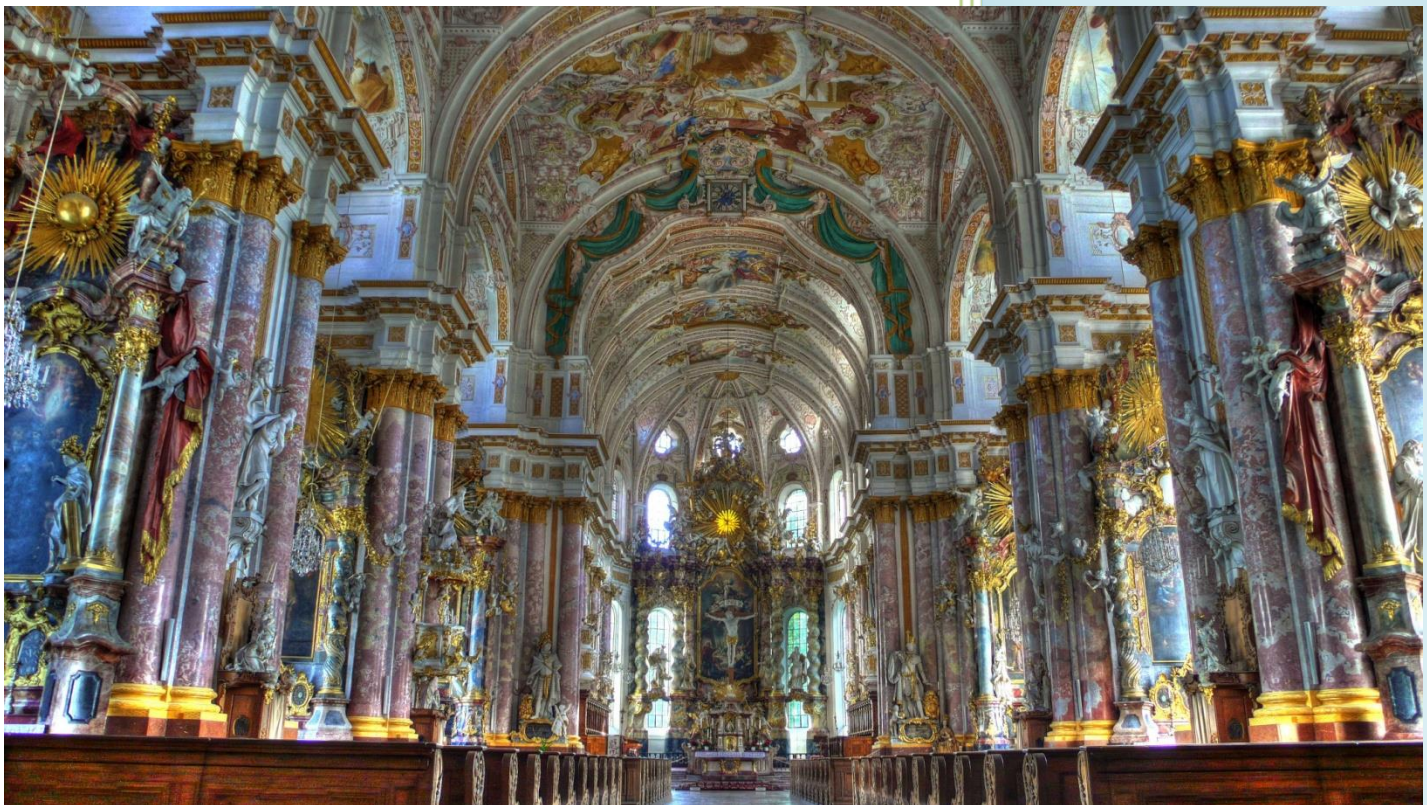


AVE mbH

