



National Forum of Music (NFM) Wrocław, Poland

THE VENUE

A giant Optocore network has been installed at the new National Forum of Music (NFM) in Wrocław – one of the biggest state-of-the-art concert hall complexes in Europe. As the name suggests, it will become a true forum for various concerts, festivals, cultural gatherings and events but also boasts a vast supporting array of other facilities including a recording studio, rehearsal rooms, conference rooms and exhibition spaces.

The main space comprises an 1800-seat concert auditorium and three smaller chamber halls (ranging from 250-450 seats) – connected via Optocore's digital synchronous network – the hub of one of the most advanced technical implementations in Poland.

Designed by APA Kurylowicz & Associates, not only is NFM home to all Wrocław's major orchestral and vocal ensembles, but in addition to its vast programme of music performance, it will also double as a movie theatre,

Optocore's sophisticated routing and distribution network was designed to provide 768 inputs; this was approved by the consultants, Artec and supplied by the German manufacturer's dealer, M. Ostrowski. Installation and commissioning were handled by ESS Audio, who oversaw the audio, video and intercom. The company formed part of a two-way consortium with PS Teatr, who were responsible for the mechanical staging and lighting – with both parties contracted by general contractor for the venue, Inter-System.

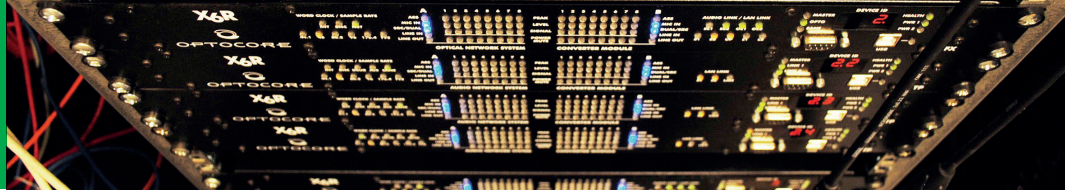
SYSTEM REQUIREMENTS

- Four independent analog microphone preamps: Front of House, Monitor, Recording and Broadcast
- 120 Microphone inputs
- Digital synchronous network which connects: Main chamber, Recital Red hall, Recital Black hall, Recital hall C
- Microphone inputs from each hall should be available over synchronous digital network at multiple audio console locations
- Signal distribution to intercom system
- Signal distribution to loudspeaker management system.



"I was positively surprised as installation and configuration went extremely smoothly."

Project Manager, Adam Pieron, ESS Audio



SOLUTION

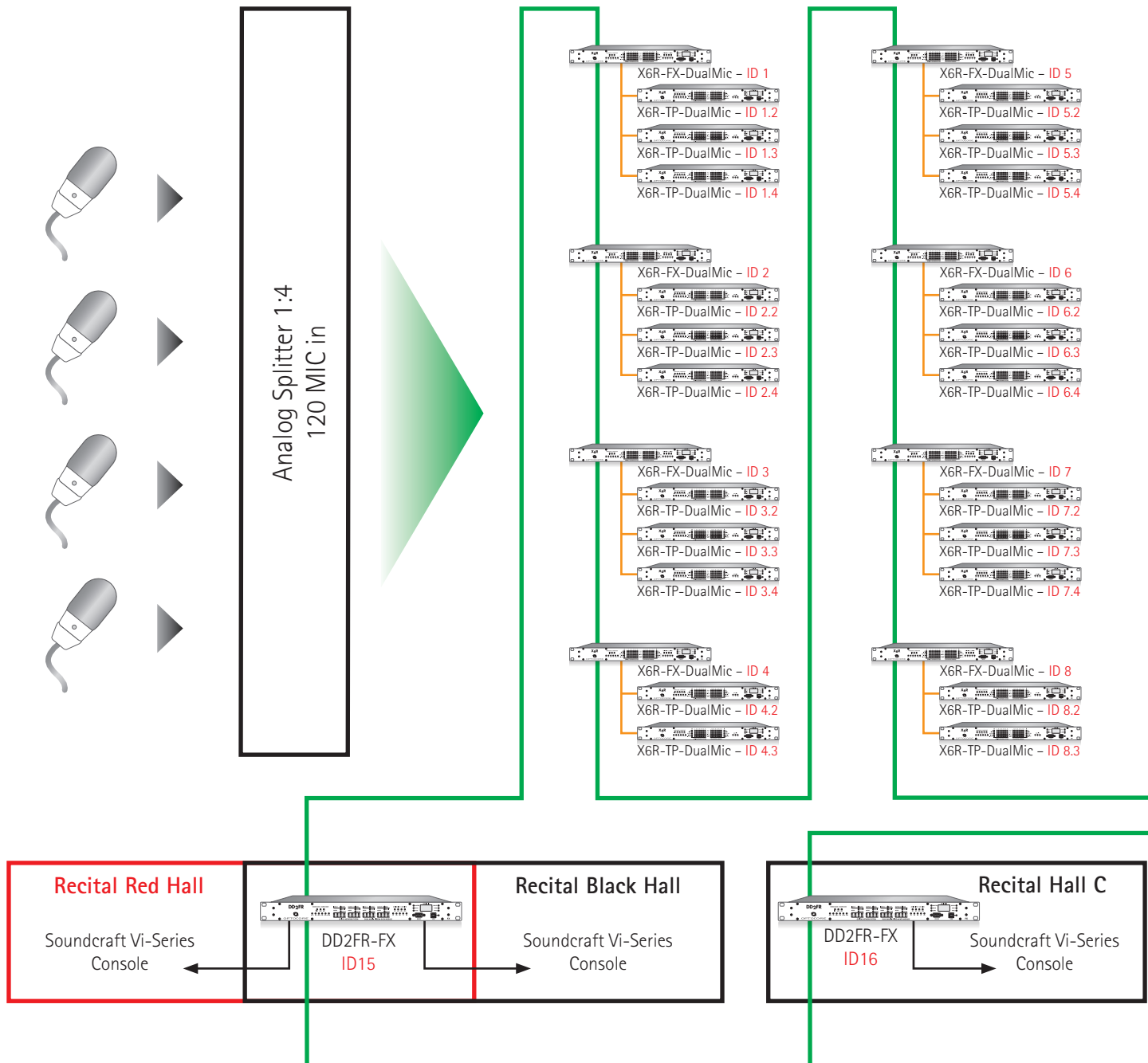
Optocore has provided the mic preamp front end in the form of eight multiple X6R-FX interfaces (all DualMic) and 22 X6R-TP DualMic devices, connected to the X6R-FX via their SANE protocol. Two sets of four X6R-FX and 11 X6R-TP DualMic modules are in use in the main hall and five DD2FR-FX MAD1 interfaces handle the FOH, Monitor mixer, OB vans, ProTools HDX recording and MAD1-Analog-AES converter.

