

A Study on Design Factors and Criteria of the AV System

With an Emphasis on Gestalt theory

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Abstract

The design of the conventional audio and video related products such as radio, TV and computer have been developed as media of the auditory and visual communication in the social and technical environment. Their shape and usage, however, have turned into a different way as the environment has changed to a new digital environment. To know the design factors and criteria of "Interactive digital AV system", a prospected image of the future AV system, the preceding study on decisive factors of designing the conventional AV system is needed.

Decisive factors of designing the conventional AV system are cleared within the social and technical environment. Hence their environmental relations are analyzed in the aspects of the gestalt theory in order to determine the design factors. Also the constructive boundary conditions of gestalt elements - form, material, surface and color - which form the design factors will be defined. The design factors and the criteria, which is related to the historical development of the TV Gestalt until now, are made clear analyzing the influence factors of the technical and social environment. With these design factors and the criteria of the AV system and the recent trend of technology and culture, the design factors and criteria at "Interactive Digital AV" system will be developed.

Keywords

Design Factor, Criteria, AV system, Gestalt theory

A Study on Riding Comfort and Sitting Comfort of Polyurethane Car Seat under Real Driving Situation

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Abstract

Riding comfort and sitting comfort of car installed with polyurethane-seat were evaluated from psychological and physical aspects. 7 types of sample with different physical properties were used. For each sample, riding comfort and sitting comfort were related to analytical evaluation: stable feeling, spring feeling, sinking feeling, shaking feeling, damping feeling, and physical properties of polyurethane respectively. The results suggest that feeling of stability influences sitting comfort whereas riding comfort was affected by feeling of damping, which indicates that evaluation on car in motion and static states were different. However, both comforts showed similar tendency in comfort evaluation. Evaluation was also carried out to clarify the relationship between riding comfort and transmissibility for each subject. It was concluded that at high transmissibility, where the transmissibility difference between samples was greater, the riding comfort was perceived as different between samples. In order to verify the influence of subject's body weight on transmissibility, FEM was used to simulate the whole-body vibration. The results suggest that subject with lower body weight vibrated apparently at vertical direction whereas subject with higher body weight vibrated more characteristically in horizontal direction. The main feature of this study was the confirmation of vibration characteristics of human body as the factor causing the dispersion of evaluation results of riding comfort.

Keywords

Riding Comfort, Sitting Comfort, Transmissibility, FEM, Body Weight