

Düsseldorf Schauspielhaus – Düsseldorf, DE

With more than 100 years of tradition behind it, the Düsseldorf Schauspielhaus is among the largest and most important theatres operating in the German speaking countries. Since 1970 it has been located in the Bernhard Peacock building at Gustaf-Gründgens space where it was spectacularly designed by architect Bernhard Pfau.

The theatre has extended its long relationship with Optocore, in order to keep pace with evolving technology. In the case of such a formidable, multi-space complex as this, an agile digital infrastructure, with multiple routing options and interconnectivity, is essential. To maintain this, the theatre has

upgraded the original Optocore analogue network, installed in 2011, to an advanced and future-proof system.

SYSTEM REQUIREMENTS:

- *Small form factor 1RU*
- *Decentralized network*
- *Lowest System Latency*
- *Seamless Integration with Digico Optocore loop*
- *Multi-channel interface for Wireless Microphones and IEM*
- *Flexible redundant star topology*

"In terms of transmission it was mandatory to keep system latency as low as possible. This is where Optocore is absolutely the market leader. Reliability and small form factor of the devices, enabling large decentralised systems to be built, are further reasons why Optocore was the choice for us."

Torben Kärst, Deputy Head of Sound

SOLUTION

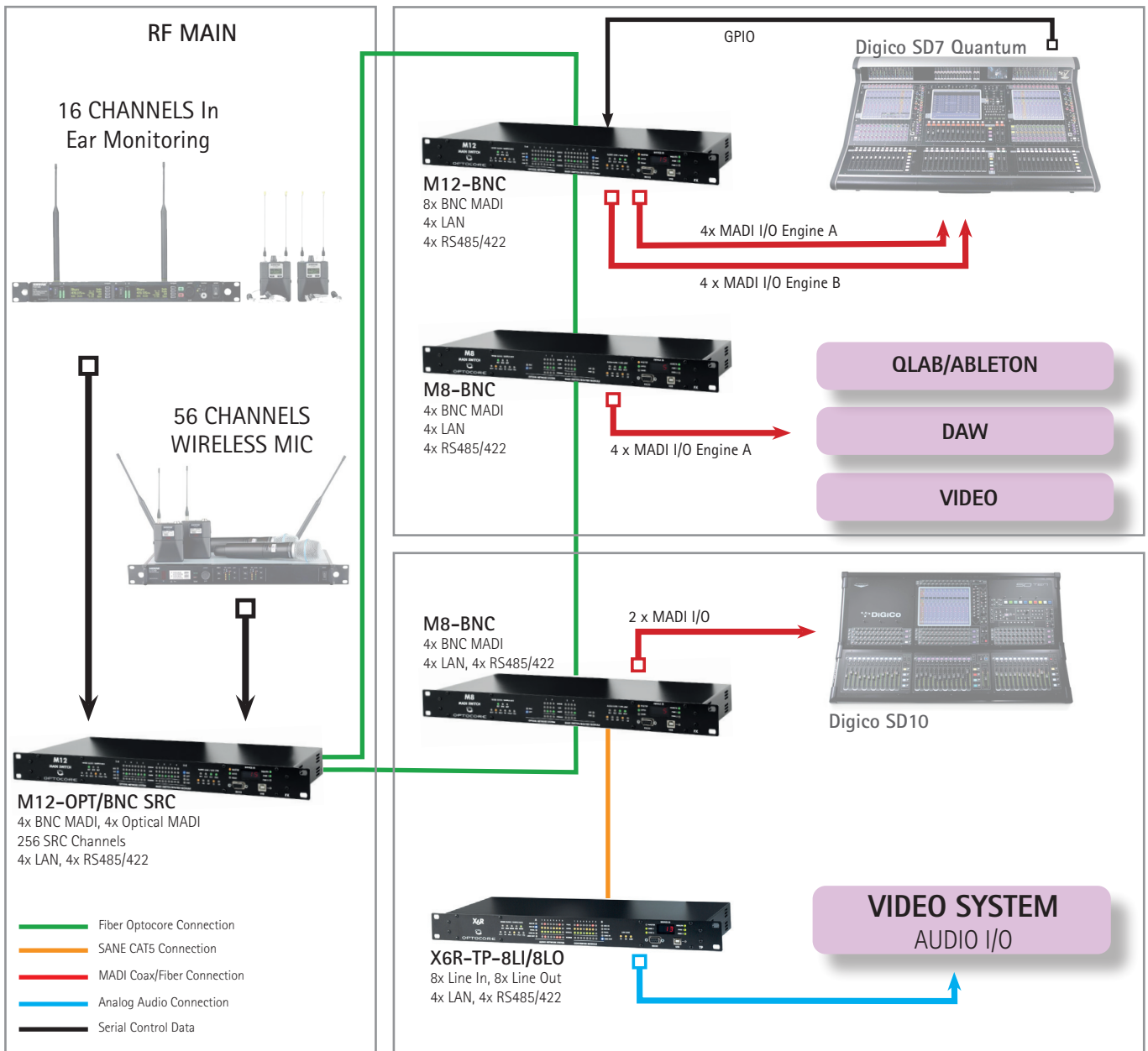
The Düsseldorf Schauspielhaus theatre has upgraded the original Optocore analogue network, installed in 2011, to an advanced and future-proof system. The installation was about achieving increased routing options, better sound quality, an increased channel count and greater flexibility.