Four separate gain controls are provided to 120 mic inputs – and up to four mixing desks, including the Soundcraft Vi6 and Vi1 delivered with the system, could control gain individually.

In addition, two further DD2FR-FX Optocore devices distribute MAD1 between the different auditoriums. Two DD2FR-FX are used to connect all the halls (Red, Black and Chamber) on a single Optocore MAD1 network. Soundcraft Vi consoles, with additional MAD1 cards for Optocore, reside in both In Red and

SYSTEM DIAGRAM

- OPTOCORE
- SANE
- Audio Connection



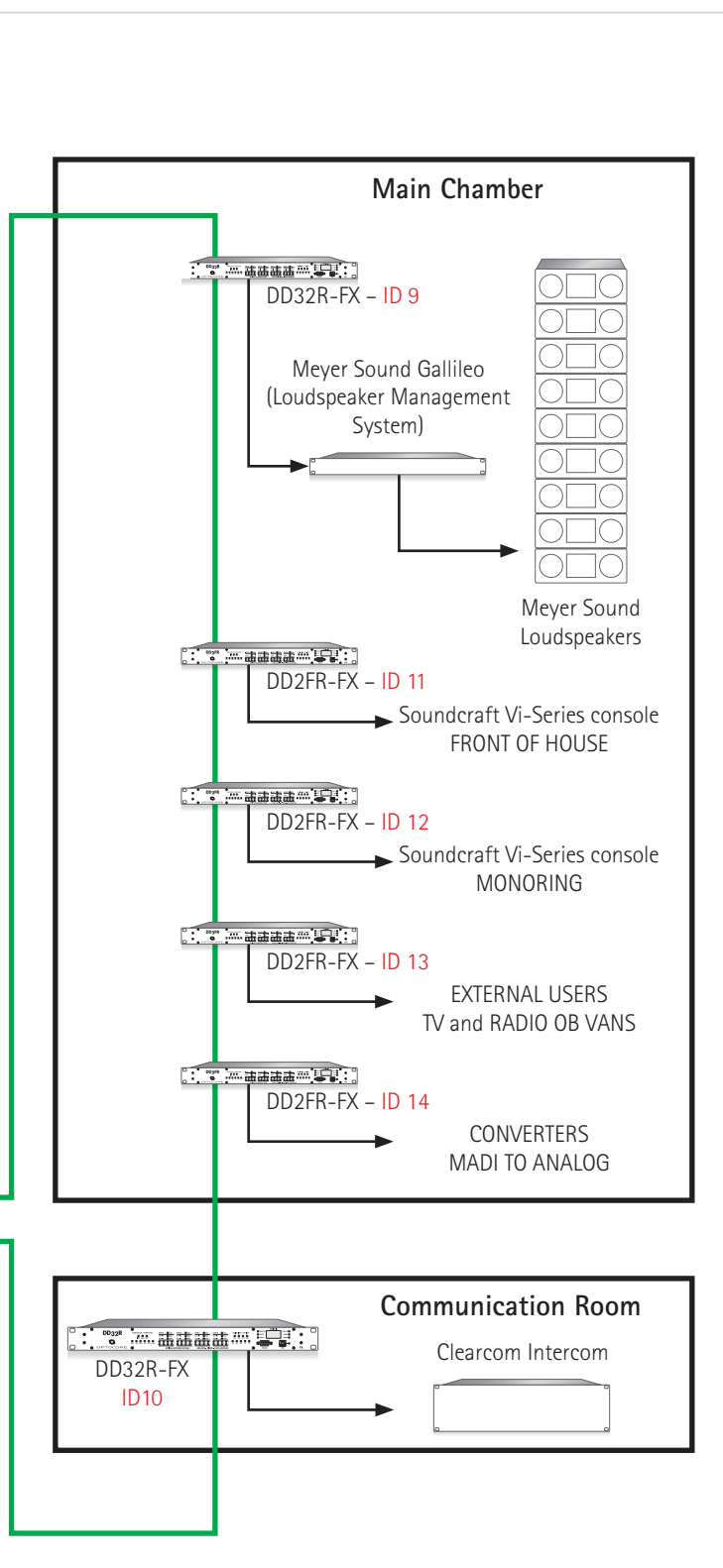
Black halls while in Chamber Hall a Soundcraft Performer 2 is also fitted with an additional MADI card. With all halls connected to Optocore, one can for instance record a concert in the Red Hall, or transmit a concert from main hall to all recital halls.

