



Maurice Martenot: From past to present

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In 1928 Maurice Martenot presented the first ondes Martenot at the Paris Opera. He created seven different models of this instrument between 1928 and 1975. Each successive model is an improvement on the previous one. The replacement of the tube amplifiers by transistors is among the most important organological and technical changes introduced. Today few musicians remember the first generation ondes Martenot, which were based on tube amplifiers. Though the functional qualities of ondes Martenot based on tube amplifiers account for the initial success of the instrument, the description of such functional qualities is a complex question. We present a tentative description of the functional qualities of a tube-based ondes Martenot. This description is based on the study of an instrument designed in 1932. This ondes Martenot is among the oldest that can still be preserved in its original state. Our work is a unique document on the art of making an ondes Martenot. The general design of the ondes Martenot studied here is consistent with the descriptions patented by M. Martenot. The ondes Martenot is based on a frequency mixer of the type found in superheterodyne radio receivers. The type of components found in this ondes Martenot are dated between 1920 and 1928. The functional analysis of the electrical and electronical components allows us to highlight the musical choices of the inventor. In this light, Maurice Martenot appears to be an “electronic luthier”. This tube-based instrument is compared to transistor-based instrument of the last generation. This allows us to phenomenologically identify the technical improvements made by the inventor to his first models.