

SOUND THAT TRANSPORTS FEELINGS

EMOTIONAL SOUND THANKS TO PAN AMT SERIES

Internationales Filmfestival Bad Saarow

FILM
OHNE
GRENZEN

CINEMA SOUND SYSTEM AT THE FILM FESTIVAL „FILM WITHOUT BORDERS“, BAD SAAROW



THE FILM FESTIVAL

Just outside the eastern gates of Berlin, in Bad Saarow in Brandenburg, a „small“ but fine international film festival has been taking place every year since 2013: The festival „FILM WITHOUT BORDERS“. Documentaries, feature films and short films are shown at this unique event at the idyllically located Eibenhof. Well-known national and international actors, directors and producers from these film genres take advantage of the festival and present their new works to the public. The former riding barn on the Eibenhof estate is converted into a cinema hall for this purpose. High-quality production technology and also audio technology are used to present the films in a cinema atmosphere.

Air Motion Transformer instead of horns

Stefan Grund, technical director at the festival „FILM WITHOUT FRONTIERS“ and responsible for the area of cinema equipment, went new ways this year as far as the sound system was concerned. Whereas in previous years primarily loudspeaker systems were selected that relied on the old tried-and-tested tweeter technology of horns with compression drivers in the high-frequency range, this year he ventured something new by using the AMT series from Pan Acoustics. During the preparations for the event, Stefan Grund contacted Pan Acoustics because he had heard in advance about the Pan AMT series, which relies on AMT technology in the high-frequency range and generates a homogeneous and defined sound field without distortion.



Preparations for the festival

Beforehand, Stefan Grund and Sebastian Oeynhaus, Product Manager at Pan Acoustics, listened to the P 261-AMT | Cine and P 261-AMT | Event loudspeakers from Pan Acoustics in a test and sounded out together which system is most suitable for the required application.

Both loudspeaker options feature an identical AMT tweeter unit and two 6.5-inch woofers in a D'Appolito arrangement.

However, the speakers, which at first seem similar, differed greatly in their acoustic characteristics: The „Cine“ has a lower cutoff frequency of 50 Hz, which enables homogeneous sound reinforcement over almost the entire perceptible frequency response, even without a subwoofer.

This is achieved by a special selection of the 6.5 inch chassis as well as by a lushly dimensioned bass reflex system. An equalization of the system is done via an external DSP power amplifier, whereby Pan Acoustics provides manufacturer presets for many common processors.

The „Event“, on the other hand, dispenses with the need for external signal processing and is internally equalized via the passive crossover. which allows it

to be driven directly by any standard power amplifier. Due to a bass reflex system with a tuning to 80 Hz, it achieves a higher maximum output level of up to 129 dB 1/m. At the film festival, the choice finally fell on the P 261-AMT | Event. In the course of this, the direct radiating 12 inch subwoofers P SW-112 were chosen, matching the system, for powerful support in the low frequency range.

From an acoustic point of view, the wooden-built riding barn was a challenge. The long but not too wide building became a cinema hall with 7 x P 261-AMT | Event and 3 x P SW-112 subwoofers. The loudspeakers were arranged in „Left - Center - Right“ configuration plus four effect/rear channels. The left - center - right speakers were each complemented by a subwoofer. The rear speakers were delayed accordingly and driven via a matrix with different signals from the cinema processor. Due to the room geometry, it was necessary to refresh the signals coming primarily from the center loudspeaker via rear loudspeakers as well.



