Microphone winches for the Alte Oper Frankfurt

The ‚Alte Oper' in Frankfurt/Main

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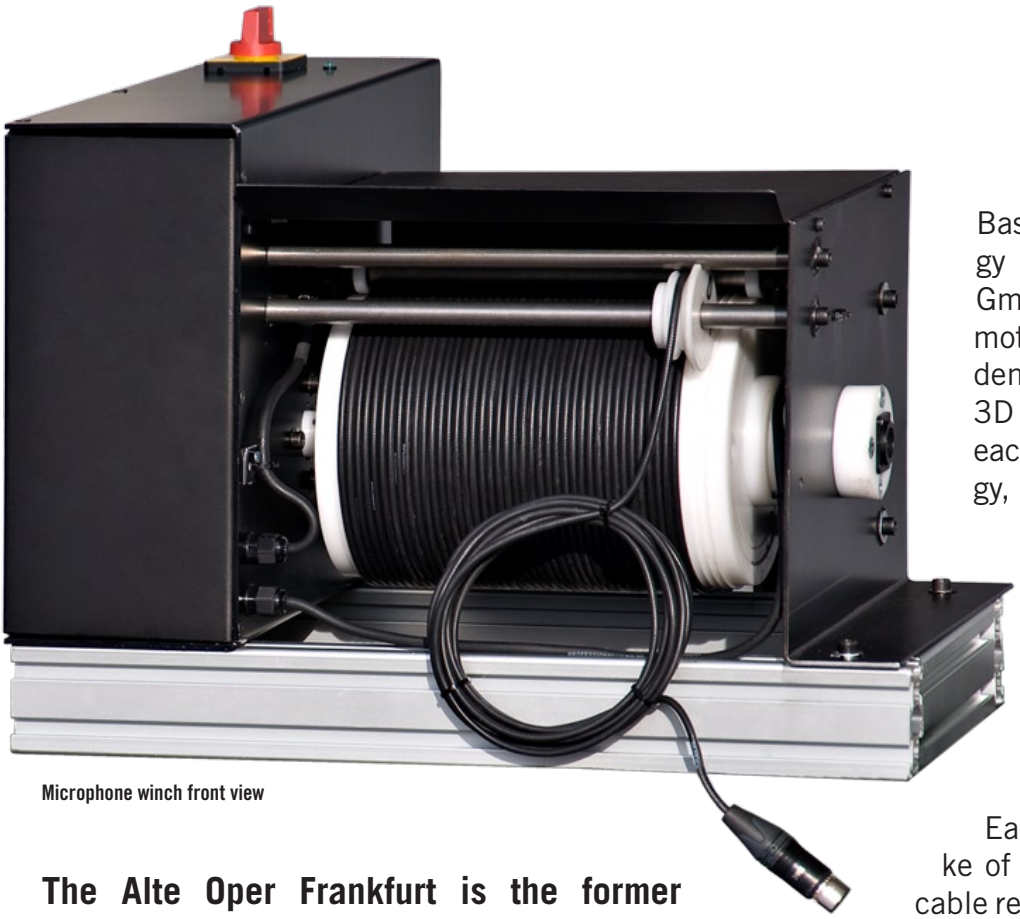


Microphone winch front view

The Alte Oper Frankfurt is the former opera house on the Opernplatz in Frankfurt am Main and is now used as a concert and event venue by various symphony orchestras for performances and recordings.

In the course of the extensive technical modernization measures, Audio Visual Network GmbH was commissioned with the development and installation of a replacement for the microphone winch system installed over 30 years ago, which was significantly expanded in terms of functionality, for optimal acceptance of the hall acoustics.

The new winch system should also have the function of any airframes for the 3-dimensional process of microphones in the room. The full functionality as single winches or 3D airframes should be controllable and programmable via an existing stage control using ArtNet.

After the successful test and production phase, the team of Audio Visual Network GmbH successfully installed a total of 34 microphone winches in the overstage machinery of the Alte Oper Frankfurt during the break in 2019.