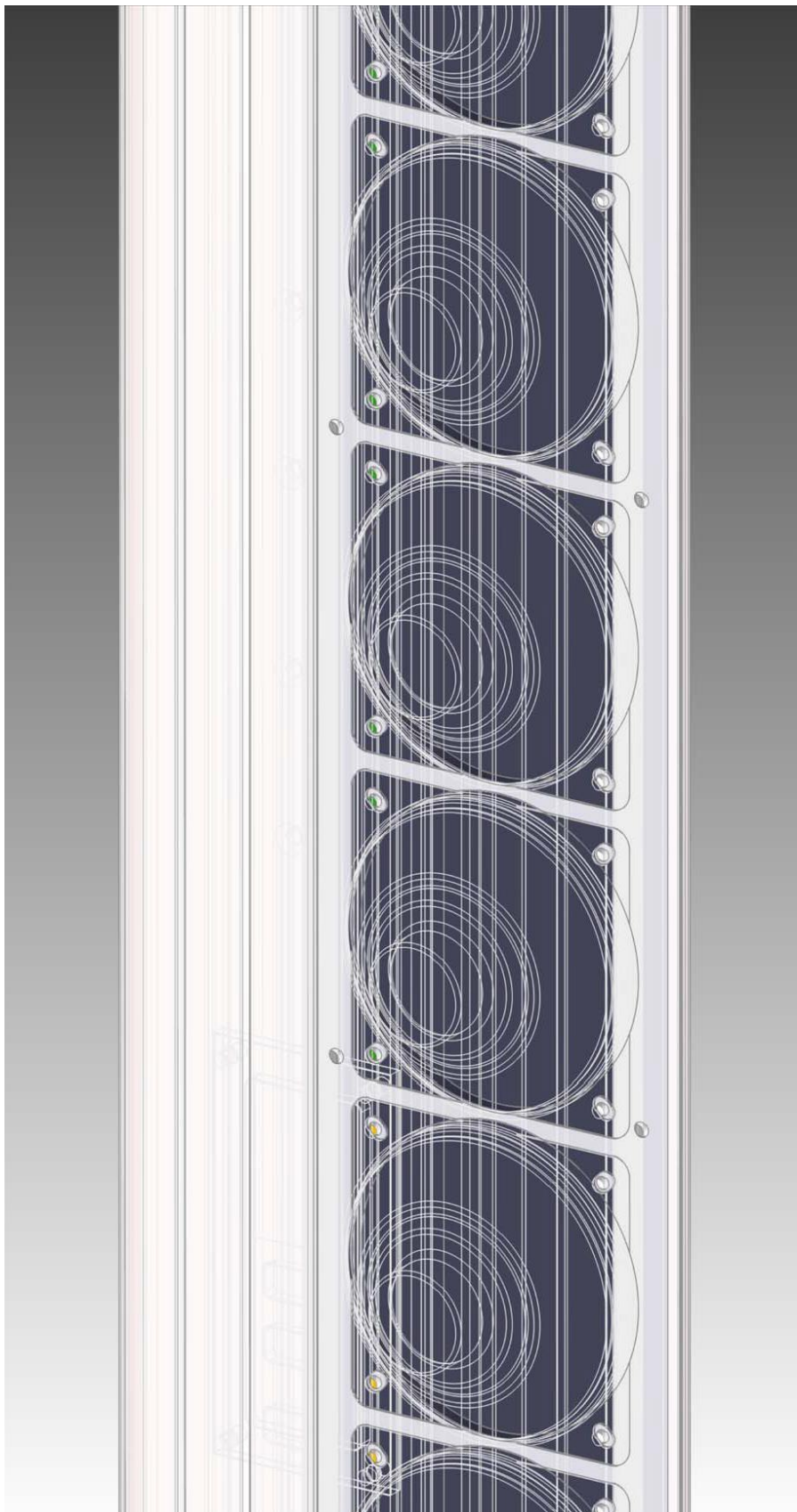
Digitally Controlled Line Array
Ascolto[®]



