the effects of distortion is listener fatigue. It becomes irritating, and even causes temporary tinnitus. It seems to be a function of SPL/time, in that high sound levels cause irritation fairly soon, but the same irritation can be felt at low sound levels if experienced over a longer period of time. These are my own personal observations but I have also heard comments from many other people that make me believe they experience the same things.

This is what I perceive where distortion is concerned:
1. In main speakers, lower distortion speakers tend to sound clearer to me, all other things being equal. However, the audibility is a function of SPL, and below a certain level, I cannot detect the distortion.
2. At high power level, a speaker with a little more distortion will be more fatiguing, making me want to "turn it down" much sooner than a less distorted speaker.
3. At low power levels, a speaker with a little more distortion will be more fatiguing over a long period of time. At low power levels, I cannot tell that it is going to fatigue me at first, even for a few hours, but after a few days at a trade show, for example, the higher distortion speaker will fatigue me, where the lower distortion speaker does not.
4. In subwoofers, distortion is much less noticeable, but higher distortion tends to sound louder and fatter. (Sorry for the subjective terms, just trying to describe what I hear)
5. Just like the mains, a high distortion woofer will be fatiguing, even if it cannot be easily detected.I gained these opinions after many years of using my own speakers which often come in a stock or upgraded version. The upgraded version usually has a midwoofer with a shorting ring, creating less distortion. Their response curves are very similar between the stock and upgraded versions, but the upgraded model has lower distortion.