

ELECTRONIC SOUND ENHANCEMENT SYSTEM IN THE MULTIFUNCTIONAL HALL TÓNBERG IN AKRANES ICELAND

Stefán Guðjohnsen

Mannvit hf
Grensásvegi 1, 108 Reykjavík, Iceland
stg@mannvit.is

Gunnar Birnir Jónsson

Mannvit hf
Grensásvegi 1, 108 Reykjavík, Iceland
gunnarbj@mannvit.is

1. INTRODUCTION

When design of the new accommodation for the Akranes School of Music began it was decided that the auditorium at the premises, Tónberg, would be a multi purpose hall. The hall was designed by the Skapa and Skerpa Architects, Elín Gunnlaugsdóttir architect. Responsible for the integrated acoustical design was Mannvit hf Dr. Stefán Guðjohnsen. The hall was built by the building contractor Smáragarður with the subcontractor Húsbygg.

In the hall with 177 seats on a slanting floor, special diffusing Sound Reflectors were applied both on the side walls and in the ceiling. Acoustical model of the hall as well as calculations were performed in the Brüel and Kjær software program ODEON. The volume of the hall is very small and therefore it was soon decided that the variable acoustics would be accomplished by the use of an Electronic Sound Enhancement system. The system chosen for this hall was the Lexicon Acoustic Reinforcement and Enhancement System, or LARES.

In this paper the general setup and function of the LARES system is explained. The conditions in the hall after the system was implemented are described and compared with actual acoustical measurements made by the Brüel and Kjær measurement System 2250 Investigator with amplifier and Omnipower 4296 loudspeaker and software Qualifier 7830. The measurements were performed by the acoustical specialists of Mannvit hf, Gunnar Birnir Jónsson, Sigrún Ragna Helgadóttir and Stefán Guðjohnsen.

2. LARES

In short the system is built up using the Lexicon 960L high speed DSP system with a special firmware program written by the senior Audio and Acoustical Scientist David Griesinger of the Lexicon professional division. The system also uses

other DSP modules as well as multichannel high quality amplifiers, two high quality Schoeps boundary microphones and 52 more or less hidden high quality loudspeakers from LARES. The system creates controllable reverberation time and lateral reflections in the hall as well as variable reverberation time on the stage.

The LARES Electronic Architecture system, the first system of its kind in Iceland, was installed by the contractor HljóðX in Reykjavik Iceland and then commissioned by Mannvit hf Dr. Stefán Guðjohnsen and finally commissioned and tuned by the highly experienced Audio and Acoustical Scientist Seve Barbar from LARES.

The system is controlled by a Crestron remote control system

3. CONCLUSION

The conclusion will be drawn from the comparison of the performance and critique of the hall for various types of conferences and concerts and the actual study of the measured acoustical parameters.