A.V.E. mbH

Audio Vertriebs-Entwicklungsgesellschaft

Germany



**Digitally
Controlled
Line Array**
Ascolto[®]

**LH2425
Datasheet**

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1.0 – Acoustic Specifications

Frequency Bandwidth

120 Hz to 20 kHz (± 3 dB)

SPL

Nominal/Peak

102 dB / 105 dB (A-Weighted at 10 m)

99 dB / 102 dB (A-Weighted at 20 m)

97 dB / 100 dB (A-Weighted at 30 m)

96 dB / 99 dB (A-Weighted at 40 m)

Coverage

Horizontal (fixed) 155° (-6 dB average 1 kHz to 4 kHz)

Vertical (adjustable) Tilting Angle: -60° to 60°

Opening Angle: 16° to 40°

Typical Throw 20 m

Maximum Throw 25 m

Dynamic Range

102 dB (f=1 kHz, AES17 filter)

Transducers

Number 24

Diameter 2.5" Full Range

Magnet Neodymium

Rated Power 15 W (with pink noise, 6 dB crest factor)

Musical Power 30 W

Sensitivity 1 W/1 m 85.2 dB

2.0 – Electrical Specifications

Audio Input 1: Line 0 dBu

Input Level Nominal	0 dBu (2.19 Vpp)
Input Level Maximum	10 dBu (6.92 Vpp)
Type	Balanced
Impedance	20 kΩ at 1 kHz

Audio Input 2: 100 V (Distributed Speaker System)

Input Level Nominal	39.2 dBu (200 Vpp)
Type	Balanced with Transformer
Impedance	20 kΩ at 1 kHz

Power Amplifier

Type	PWM (Class D)
Output Power	24 × 25 W _{rms} (8 Ω)
Power Efficiency	86%
THD+N	0.07% at 10 W _{rms/channel}
Output Integrated Noise	65 μV (typical) measured from 20 Hz to 22 kHz
Input Signal	Balanced
Channel Protections	Thermal Shutdown (T _{junction} > 150°C) Output Short Circuit

DSP Module

DSP Processors	48 bit Fixed Point DSP 76-bit Internal Accumulator 145 MHz
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Sample Rate	48 kHz
A/D Conversion	Resolution: 24 bit Linear PCM Conversion: 1-bit delta-sigma 256x Sample Rate: 48 kHz SNR: 102 dB (A-Weighted)
D/A Conversion	Resolution: 24 bit Linear PCM Conversion: upsampling 128x Sample Rate: 48 kHz SNR: 105 dB (A-Weighted)
Signal Processing	Beam Forming Filtering Input Equalization (10 Biquad) Volume (-120 dB _{FS} to 0 dB _{FS}) Delay (0 m to 30 m, step 0.1 m) Dynamic Compressor 2-Bands Input Signal Activity Detector

Control Module

Processor	32 bit ARM-Cortex M3 RISC 50 MHz
Network Interface	RS485, Half Duplex, 115200 baud/s 120 Ω Parallel Termination (recommended for long distance)
Processor Activities	DSP Firmware Booting DSP Status Monitoring PWM Power Amplifier Functions Controlling PWM Power Amplifier Status Monitoring Audio Input Channel Functions Controlling

Auto Stand-By Controlling
 RS485 Communication
 Infrared Communication
 Panel LEDs Controlling
 Firmware Updating

Connectors

Audio Inputs Connector	3-pole, 3.81 mm-pitch
Audio Inputs Pinout	pin 1: hot signal (+) pin 2: cold signal (-) pin 3: earth (chassis ground)
RS485 Network Connector	3-pole, 3.81 mm-pitch
RS485 Network Pinout	pin 1: data + pin 2: data - pin 3: digital ground
Mains Connector	IEC 60320 C14 three poles