As for sound reinforcement, while one Optocore DD32R-FX interface feeds the Meyer Sound Galileo and Galileo Calisto processors, the second feeds the large ClearCom intercoms system and BSS Soundweb BLU network,

which controls Crown amps and 70 JBL speaker zones over the proprietary digital network; this covers the announcement systems in the concert hall and throughout the entire complex. Premium Meyer systems, specified by Artec – who remained as onsite consultants and engineering supervisors – are found in each of the halls, with Mina and Mica systems providing the main PA hangs in the principal two.

KEY ADVANTAGES

- 768 input channels routable in the digital network
- Decentralized system connecting four venues' control rooms
- Four separate individually controlled mic preamps for each of 120 Mic inputs
- Preamp control available from different consoles
- Low latency, redundant Fibre Optic solution with Ethernet embedded for 3rd party devices control
- All control for main backbone system available from one easy to use software
- Moveable Front of House position patched from Optocore Control software or fibre optic MADI Patch Bay



"There were more expensive options we could have considered but Optocore is very flexible and capable of handling complicated MADI routing – and DD2FR-FX modules are compatible with both Soundcraft and Studer mixers. It met all the requirements and was the easiest system to implement; it all went in very smoothly."

Project Manager, Adam Pieron, ESS Audio



SYSTEM COMPONENTS

| OPTOCORE Device | ID Number | Location | Functions |
|-----------------|-----------|-----------------------------|--|
| X6R-FX-DualMIC | 1 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 1.2 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 1.3 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 1.4 | | MICROPHONE Input #1 and #2 |
| X6R-FX-DualMIC | 2 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 2.2 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 2.3 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 2.4 | | MICROPHONE Input #1 and #2 |
| X6R-FX-DualMIC | 3 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 3.2 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 3.3 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 3.4 | | MICROPHONE Input #1 and #2 |
| X6R-FX-DualMIC | 4 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 4.2 | | MICROPHONE Input #1 and #2 |
| X6R-TP-DualMIC | 4.3 | | MICROPHONE Input #1 and #2 |
| X6R-FX-DualMIC | 5 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 5.2 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 5.3 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 5.4 | | MICROPHONE Input #3 and #4 |
| X6R-FX-DualMIC | 6 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 6.2 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 6.3 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 6.4 | | MICROPHONE Input #3 and #4 |
| X6R-FX-DualMIC | 7 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 7.2 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 7.3 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 7.4 | | MICROPHONE Input #3 and #4 |
| X6R-FX-DualMIC | 8 | MAIN CHAMBER AMP ROOM | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 8.2 | | MICROPHONE Input #3 and #4 |
| X6R-TP-DualMIC | 8.3 | | MICROPHONE Input #3 and #4 |
| DD32R-FX | 9 | MAIN CHAMBER UPPER AMP ROOM | Digital signal fed for a Loudspeaker Management System |
| DD32R-FX | 10 | COMUNICATION ROOM | Digital Signals for Intercom System – Sound Preview System |
| DD2FR-FX | 11 | MAIN CHAMBER AMP ROOM | FRONT OF HOUSE Connection for a Vi Series Soundcraft Console – 2 x MADI signal with 96 Mic Inputs with SEM |
| DD2FR-FX | 12 | MAIN CHAMBER AMP ROOM | MONITORING Connection for a Vi Series Soundcraft Console – 2 x MADI signal with 96 Mic Inputs with SEM |
| DD2FR-FX | 13 | MAIN CHAMBER AMP ROOM | CONNECTION FOR DAW – RECORDING – Software controllable gains |
| DD2FR-FX | 14 | MAIN CHAMBER AMP ROOM | CONNECTION FOR EXTERNAL USERS – OB VANS – Software controllable gains |
| DD2FR-FX | 15 | RECITAL HALL A+B | |
| DD2FR-FX | 16 | RECITAL HALL C | |

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