From the original proposal for a 'stand alone' Optocore system for the smaller studio theatre came the possibility of exchanging audio signals between both the larger and smaller theatres. The biggest leap forward was when it was decided to centralise entire wireless system. Since then, it is possible to

send audio signals across the whole building. Crucially, third house loop, complementing the Optocore/DiGiCo loops in both the large and small venues, proved to be a much simpler but more powerful version of the original design.

The integration now features an Optocore AutoRouter, multiple MADI devices, connected to the DiGiCo system and Optocore's new sample rate converter. It is the centre point of the house loop. With this device, it distributes 56 radio mics and feed the 16 IEM devices. It's also the clock master of the whole audio system.

RF MAIN Audio Distribution SYSTEM





With AutoRouter there is no need for patch cables to close a loop, as this is now done automatically. Each connection point on stage is connected to the AutoRouter as well as the permanent devices as a loop and the DiGiCo console.

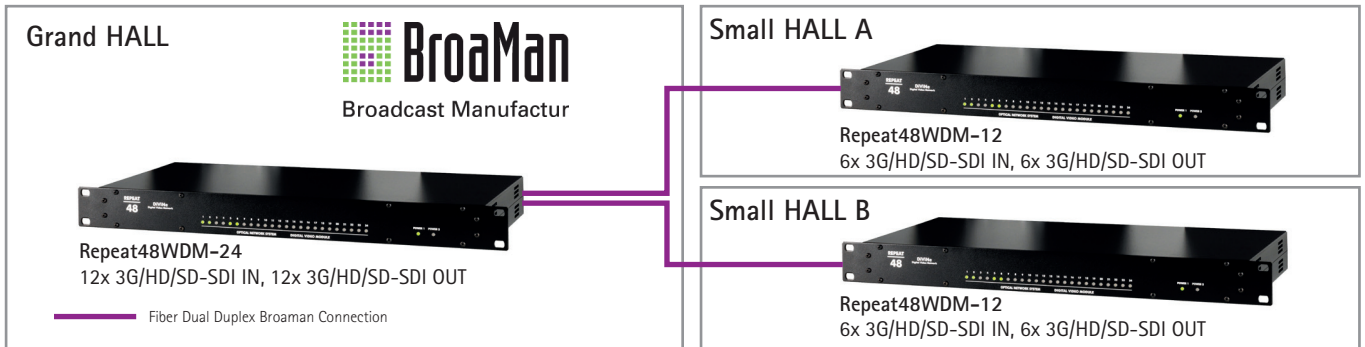
At the same time, the theatre's tech team had kept abreast of developments with Optocore partner company, BroaMan. As a result, three BroaMan Repeat48 devices have now been deployed for video distribution. It was one of the main task to ensure full integration and interconnection between audio and video. Repeat48WDMs are connecting grand hall machine

room with two small venues.