PSU Module

AC Range	90 VAC to 264 VAC (Universal Input)
Input Frequency	47 Hz to 67 Hz
Efficiency	91% typ at 230 VAC
Input Current at Full Load	4.0 A typ at 115 VAC 2.0 A typ at 230 VAC
Power Consumption	Continuous: 395 VA Idle: 12 VA Stand-By: 4 VA
Protection	Thermal Protection

Output Current Limiting

Under-Voltage Lock Out

Main Fuse	1 × 6.3 A (slow blow)
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3.0 – General Specifications

Mechanical

Height	1970 mm
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Width	90 mm
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Depth	100 mm
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Weight	8.2 Kg (18.07 lbs)
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Cabinet	Powder Coated Aluminum Extrusion
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Colour	RAL 9010
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Special colour	available for an additional charge
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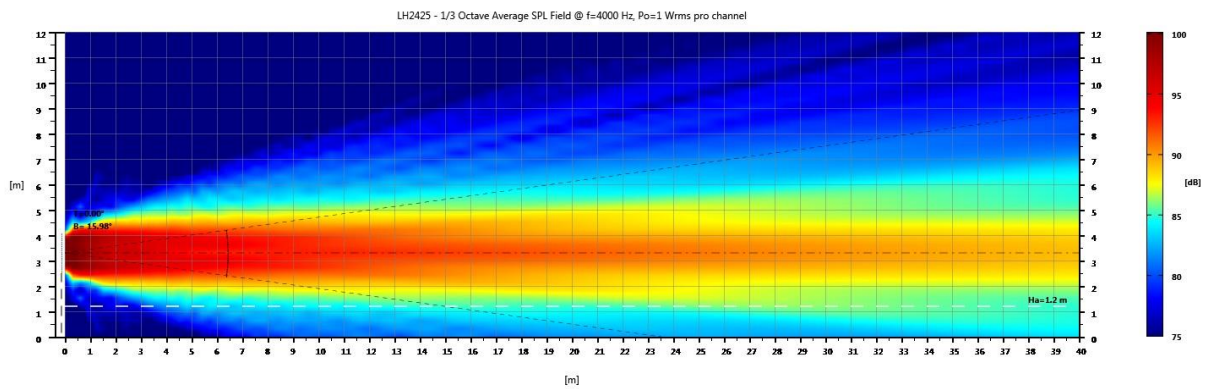
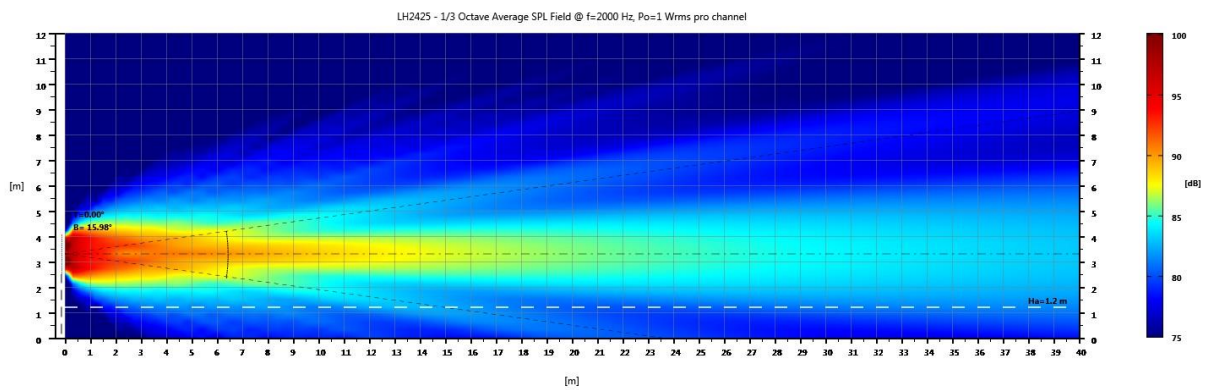
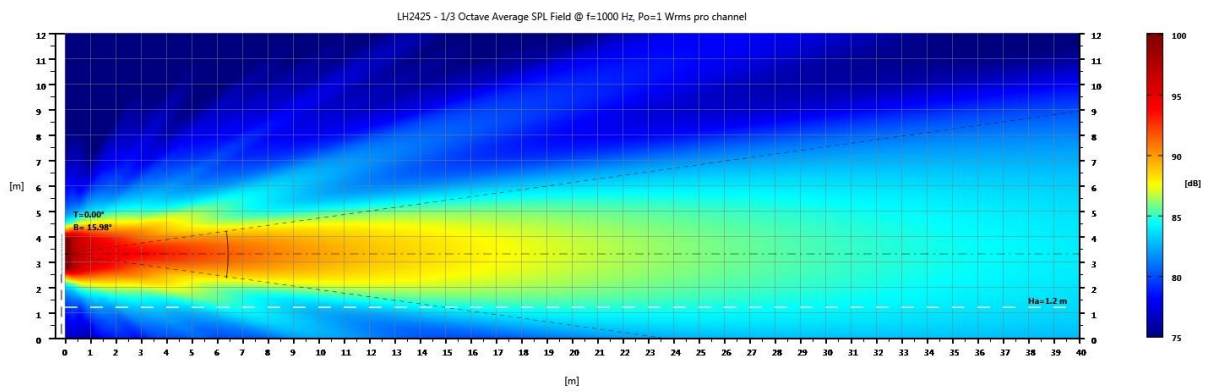
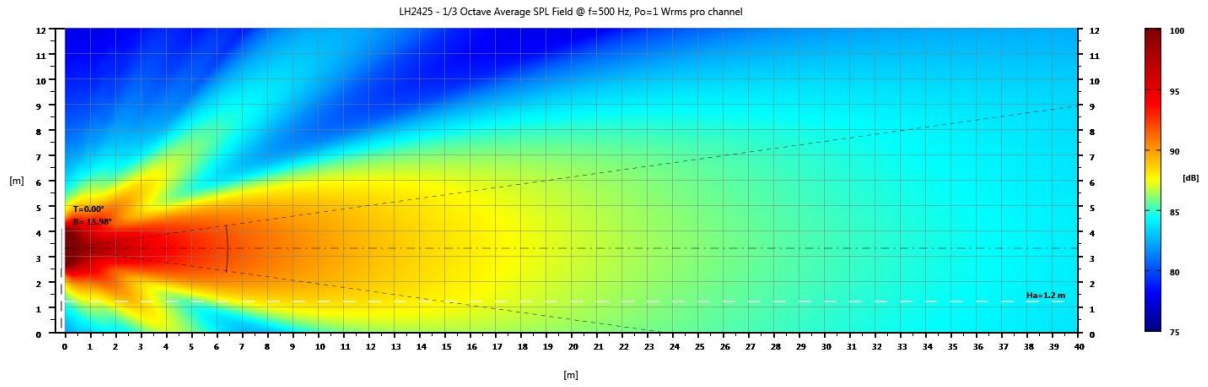
Temperature Range

