

Draco matrix switches aid sound mixing at the Munich Residence Theater



The Customer

The Bavarian State Theater (*Bayrisches Staatsschauspiel*) comprising three venues, Residence Theater, Cuvilliés Theater and Marstall, is Munich's largest theater complex.

The Cuvilliés Theater, formerly known as the Residence Theater up to the 1950's is considered to be Germany's major Rococo theater. This historic venue, built in the 18th century, still hosts theatre and opera performances.

In 1958 the *Residence Theater* moved buildings. The considerably larger New Residence Theater, with 1000 seats, is the main venue of the Bavarian State Theater today.

The third venue is the *Marstall* (an old German word for royal stables). The former lodging of the Royal Bavarian Riding School, it nowadays hosts the studio theater of the Residence Theater.

The Challenge

The two theater halls of the Residence Theatre include central galleries equipped with large monitoring desks, comprising mixer consoles and monitoring screens. Over time an ever growing number of powerful computers have been installed, causing problems in the restricted space assigned to the control galleries. These included lack of space, poor physical access and noise and heat from the many computers. The monitoring desks are linked to the auditorium and the audience could see, and hear, operations in the control room which distracted them from the performance.

The Solution

During a recent redevelopment of the whole sound technology, the Residence Theater's sound engineers contacted IHSE's Bavarian distribution partner, BelleEquip. Following thorough analysis of the local situation, BelleEquip initially deployed IHSE DVXi extenders, enabling spatial separation of the computers in point-to-point operation.

„The initial IHSE solution was a complete success. Following excellent experience with stand-alone extenders we soon adopted an appropriate option for switching between different sources, with confidence of success. “

Thomas Mussnig, Managing Director BellEquip

In 2010, the New Residence Theater was further upgraded with a Draco major KVM switch to enable matrix operation. X-key panels mounted at the workstations allow convenient switching between monitors and sources at the push of a button.

Location-independent control and management of input devices, including stage cameras, loudspeakers, microphone port surveillance and computers for audio feeds, is made possible from six dedicated consoles. These include two large monitoring desks connected to the matrix, one in the central gallery and another used for rehearsals, located in the theatre hall. Both workstations can fully access all remotely-located computers in the equipment rooms.

In 2013, the Cuvilliés Theater followed with the upgrade of a Draco tera compact matrix switch with the ability to freely rearrange each port as input or output on the fly. Again, X-key panels are used to switch signals. Two workstations have full access to all systems. Connection within the building is made by Cat X cabling; longer distances between buildings are bridged by fiber optic cable.

To increase the level of reliability the Draco switches are equipped with redundant, load-sharing, power supplies. If one PSU fails, the other one will provide all required power. In the case of matrix failure, an emergency mode makes direct connection between an additional pair of extenders and a dedicated feed computer.

The Benefit

The Residence Theater offers live performances every night, so reliability of operation is paramount. A loss of sound would stop the whole

show. Using IHSE's highly-available KVM infrastructure such a scenario has been prevented to date.

The installation provides instant and direct access to computers from all workstations, allowing sound engineers to respond instantly to instructions and ensuring rapid workflow.

„IHSE's KVM technology meant a major advantage in speed of operation, functionality and clarity to us. With matrix installations each user can access all sources from any position. “

*Alexander Zahel
Sound engineer at the Residence Theater*

Lack of space in the control galleries is now a thing of the past. The removal of computers has created a more efficient workspace and better conditions for operators and audience alike.

Munich's Residence Theater unites history and advanced technology in an exceptional way – without affecting the original charm and beauty of the magnificent theater. IHSE technology works behind the scenes to ensure the Bavarian State Theater maintains its excellent reputation and continues to stage premium performances.

KVM products in use:

- **Draco tera compact** matrix switch
- **Draco major** matrix switch
- **Draco vario** extenders
- **DVXi** extenders

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