## Specifications

### Digital matrix

- The RIEDEL digital matrix by Stage Tec is used to distribute the various audio signals. Rooms 1, 4, 5, 13 and 14 are linked to one another by a central router and redundant fiber-optic connections in a star-shaped network. The central router can also transmit audio signals to the trade-fair center's audio platform and to the radio studios.

At the ICM, the analog and digital signals in the RockNet are managed using Yamaha digital mixing consoles.

The individual RockNet installations each consist of an audio-control room, the stage, an output amplifier including DSP racks and a mobile audio-control setup. The various installations are linked to one another by a specially designed, previously installed fiberglass network, and they also come together in the main control room. This configuration makes it possible to control the entire audio network on the one hand and to independently control the individual rooms on the other. It also makes it possible to remotely control the RockNet installations from other ICM rooms.

The system is perfectly oriented to the individual rooms. This makes it possible to implement various setups (e.g. partitioning rooms, FOH, etc.) quickly without having to lay new cable each time.

### Digital audio console

- Rooms 1, 4, 5, 13 and 14 are equipped with a digital mixing console from Yamaha (Modell: LS932, M7CL, LS916), which has direct access to the matrix's inputs and outputs. The mixing console's input and output channels can be configured to meet any requirements (various EQs, compressors, limiters, gates and delays).
- Rooms 1 has a console LS 932 with 32 channel control strips.
- Rooms 4, 5 and 13 have consoles LS 916 with 16 channel control strips.
- Rooms 14 has a console M7CL with 40 channel control strips.
- In addition, slave consoles PM5D with 52 channel control strips are also available. They can be used in addition to the systems installed in each hall or when the rooms are partitioned.

### PA systems

- Each of the rooms at the ICM is equipped with a public-address system. These systems are designed for optimum voice amplification.

Optionally, line arrays can be installed in Rooms 1 and 14. The ICM uses L-ACOUSTICS line arrays that are preconfigured for their respective rooms. They produce particularly clear and understandable voice amplification as well as dynamic and powerful music amplification.

The advantage of using line arrays instead of a standard sound system is that all points in the room can be reached with sufficient levels using the same signal. This is made possible by the special configuration (banana shape) of the individual loudspeaker elements. This guarantees even distribution of sound to the back rows, even in larger rooms.
## Specifications

### Microphones

The ICM has suitable microphones of every type and from the most important manufacturers available for events of all kinds. Gooseneck-type capacitor microphones are available for lecterns, moderator podiums and boardroom tables. If high-quality recordings are required, a row of studio microphones can be used. Besides wired microphones, a Beyerdynamic UHF wireless system is available in each room that includes the following components:

- **Room 1**: 12 Shure wireless links, consists of 12x UR2 hand-held transmitters (Beta 87A), 12 x UR2 bodypack transmitters (WL185), 6x UR4D dual receivers, 2 x directional antennas (UA 870), frequency band H4E
- **Room 14**: identical to Room 01, frequency band L3E
- **Room 13**: identical to Room 01, frequency band L3E
- **Room 5**: 8 Shure wireless links, consists of 8x UR2 hand-held transmitters (Beta 87A), 8 x UR2 bodypack transmitters (WL185), 4x UR4D dual receivers, 2 x directional antennas (UA 870), frequency band H4E
- **Room 4**: 6 Shure wireless links, consists of 6x UR2 hand-held transmitters (Beta 87A), 6 x UR2 bodypack transmitters (WL185), 3x UR4D dual receivers, 2 x directional antennas (UA 870), frequency band H4E
- **Room 3**: 2 Shure wireless links, consists of 2x UR2 hand-held transmitters (Beta 87A), 2 x UR2 bodypack transmitters (WL185), 1x UR4D dual receiver, 2 x directional antennas (UA 870), frequency band H4E
- **Room 2**: identical to Room 03, frequency band H4E
- **Room 11**: 4 Shure wireless links, consists of 4x UR2 hand-held transmitters (Beta 87A), 4 x UR2 bodypack transmitters (WL185), 2x UR4D dual receivers, 4 x directional antennas (UA 870), frequency band J5E (2 wireless links per room section)
- **Room 12**: 4 Shure wireless links, consists of 4x UR2 hand-held transmitters (Beta 87A), 4 x UR2 bodypack transmitters (WL185), 2x UR4D dual receivers, 4 x directional antennas (UA 870), frequency band J5E (2 wireless links per room section)
- **Room 21**: 2 Shure wireless links, consists of 2x UR2 hand-held transmitters (Beta 87A), 2 x UR2 bodypack transmitters (WL185), 1x UR4D dual receiver, 2 x directional antennas (UA 870), frequency band J5E
## Specifications

### Interpreter system
The ICM has a DCN (Digital Congress Network) system manufactured by Phillips/Bosch. It can be used as an interpreter system (see room equipment for channel capacities) and as a panel-discussion system. A permanently installed infrared system makes it possible to broadcast audio signals to IR receivers.

- Rooms 2, 3, 4, 5, 11, 12 and 21 are equipped with a Philips analog DCN system.
- Rooms 1, 13 and 14 are equipped with a Bosch digital DCN system (Next Generation/Integrus).

### Intercom system
The ICM has two different intercom systems:

- **2-line (party line) system**: This system is permanently installed in Rooms 1, 4, 5, 13 and 14. The control booths are equipped with fixed microphone positions. Connections for belt packs with headsets are available on the stages, catwalks, etc.

- **Riedel Artist M**: For complicated productions, a Riedel digital intercom matrix with various microphone positions can be installed temporarily. It can be configured to meet the special needs of any event. If necessary, wireless units can also be incorporated into the communication system.