0°C to 40°C (32°F to 102°F)

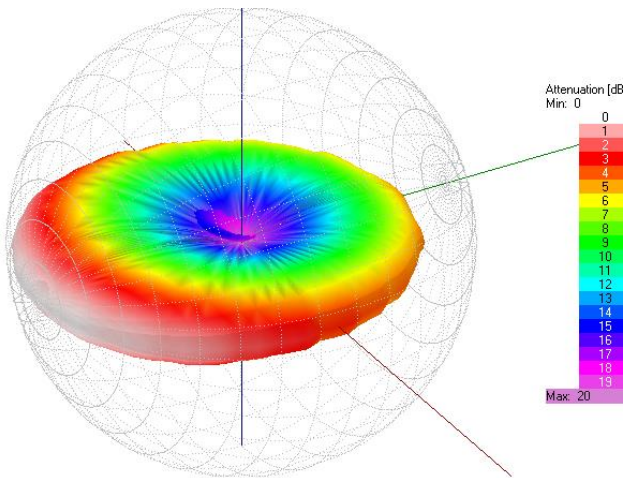
Certificates

CE

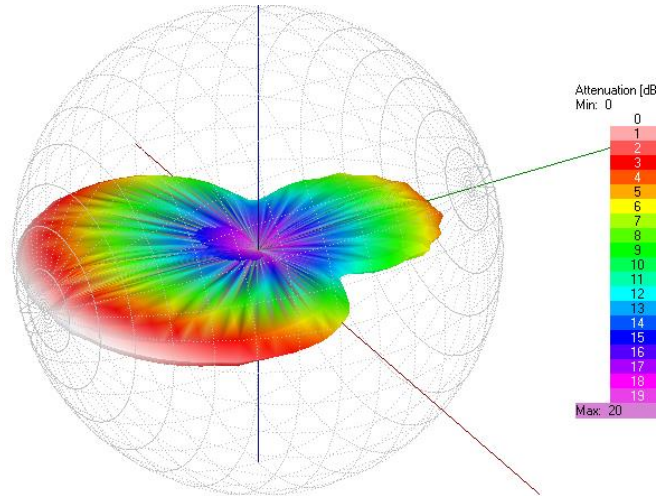
4.0 – Vertical Beam Pattern



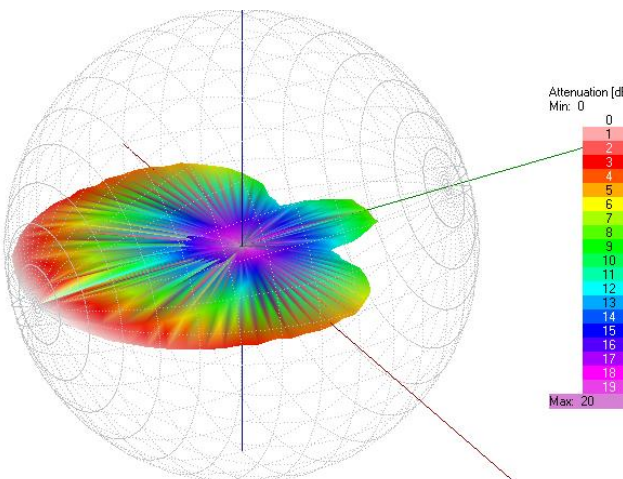
5.0 - Attenuation Balloon



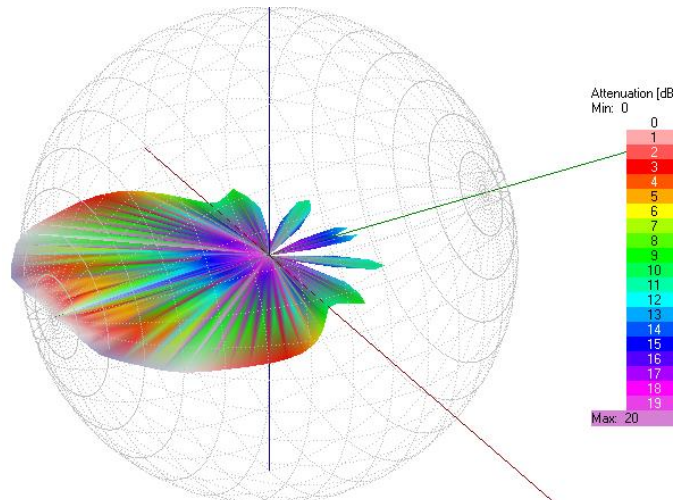
LH2425 – Attenuation Balloon – Freq = 500 Hz



