



Case study: Networked Audio at KAP Europa

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KAP Europa

- Innovative convention center in the middle of Frankfurt (Germany)
- Next to Messe Frankfurt
- Operated by Messe Frankfurt
- Light, air, acoustics and the interior ensure a perfect climate
- Platinum certificated of German sustainable Building Council (DGNB)



Picture source: www.kapeuropa.de

- 7.700 m² event space
- 14 conference rooms



- 4.200 m² event space
Catering, Business Talks ...

Picture source: www.kapeuropa.de

Customer requirement:

audio system matching the acoustical demands of every conference room.



Focus on high quality sound for speech and video by using highly energy efficient devices.

Picture source: www.kapeuropa.de

Room Horizont– accomodates up to 1.000 people (example)



Audio Solution: Bose®
RoomMatch®
Progressive Directivity
Array

Picture source: PROSOUND



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ATTEROTECH



Audinate

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CREST AUDIO

Extron

Focusrite
REDNET

HARMAN

MACKIE

NEXO



RTS

SENNHEISER

SHURE



STEWART AUDIO

STUDER
HARMAN

Symetrix

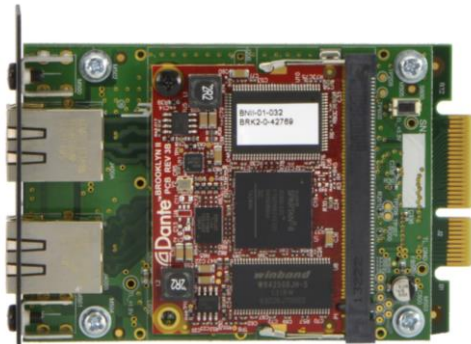
MUE
audioteknik



<http://www.audinate.com/resources/> © 2016

Amps & DSP at Horizont Hall

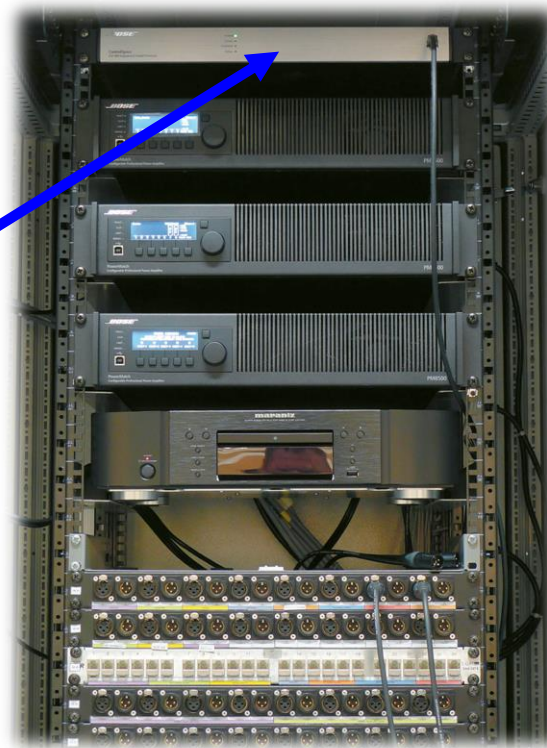
- 3x PowerMatch 8500N Amplifier powered by three 230V/16A circuits only
- powering 11x RoomMatch Module (5 Arrays)
- 1x ESP-880 Engineered Sound Prozessor



Bose ESP Dante Expansion Card
32 In x 32 Out



Dante™
SPOKEN HERE



Picture source: PROSOUND



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Bose ControlSpace® Designer

- Tool to configure audio signal processing and network operation of Bose DSP & Amps
- Creating fully customized signal processing
- Integrated Dante routing
- Also usable for Non-Bose Applications

