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Interaction and dependencies of total sound power level, sound quality and noise pollution potential in typical multi purpose arenas

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Multi Purpose Arenas have become common during the last years. These facilities actually serve as multi purpose event locations for huge crowds from a several thousand to 50.000 and more spectators. The range of events ranks from soccer to indoor motocross, ice hockey, rock music, musicals and even opera events. Multi purpose arenas have been built as open stadiums, semi-open or closed spaces some of them using retractable roofs. The range of events require enormous flexibility of installed sound reinforcement systems and high quality, as well as high power output systems.

Sound system design goals are analysed and discussed using samples of existing multi purpose arenas.

Examples of typical sound pressure levels and sound quality parameters are presented. It is shown that the total sound power level may not only be a fundamental parameter for noise pollution potential, but may as well be used being one of the basic criteria for evaluating and comparing sound system design quality for in- and outdoor applications.

The complete document was not available at the publication time. It has been replaced by the submitted abstract.