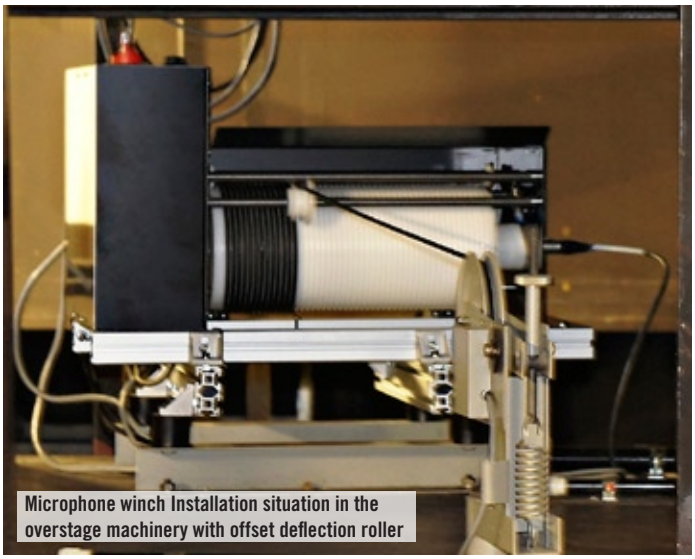
Base on the SmartMotor technology used by Audio Visual Network GmbH, intelligent industrial servomotors were used which independently calculate the positions in 3D airframe operation and monitor each other. By using this technology, it was possible to dispense with a cost-intensive overhaul of the control system. The control of the individual winches and the airframes is handled by the grandMA onPC, which is already used in the sound control room.

Each of these winches has a stroke of 25 m and uses an AES / EBU cable reinforced with a support element in the drive train.

All functions in individual as well as in group operation can be controlled via a common ArtNet or DMX interface.

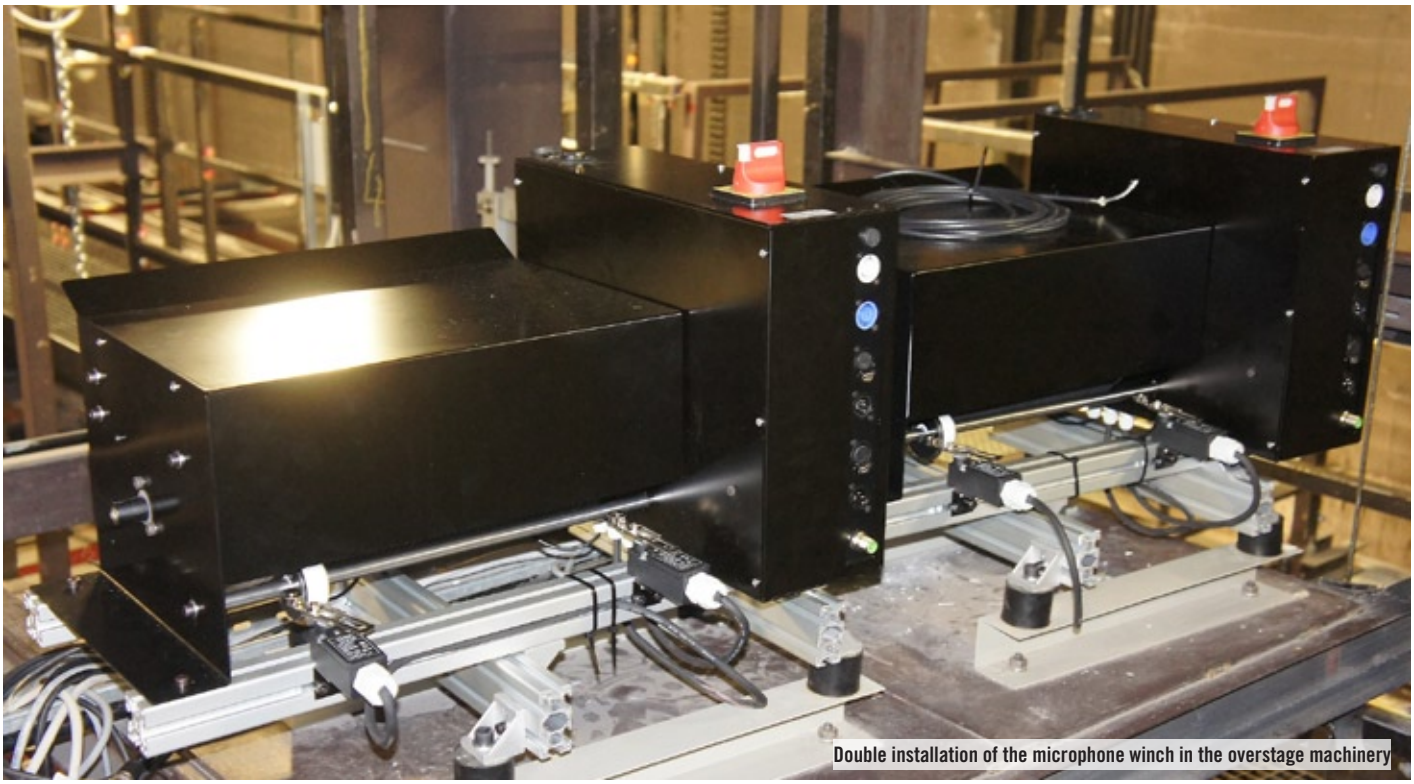
Each winch also includes an industrial fieldbus interface for real-time feedback. The position and condition of a winch or airframe can be displayed via a network interface.