The screenshot displays the Bose ControlSpace Designer interface. On the left, the 'SP Tool Kit' lists various audio processing modules such as AGC, Array EQ, AutoMidCbx, Compressor/Limiter, Crossover, Delay, Ducker, Gain, Gate, 13 Oct. Graphic EQ, Matrix Mixer, Meter, Parametric EQ, Peak RMS Limiter, Router, SGenerator, Source Selector, Speaker EQ, Speaker PEQ, Standard Mixer, and Tone control EQ. The main workspace shows a signal flow diagram with blocks for Serial In, GP In, Input 1-4, Gain, Links, Rechs, Center, Delay, Input 5-8, Links_Sum, Rechs_Sum, and Gain_Sum. On the right, the 'Dante Properties' window is open, showing routing options. The 'Receiver' is set to 'Soundcraft-B1' and the 'Transmitter' is 'Soundcraft-A1 (ESP-880 1)'. A table below shows Dante Out channels 2 through 16, with 'Dante In' checked for channel 2. A 'Diagonal (1x1)' button is at the bottom right.





Dante™ SPOKEN HERE

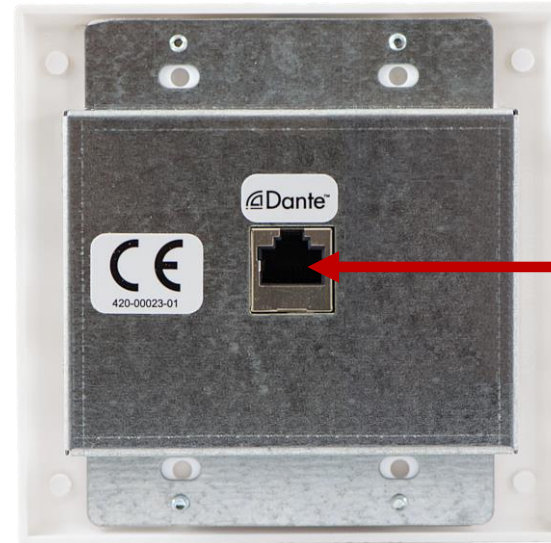
- Already defined during planning phase
- LAN designed for using DANTE (fiber / copper Hybrid)
- Dante ready network switches

Picture source: PROSOUND

Bose Dante Endpoint | 30 units available



ID indicator
to identify a specific
WallPlate via
ControlSpace
Designer



100 Mbps Dante
Ethernet
RJ-45 network
connection

Bose WP22BU-D

- Fits into most dual gang US junction boxes
- PoE enabled
- Communicating with Bose ControlSpace Designer Software



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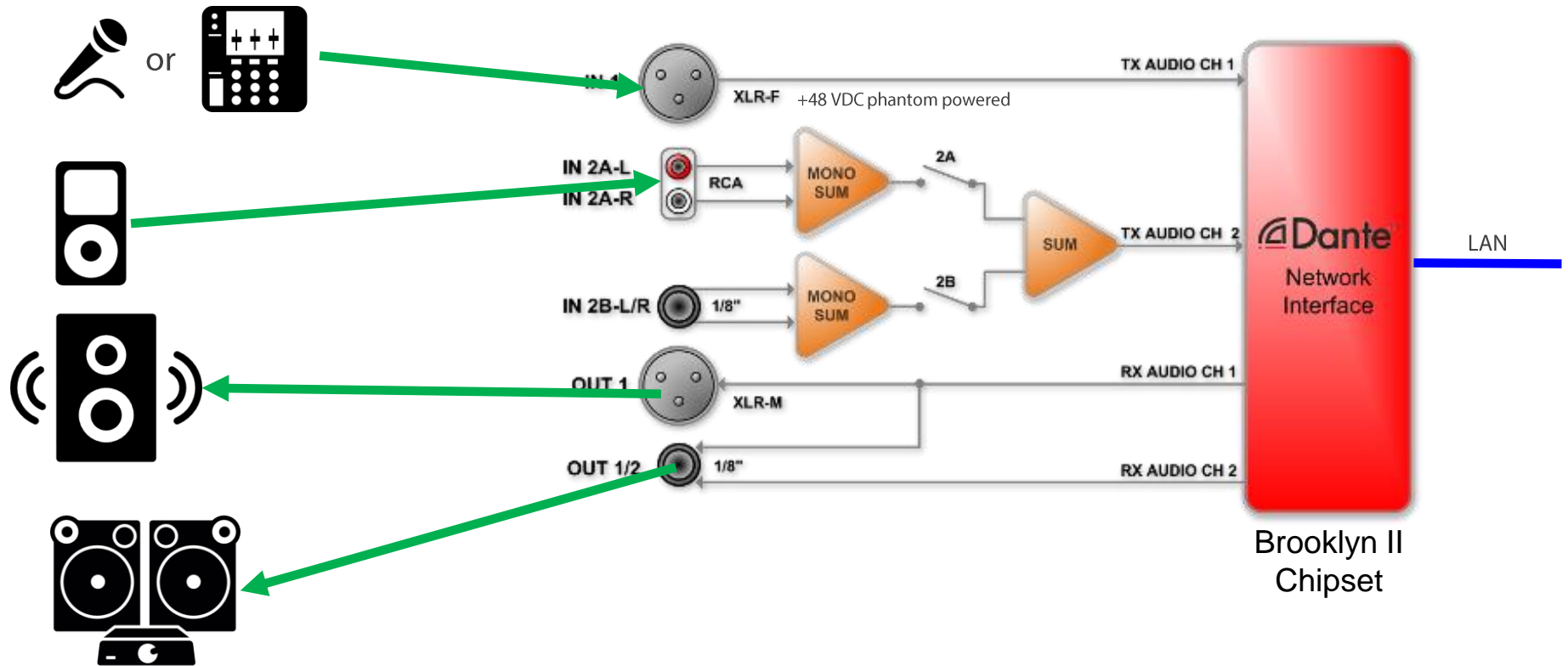
NEXO



