

ACOUSTICS2008/2732 Hartis, a re-synthesis tool for vehicles sound design

Gaylord Desoeuvre^a, Florent Richard^b, Vincent Roussarie^b and Marie Céline Bezat^b

^aGIST, 62 bis avenue André Morizet, 92100 Boulogne Billancourt, France

^bPSA Peugeot Citroën, Centre Technique de Vélizy, Route de Gisy, 78943 Vélizy-Villacoublay, France

For more than thirty years, the main goal for the automotive acoustic engineer was the car's noise level reduction. Within new customers' behaviours, the car manufacturers have now to put products sound quality at the same level as its aesthetic qualities or ergonomics. To improve customer's satisfaction, one solution is to increase sensory coherence and perceived quality by controlling the sound identity and character of a vehicle. To reach this new objective, the Research Department of PSA Peugeot Citroën is developing his own sound design software HARTIS [1] (HArmonics Real TIme Synthesis). HARTIS is a complete re-synthesis tool useful in many stages of vehicle sound design process. In this paper we first present the last version of HARTIS fully interfaced for an easy use in project teams. The second part of the paper presents new integrated module that deals with impulsional noise for diesel application and other sources models. Each type of source can be controlled and filtered to recreate different driving situation.

References [1] Sound design in car passenger compartment Process and tool for the control of engine sound character. V. Roussarie, F. Richard, Journées du Design Sonore 2004.