

The logo for the Market Transformation Programme is contained within a rectangular box. It features the text "Market Transformation Programme" in a bold, italicized, black serif font. Below this text is a horizontal line that is red on the left and green on the right. To the right of the text and line is a stylized line graph with two curves: a green curve that peaks higher and a red curve that peaks lower. Both curves start from the left, rise to a peak, and then descend to the right. The green curve's peak is slightly to the right of the red curve's peak.

Market Transformation Programme

... to bring forward products, systems and services which do less harm
to the environment, using less energy, water and other resources

INTERTEK RESEARCH UK

TV Sound Issues

Washington July 2006

Handling of Sound In Existing Standards

- 1 kHz sine wave source developing 50mW in resistive load equivalent to TV L.S. impedance.
- This standard was set when the majority of TVs used single (mono) speakers.
- No account was taken of, the acoustic efficiency of the system, multiple drive units with passive crossover and multiple drive amplifiers for each channel with electronic crossover.

Ideal Approach to TV Sound In the Context of Standard Test Methodology for TV- on-mode

- Input Audio Test Signal should drive the Audio part (electronics and transducers) in the same way as standard programme signals (Pink noise instead of 1kHz tone)
- A standard signal level distribution would have to be agreed for surround systems.
- A standard Sound Pressure Level would have to be agreed for test set-up, measured at a fixed distance, on-axis of display, in free-field acoustic conditions.

Is this Scientifically Appropriate Proposed Test Methodology for the Sound part set-up of the TV necessary?

- Results from UK tests for European Consumer Groups on over 100 current TV models in the European Market show that the audio as set up in IEC 62087 produces a marginal but similar increase in required power for a wide range of TVs up to and including those with a surround sound system rating of 2,500 W peak audio power.
- “Standard” Listening level for these tests was a sound pressure level of 92dBA measured, in free –field conditions at 1 metre on the horizontal axis from the centre of the display. Video signal – Full Black
- Increase in power at this “standard” listening level was a range of **0.6- 1.2W over the whole test sample range.**

Results and Conclusions

- The average impact of the sound part was 0.8W with smaller LCD TVs requiring around 0.6W and some larger CRTs, PDPs and LCDs up to 1.2W.
- Worst case impact of sound on on mode power (small LCD TVs – around 40W display part) + 1.5%
- Conclusion: Sound modulation should be present (not muted) perhaps just perceptible but need not complicate the test methodology.