RTS

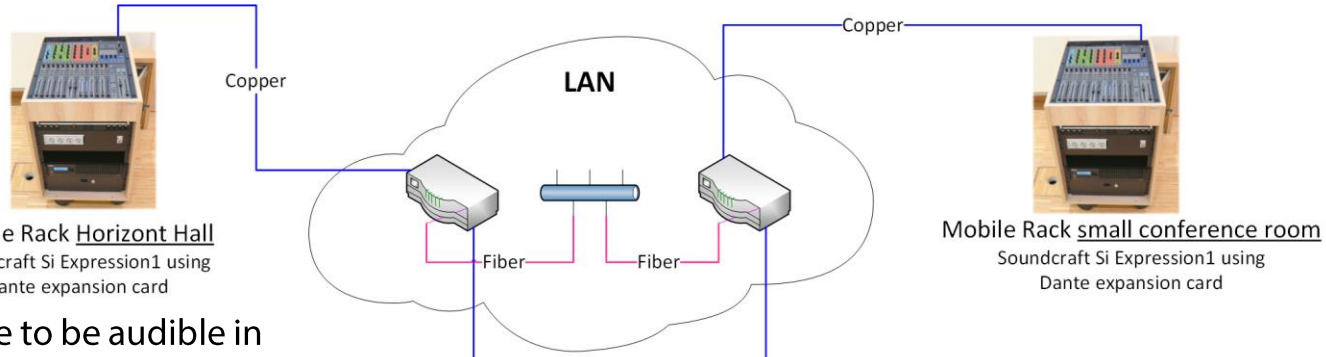


WP22BU-D Audio Flow Diagramm



Networked Audio

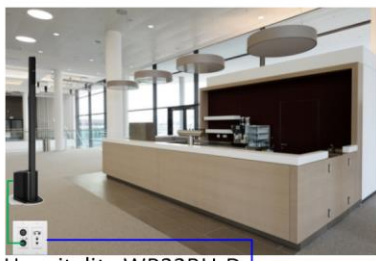
Example: shareholders meeting



Mobile Rack Horizont Hall
Soundcraft Si Expression1 using
Dante expansion card

Mobile Rack small conference room
Soundcraft Si Expression1 using
Dante expansion card

All spoken words have to be audible in each room or area of the venue.