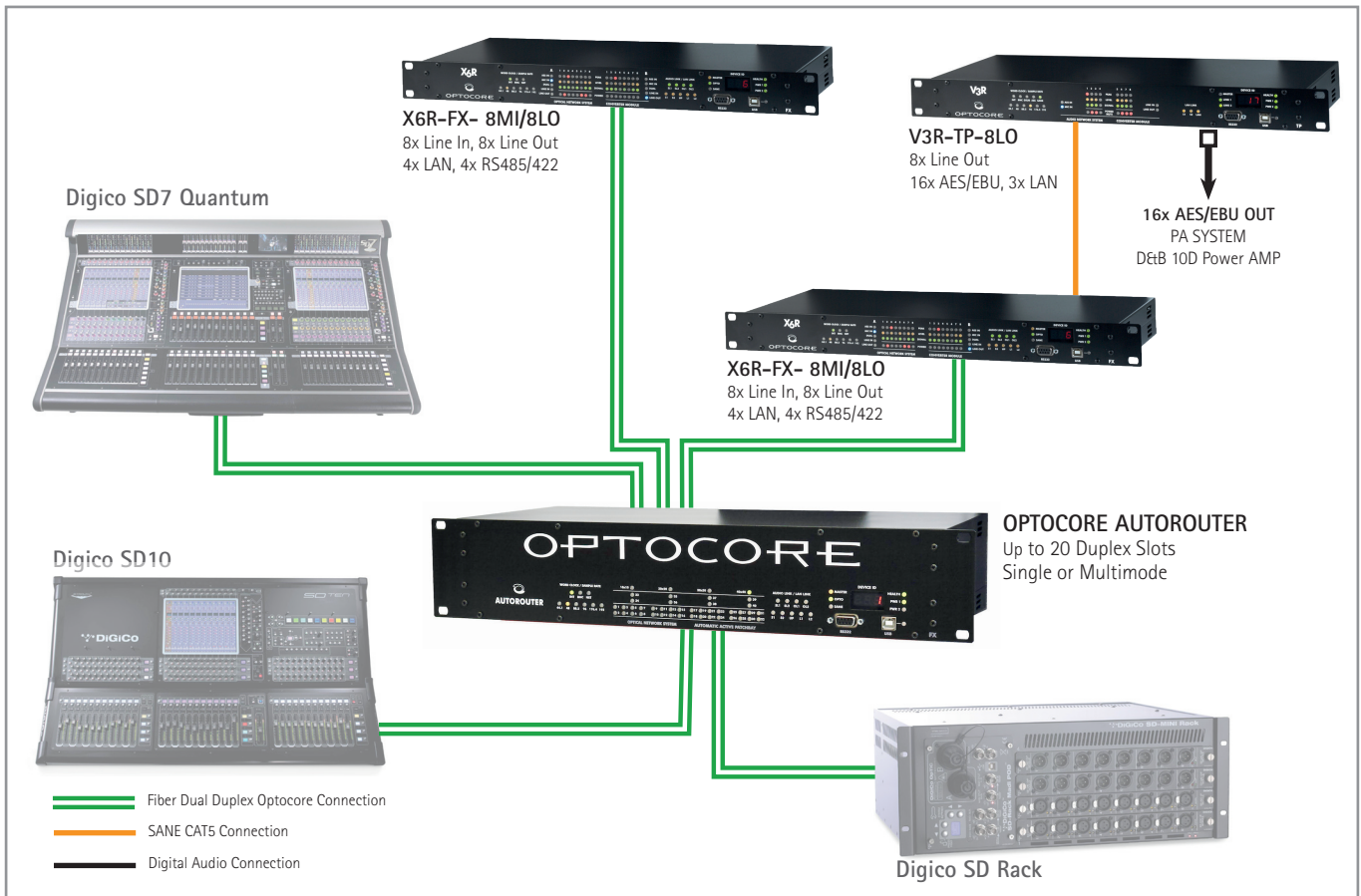
KEY ADVANTAGES:

1. One backbone system for all venues with all audio channels available in any system node
2. MADi Sample Rate Converters for Wireless system
3. Easy integration with Digico providing additional analog and digital I/O
4. Flexibility with Automatic System Routing for Star Topology

