



**NATURAL SOUND IN THE
HERRENHAUSEN GARDENS**

*OUTDOOR AUDIO INSTALLATION IN HARMONY
WITH NATURE*

**HARDLY TO BE SEEN BUT WELL HEARD: WEATHER-
PROOF COLUMN SPEAKERS FROM PAN ACOUSTICS IN
THE GREAT GARDEN. HANNOVER HERRENHAUSEN**



**HERRENHAUSEN GARDENS – A BAROQUE
HIGHLIGHT AT ANY TIME OF THE YEAR**

A visit to the Herrenhausen Gardens is always worthwhile! The Great Garden, which is the centrepiece of the gardens and one of the most important baroque gardens in Europe, exudes its very own charm at any time of the year. A special experience is the magnificent illumination of the garden every evening during the summer months until autumn. At nightfall, the fountains, baroque sculptures and green hedges shine in a festive light. The illumination is accompanied by Handel's Water Music.

While visitors are first completely captivated by this impression for the eyes and ears, they start to look around after a while and search for the loudspeakers

that reproduce the recording of George Frideric Handel's Water Music so clearly and precisely. A good eye will eventually find – hidden between a row of trees – slender poles to which slim line arrays in matching colours are attached in the treetops.

Hidden loudspeakers

"The project was about making the sound system in the garden as unobtrusive as possible," explains Klaus-Peter Piepow, technical manager of the Herrenhausen Gardens. "It would have been difficult to visually integrate loudspeakers in the beds into the garden design." In terms of plant care, technical systems in the beds would also have been an



obstacle as some flowers and perennials are changed according to the season.

Project planner Holger Weitkämper from AiR Ingenieurbüro therefore relied on sound specialist Pan Acoustics from Wolfenbüttel, 100 kilometres from Hannover. "Pan Acoustics had the solution for the project's requirements: weatherproof line arrays in the colour of our choice and equipped with state-of-the-art technology, which deliver a very natural sound that is as made for a garden," says Weitkämper.

The bell fountain is centre stage

The sound system is directed towards the bell fountain located centrally in the Great Garden. Four of the active loudspeakers from Pan Acoustics' Pan Beam series were installed around this centre. Similar to the beam of a torch, the loudspeakers transport the sound in the direction of the bell fountain, acoustically covering the entire garden. Two further line arrays have been installed at the Swan Ponds, which are located behind the central fountain in the direction of the special gardens.





“The sound system is not only used to play Handel’s Water Music up to three times a day for an hour each time, it is also important for making voice announcements, which must be perfectly intelligible everywhere, especially in an emergency,” adds technical manager Piepow.

Even though the loudspeakers have to cover a wide area, the volume of music or speech is the same everywhere. “Most of us avoid standing in direct vicinity of a loudspeaker,” says Sebastian Oeynhaus- en of Pan Acoustics, who accompanied the project. “But the wonderful thing here in the Great Garden is that I can stand directly under the pole with the loudspeaker and talk to the person next to me about the beautiful music and the magnificent garden at a normal volume, without having to speak up significantly.”

A particular challenge of this project was the required cable length, which exceeded 100 metres in some cases. This was solved through the use of fibre optic technology, which was installed in the Great Garden as part of the renovation of the water and electrical systems from the 1980s. “The conversion to fibre optic cables offered us the opportunity to use the Dante network technology for connecting the line

arrays from the Pan Beam series,” explains project manager Gerhard Schönplug from AVE Hannover, who carried out the project as Pan Acoustics sales partner.

Modern technology in a baroque garden

Mounting the loudspeakers on poles located between the trees had two advantages: on the one hand, the cables for the supply voltage and the audio and communication data are routed directly down into the earth through the metal poles, and on the other hand, the trees between which the loudspeakers are hidden could remain untouched. “The trees are also protected monuments and may not be trimmed or changed without authorisation,” explains Klaus- Peter Piepow. “Everyone involved is very happy with the new sound solution and we get a lot of praise from visitors.”



A magnet for visitors

Around 550,000 people visit the Herrenhausen Gardens every year. For the international fireworks competitions held every summer on five days, some 12,000 visitors flock to the Great Garden every evening.

KEY DATA

Special features	Unobtrusive outdoor installation of beam steering and Dante technology on poles
Reproduction	Speech and music (Handel's Water Music)
Product series used	Pan Beam (IP65)
Planner	AiR Ingenieurbüro (Holger Weitkämper)
Installation partner	AVE Hannover



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