Hospitality WP22BU-D



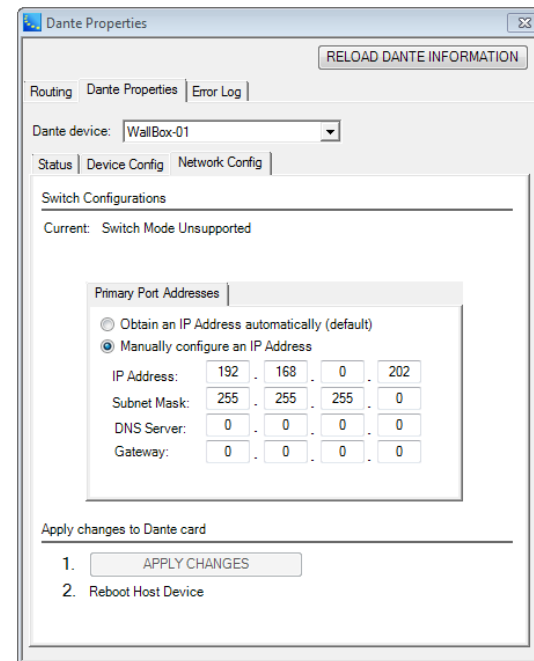
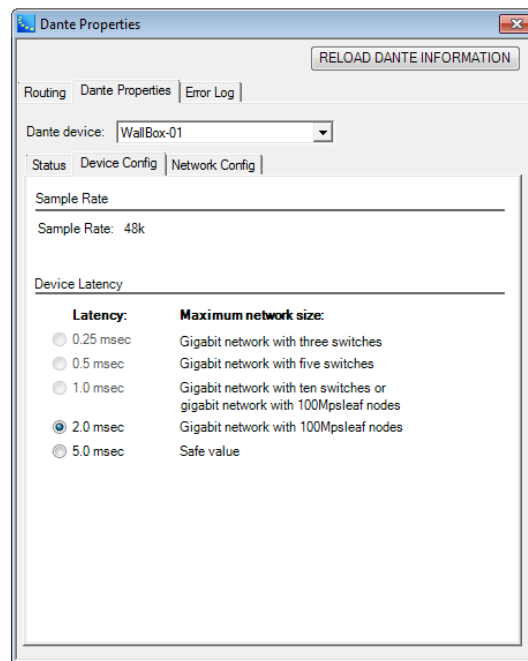
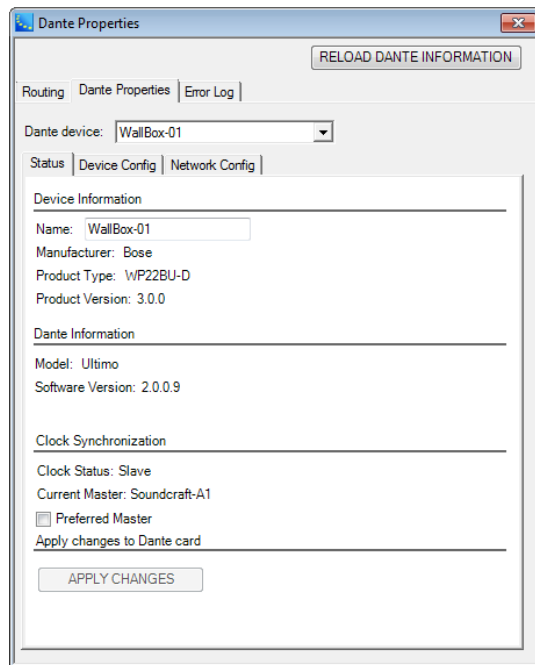
Reception WP22BU-D

Picturesource: PROSOUND
www.kapeuropa.de

Networked Audio



All Dante settings can be done by ControlSpace Designer Software



Networked Audio

All Dante settings can be done by ControlSpace Designer Software

Dante Properties

RELOAD DANTE INFORMATION

Routing | Dante Properties | Error Log

Directions: Click on cross-points to make subscriptions

Receiver: WallBox-01

Transmitter: Soundcraft-A1 (ESP-880 1)

Dante Out	✓	✓
Ch 2		
Ch 3		
Ch 4		
Ch 5		
Ch 6		
Ch 7		
Ch 8		
Ch 9		
Ch 10		
Ch 11		
Ch 12		
Ch 13		
Ch 14		
Ch 15		
Ch 16		

Diagonal (1x1)

Dante Properties

RELOAD DANTE INFORMATION

Routing | Dante Properties | Error Log

Directions: Drag and drop channels from a transmitting card to the receiving card to make subscriptions.