Several safety modules ensure safe everyday operation and comply with the current safety regulations in accordance with DIN E-DIN 56950-1 and DUGV17/18.



Microphone winch Installation situation in the overstage machinery with offset deflection roller

Technical specifications:



Double installation of the microphone winch in the overstage machinery

Drive:
Servo drive with brake and absolute encoder
nominal load: 5 kg
Stroke:
25 m, adjustable according to requirements.
Communication via DMX and in parallel via the fieldbus interfaces for internal and external communication

Carrying devices:
Reinforced AES / EBU cable with support element for signal transmission Outer jacket PUR flame-retardant (IEC60332-1-2)
Halogen-free (IEC 60754-1) Tensile strength cable ≥ 750 N Cable end with adjustable end attachment with round eyelet and microphone plug

Dimensions:
W: 635 mm D: 410 mm H: 425 mm
Housing parts KTL-coated, matt black

Mass:
Approximately 23 kg, depending on the installation location because variable substructure on natural profile aluminum frame

Mains connection drive:
110/220 V / 50 Hz / 350 W

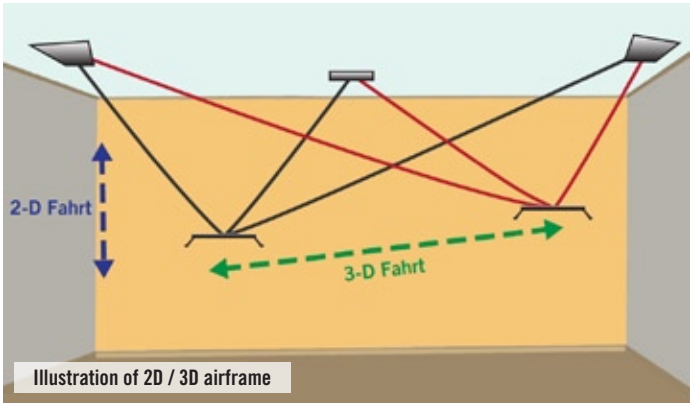


Illustration of 2D / 3D airframe

Large hall with 2500 seats Photo: © Norbert Miguletz

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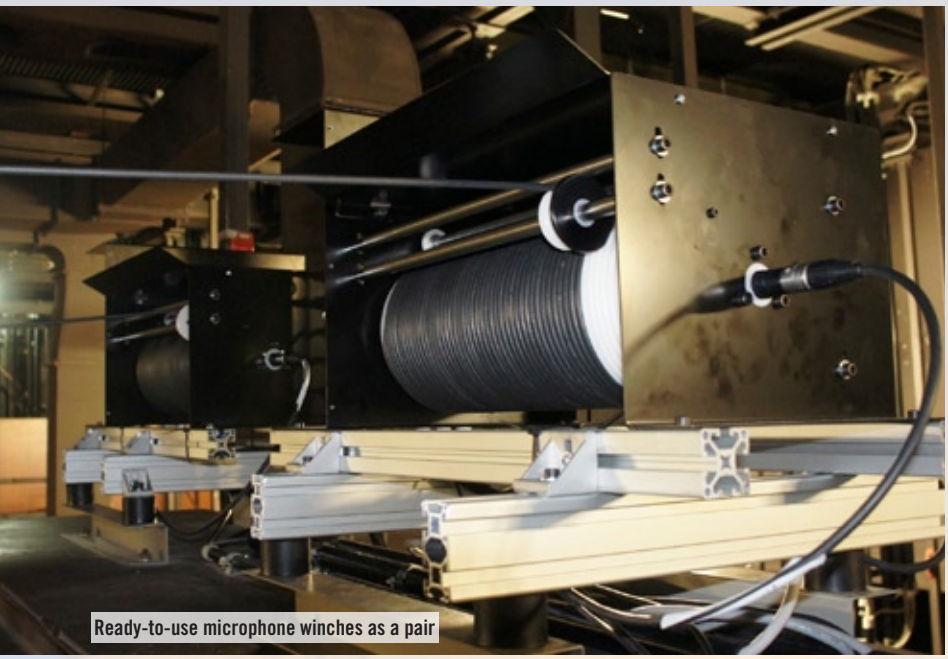
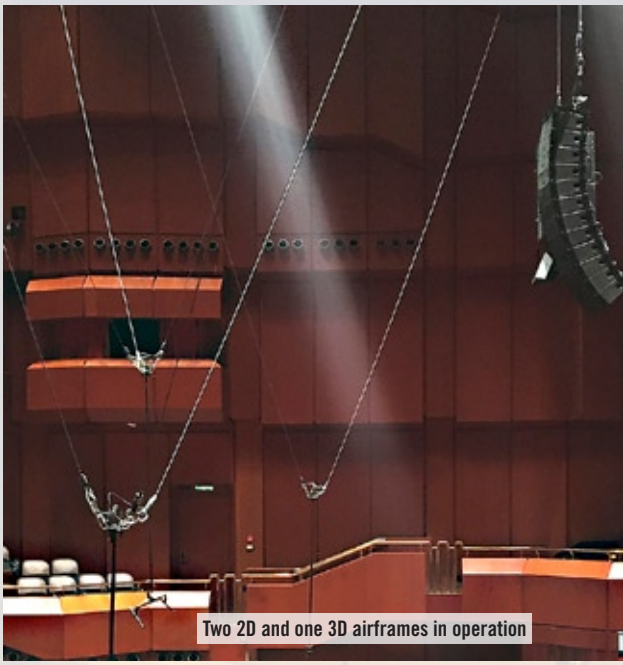
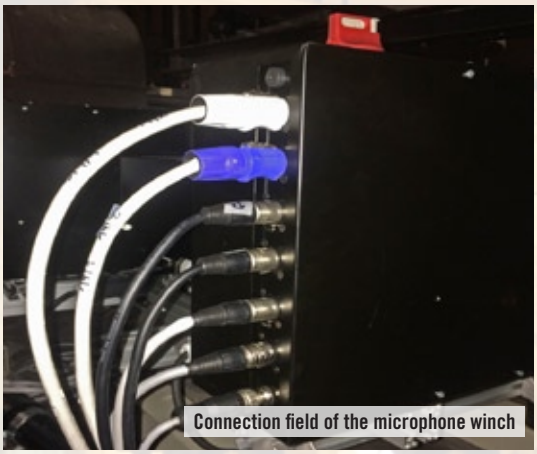


Ready-to-use microphone winches as a pair



Two 2D and one 3D airframes in operation



Connection field of the microphone winch

2D airframes in the large hall of the Alte Oper

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