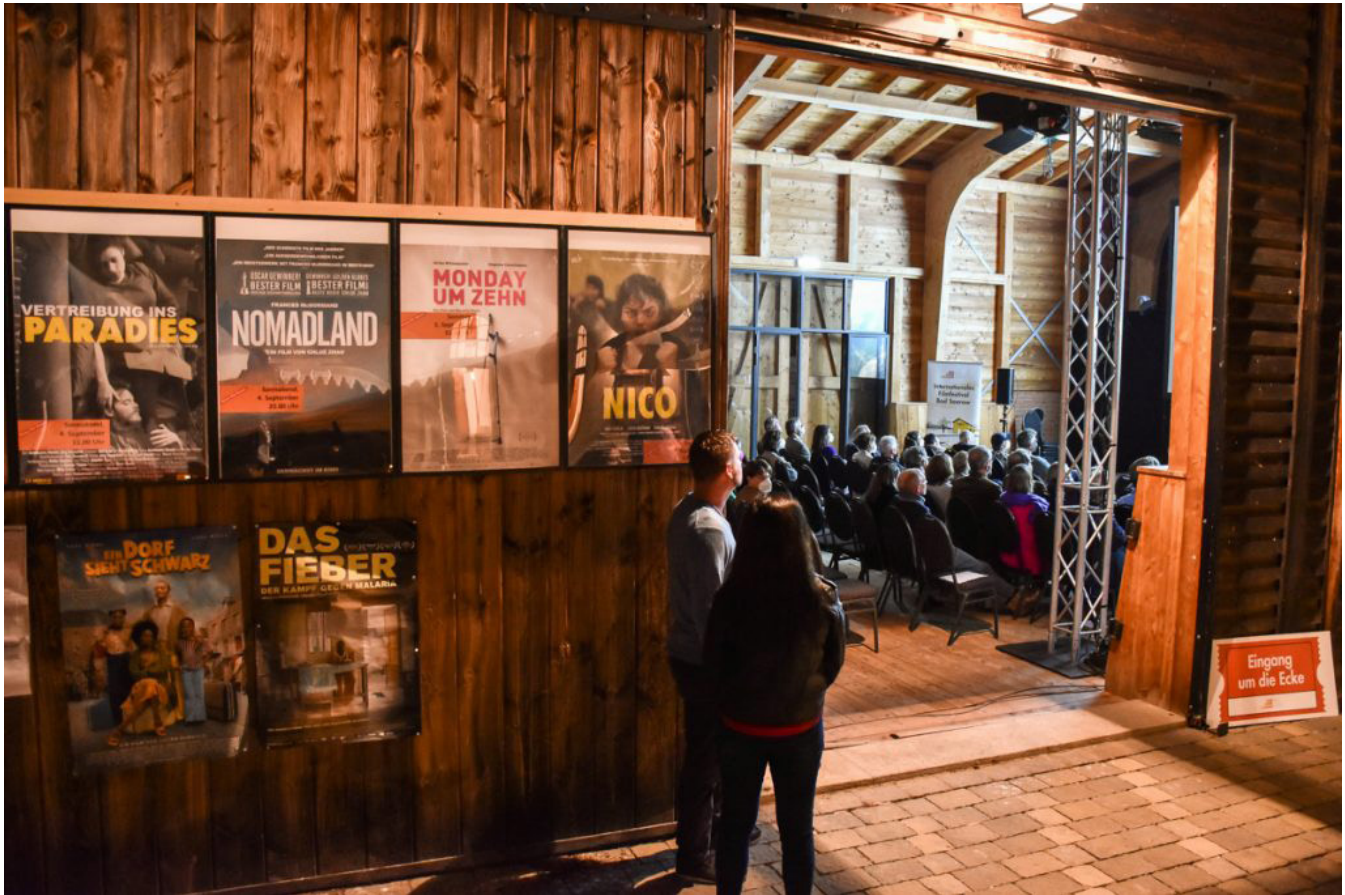
Moving sound: you feel like you're in a movie

One of the challenges in a cinema system is the even transition from the front main left-right speakers to the center.

The P 261-AMT | Event in the H variant (horizontal variant, i.e. the AMT tweeter unit is rotated by 90°) was used as the center speaker. With its dispersion of 130° and 20° (h/v), it was perfectly suited as a center and blended discreetly into the surroundings. The transitions between the center and the left-right system were very homogeneous, especially due to the use of the AMT driver. Also, by matrixing the audio signals, the sound field was homogeneous in level, taking into account the effect paths up to the last row of chairs, and the sonic presence was maintained.

In the sound mixes of the movies, this effect was especially noticeable when voices, which are usually reproduced via the center, „wandered“ through the room to follow the protagonists on the screen. The listener literally felt like he was in a sound cloud in this scene. Due to the speaker's high resolution and faithful impulse response, even loud passages were perceived as pleasant, clear and distinct. The audio system used was convincing, which was also confirmed by the positive feedback from the festival visitors.





IMPRESSIVE OVERALL RESULT

The conclusion of the technical director Stefan Grund was consistently positive: „The loudspeakers convinced me, even the live performances on stage between the films could be transmitted stress-free with the system,“ Grund was enthusiastic about the products of the AMT series. „The rear damping of the systems was amazing, so that when using the microphones on stage, the ‚dreaded low-frequency effect‘ played almost no role.“

THE MOST IMPORTANT KEY DATA

Application	Small cinema hall with up-scale acoustics
Product series used	Pan AMT Serie, Pan Subwoofer Serie
Products used	7 x P 261-AMT Event, 3 x P SW-112 Subwoofer
Event	Film festival „Film without borders“ 2021, Bad Saarow, Germany

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