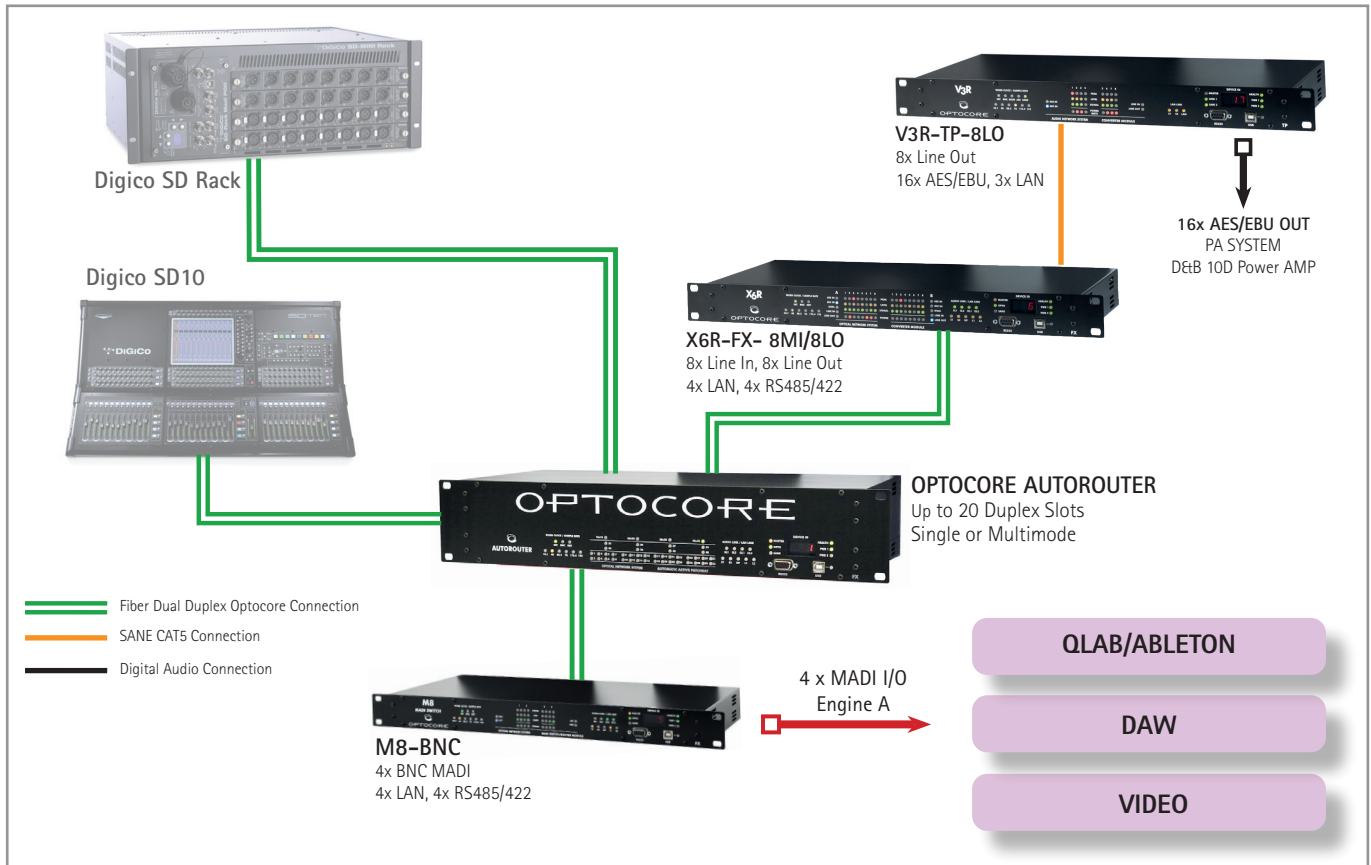
BROAMAN Video System



GRAND HALL SYSTEM



SMALL HALL SYSTEM



SYSTEM COMPONENTS:

Device	ID Number	Location	Functions
MAIN BACKBONE SYSTEM			
M12-OPT/BNC SRC	1	Main RF Room	Wireless Mics and IEM System
M12-BNC	2	Grand Hall	MADI I/O for SD7T Quantum ENGINE A and B, WC Distribution
M8-BNC	3	Grand Hall	QLAB/ABLETON, DAW, VIDEO SYTEM
M8-BNC	4	Small Hall	MADI I/O for SD10T-24
X6R-TP-8LI/8LO	4.2	Small Hall	Video System I/O
MAIN GRAND HALL			
Autorouter	-	Main Rack Room	Optocore/DIGICO Loop Managment
DIGICO SD7T	1	FOH	Main System Mixing Desk
DIGICO SD10T-24	3	Monitor	Monitor System Mixing Desk
DIGICO SD RACK	11	Stage	Audio I/O
X6R-FX-8MI/8LO	12	AMP ROOM	AES/EBU with SRC I/O
X6R-FX-8MI/8LO	13	AMP ROOM	AES/EBU with SRC I/O
V3R-TP-8LO	13.2	AMP ROOM	Power Amps Feed D&E 10D
SMALL THEATER HALL			
Autorouter	-	Main Rack Room	Optocore/DIGICO Loop Management
DIGICO SD10T-24	1	FOH	Main System Mixing Desk
DIGICO SD RACK	11	Stage	Audio I/O
M8-BNC	12	AMP ROOM	QLAB/ABLETON, DAW, VIDEO SYTEM wI/O
X6R-FX-8MI/8LO	13	AMP ROOM	Audio I/O
V3R-TP-8LO	13.2	AMP ROOM	Power Amps Feed D&E 10D
BROAMAN VIDEO SYSTEM			
Repeat48WDM-24	-	Main Rack Room - Grand Hall	Main Video Exchange HUB
Repeat48WDM-12	-	Small Hall A	Satelite Video Hub
Repeat48WDM-12	-	Small Hall B	Satelite Video Hub

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