

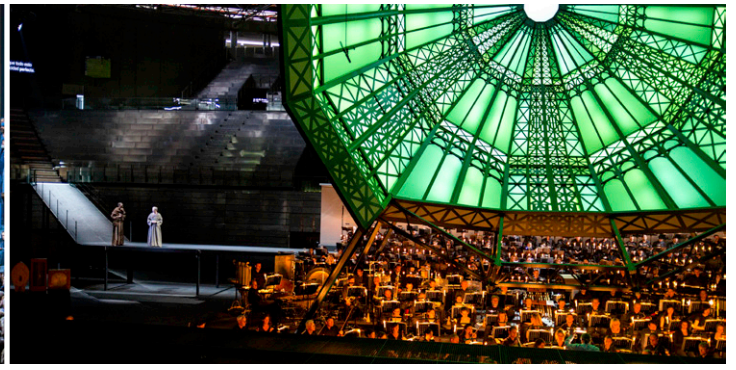


Vivace

Electronic Room Enhancement System



NEUMANN & MÜLLER
VERANSTALTUNGSTECHNIK



■ Electronic Room Enhancement System

Concert halls, opera houses, national theatres, cinemas and open air - every venue and every stage should provide musicians and performers with ideal acoustic surroundings for their art. Audience expectations in terms of art have grown continually and, besides the live experience, they also place great importance on the clear intelligibility of the spoken and sung word as well as on perfect sound quality.

Locations are also faced with the challenge of fulfilling a multi-functional role: the chamber orchestra performs in a theatre; the author reads in a concert hall in front of a large audience; the philharmonic orchestra plays an open-air concert in the city; the opera celebrates a premiere in a multi-purpose arena with good sound dampening. Such requirements push the acoustic properties of the various rooms to the very limits.

Despite these difficulties, electronic room acoustics systems can help to meet the needs of any event and provide the audience with outstanding acoustics. They create the desired reflection as well as a corresponding reverberation in rooms that are either dry, too small or too large – thereby ideally complementing the structure of the sound field with a high level of precision.

■ A highly versatile system

N&M sound engineers have specialised in creating high-class audio experiences with the aid of electronic room acoustics systems. Their main tool in this endeavour is the „Vivace“ Acoustic Enhancement System developed by the Müller-BBM consulting and planning office.

Vivace enables the astonishingly natural reproduction of the sound of hall designed especially with room acoustics in mind. It adapts acoustic conditions to individual requirements that the room itself is not able to fulfil, perhaps because of a lack of volume or of natural reflection by the walls or because the structure of the building leads to too much dampening.

■ When orchestras need amplification

Large orchestras and solo artists on vast stages – especially at open-air events – cannot offer a perfect treat for the ears without sufficient amplification. Vivace supports the sound system, which is so vital for the direct sound. For example, in the open air, the electronic room acoustics system simulates a room that would be similar to a concert hall. The audience always has the realistic impression that the sound pattern is being generated exclusively by the orchestra on the stage – with no loss of quality even in the very last rows.

■ Words learn to walk

Theatres feature an acoustically perfected architecture that permit performances without electronic amplification. The audience can hear whether a voice is coming from the left-hand or right-hand side of the stage. Without the benefit of such architecture, and if a standard sound system is used, the audience cannot easily locate the source of an utterance.

With the aid of Vivace and a correspondingly adapted loudspeaker setup, N&M specialists can restore the audience’s directional perception. If the sound source moves across the stage, members of the audience can follow such movement perceptibly.

If a tracking system is added, Vivace follows the performers’ movements fully automatically. In this case, a signal located by radio ensures that the moving sound source is optimally tracked. It is easier for the audience to follow the occurrences on stage while also enjoying considerably enhanced speech intelligibility.

■ Simulating rain and movement with Vivace 3D-Audio

3D film screenings have long established themselves in movie theatres and home cinemas. And so it is only logical that 3D sound is also expected at such events. The audience then not only sits in the middle of the picture – that is also what it sounds like to them.

Once a Vivace system has been installed, it is only natural that one should want to use the infrastructure for additional effects. Using an optional module for the dynamic positioning of sound sources, the sources can be placed in a three-dimensional spatial model using a mouse, touchscreen or pointer. Besides the acoustic representation of a number of moving objects, wide-area effects such as rain or crowds can be authentically simulated in 3D.