Transmitting Dante devices

Transmitting channel

Signal	Transmit Flow
Soundcraft-A1 (ESP-880 1)	edit multicast flows
Dante Out	multicast flow 32
Ch 2	unicast
Ch 3	unicast
Ch 4	unicast
Ch 5	unicast
Ch 6	unicast
Ch 7	unicast
Ch 8	unicast
Ch 9	unicast
Ch 10	unicast
Ch 11	unicast
Ch 12	unicast
Ch 13	unicast
Ch 14	unicast
Ch 15	unicast
Ch 16	unicast

Receiving Dante device: Soundcraft-B1

Receiving channel

Signal	Connected to	Status	Receive Flow
Dante In	Ch 1@Soundcraft-A1	✓	
Dante Out			

Add New Flow

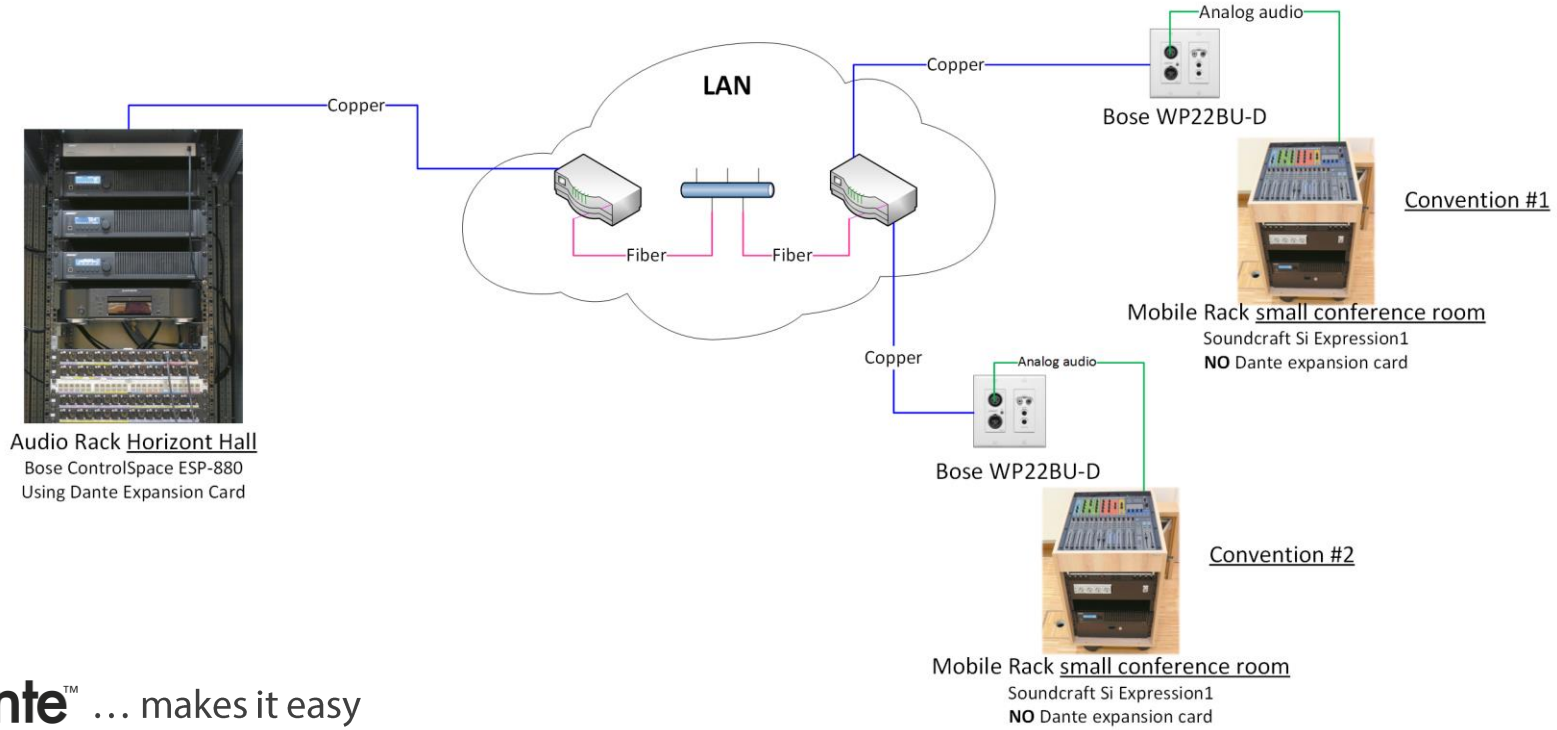
32

Dante Out

Networked Audio

Example: Convention

paging or announcement at the conference rooms should be audible in room Horizont

