

# The Sixteenth Annual Interactive Audio Conference

## PROJECT BAR-B-Q 2011



## Group Report: Definition of Audio Quality and Happiness

**Participants:** A.K.A. "Galileo"

Alan Kraemer, SRS  
John Cornwell, Dolby

Henry Wong, DTS  
Pritam Kumar Das, Zenph Sound Innovations

How do we make the audio experience more relevant to consumers, who seem not to care?

- **Can we define audio quality in terms of experience?**
- **What metrics should we use beyond traditional engineering standards?**
- **'Threshold of Adequacy'**

Other industries which have faced the problem of hitting the threshold of adequacy, and then commoditizing:

- **Photography:** While the number of photos taken by consumers is at an all-time high, the introduction of smartphone cameras has shrunk what was traditionally a high-involvement product category into the realm of hobbyists and professionals.
- **Computers:** For much of the 1980s and up until the early 2000s, computer specifications were keenly debated by users. However, once computers reached the 'threshold of adequacy' by providing enough processing power for most consumer apps, specs receded into the background.
- **Audio:** Similar to computers, the audio industry went from being a high-involvement category (in the 70s when consumers bought/assembled DIY systems) to a ubiquitous, 'background' one after crossing its 'threshold of adequacy'.

**But not cars.** Why haven't they breached the Threshold of Adequacy? Their core utility has been perfected for years.

Car makers have found ways to innovate, differentiate, and add new technology in exciting ways. Cars still generate deep emotional engagement and are highly customizable. They are personal style statements much like Macs and mobile phones. They still create passion.

Over the past 3 decades, audio has steadily receded into the background. It is not part of 'active' consumer interaction with most entertainment devices. *How do we map audio into being a statement of who you are?*

## The Solution

Traditional engineering standards-based definitions of 'quality' audio have failed to excite consumers. In addition, we are faced with drastic changes in consumer behavior, whereby consumers no longer

consume 'audio' as a focused experience. Most music listening happens on personal devices in external environments. Audio is also consumed as part of cinematic, gaming and television experiences. Most of these 'converged' devices do not meet traditional high 'quality' standards. But, they do make for compelling *consumer experiences* with audio quality relegated to a small part of the overall experience.

We started by looking at lessons from audio's heyday in the 70s - when audio was a statement of identity:

- Audio was the only content-on-demand available, just as the creation of cars meant transportation-on-demand.
- Audio had not reached the Threshold of Adequacy – so consumers had an opportunity to build their audio experience.
- Consumers were also focused on specs in the 70s because they were concentrating on the audio experience; sitting in a living room, doing nothing but listening to a record. Improving the quality of the audio experience is dependent on making consumers 'want' to interact with it again.
- Happiness comes from rewards. In the 70s and up until the 90s, reward came from 'tangible' ownership of the *experience* through customization. Audio content and playback equipment are now undifferentiated commodities with no unique reward. How can we reward consumers for their behavior or their interaction with audio experiences in the current paradigm?

Technical improvements continue to drive up audio quality (as defined by engineering standards) to historically unseen levels. Engaging consumers requires analyzing their behavior to highlight audio as part of an *engaging experience*. Audio companies have the reach (through apps, embedded codecs, software modules etc.) but do not use this reach to generate active consumer feedback. For example:

- How many hours have consumers exposed themselves to a particular experience?
- Are we logging comparative hours spent on other/joint consumption -- is a consumer choosing the experience we've created or is it being delivered as part of some other 'actively' chosen experience (e.g. cinema)?
- Are we gathering feedback about whether consumers choose a PP preset, or particular setting, or bit rate, etc?
- Why aren't we polling our technology to see how it's being used? We *need* to see how people are responding to it.

We have come up with 6 metrics that attempt to revitalize the definition of 'quality audio' by focusing on *consumer experiences*:

1. **Interactivity**--are we consistently designing for reward when our technology is used--and a point of comparison when it isn't?
2. **Data gathering**--what are we doing to measure the user's preferences and behavior?
3. **Customization**--referring to the successful early years of audio, and the reasons for the ongoing success of the auto industry. Idea: Migration to object-oriented audio is a possible solution to allow consumer customization and interaction with the listening experience.
4. **Sonic factors**--immersing the consumer in the experience (better virtualizers). Better bass (now missing from the small transducers now used so heavily). Vocal clarity. Things which pull you out of the experience: segues / bad beat matching, level normalization. Idea: Audio EQ (emotional quotient)
5. **Visual feedback**--cue / reinforce what's happening to the sound. No visual experience any more. Some good UIs out there; need more. Reel-to-reel experience, record turning, VU meters
6. **Statement of Identity**--e.g. Beats - they've made it 'cool' to care about audio reproduction and made it interesting again. Make it possible for consumers to relate to quality audio experiences. Make it 'beautiful' by going beyond the audiophiles: merchandising, visual design elements, style. Industry marketing teams need to focus on making audio brands 'cool' rather than focusing on communicating specs or technical excellence.

## Conclusion – *Focus on the emotional response*

You're making steak. Is your goal to be "authentic to the original cow"? Yes, if you're a devotee of beef, and want the pure Kobe flavor. But for most people, the steak is an ingredient in a bigger experience (which might be augmented by a little salt and pepper, for example, or Worcestershire, or (sorry) A1. And as much as we might want to prohibit ketchup, we're not the cooks.