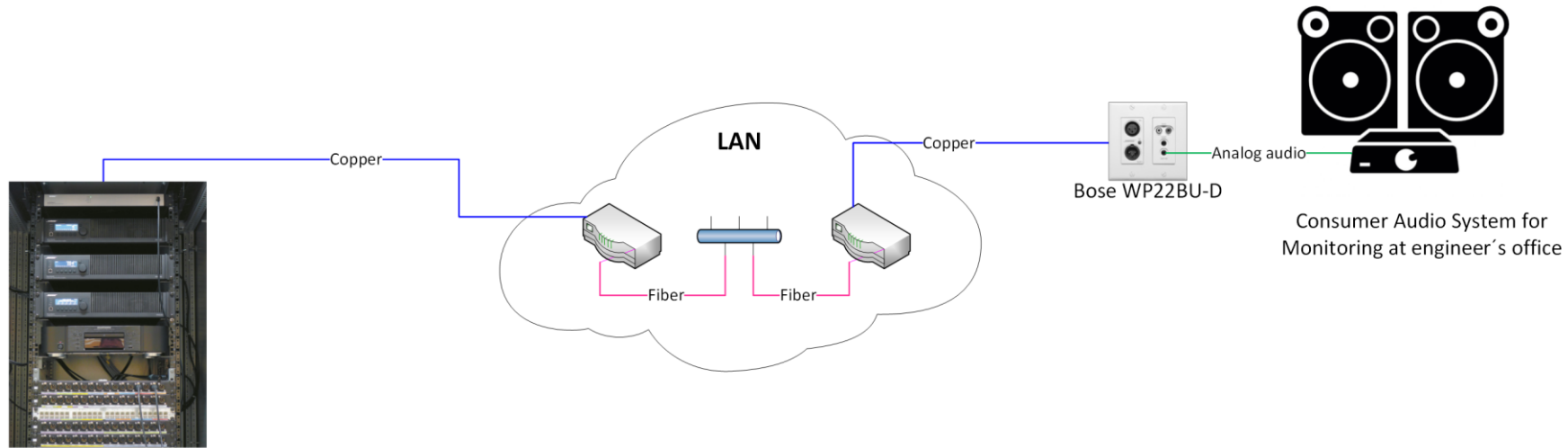


Dante™ ... makes it easy

Picture source: PROSOUND



Application: Monitoring at Engineer's office



Audio Rack Horizont Hall
Bose ControlSpace ESP-880
using Dante Expansion Card

Consumer Audio System for
Monitoring at engineer's office

Dante™ ... makes it easy



Picture source: PROSOUND



Thank you for ~~Questions~~ **Questions** our attention.

Please visit us at Hall 7 / booth C172

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RENKUS-HEINZ

Roland

RTS

SENNHEISER

SHURE

Soundcraft

STEWART AUDIO

STUDER HARMAN

Symetrix

MUE audioteknik

YAMAHA CO