LH2425 – Attenuation Balloon – Freq = 1000 Hz

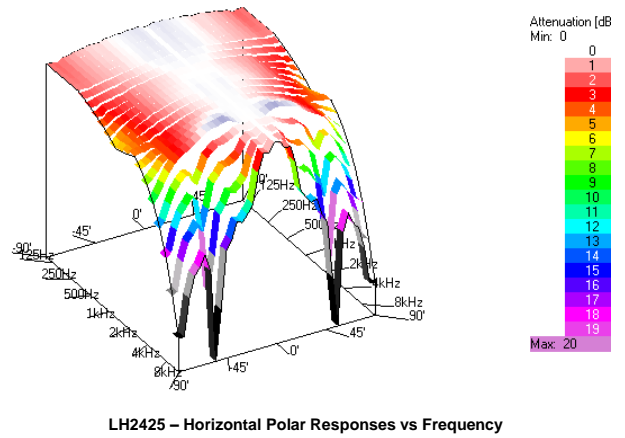
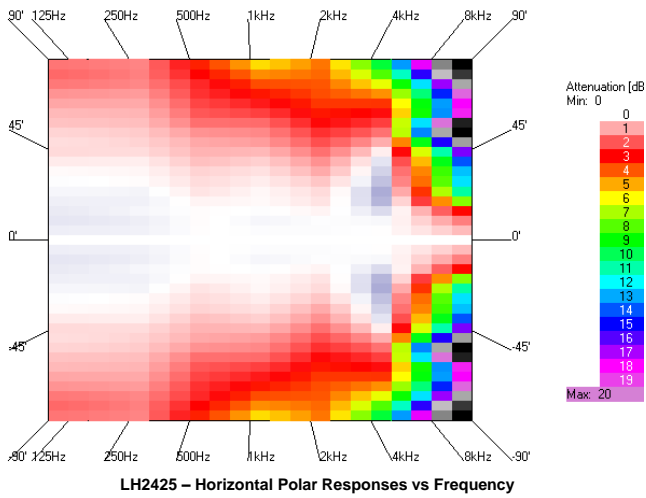


LH2425 – Attenuation Balloon – Freq = 2000 Hz

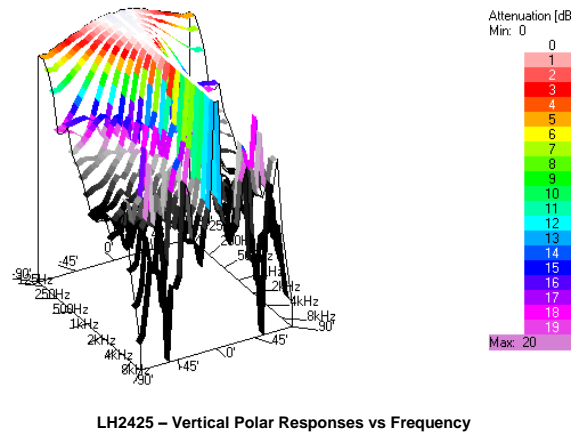
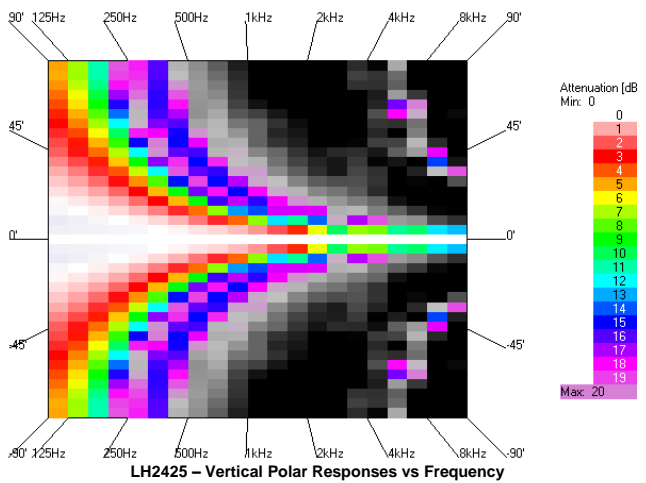


LH2425 – Attenuation Balloon – Freq = 4000 Hz

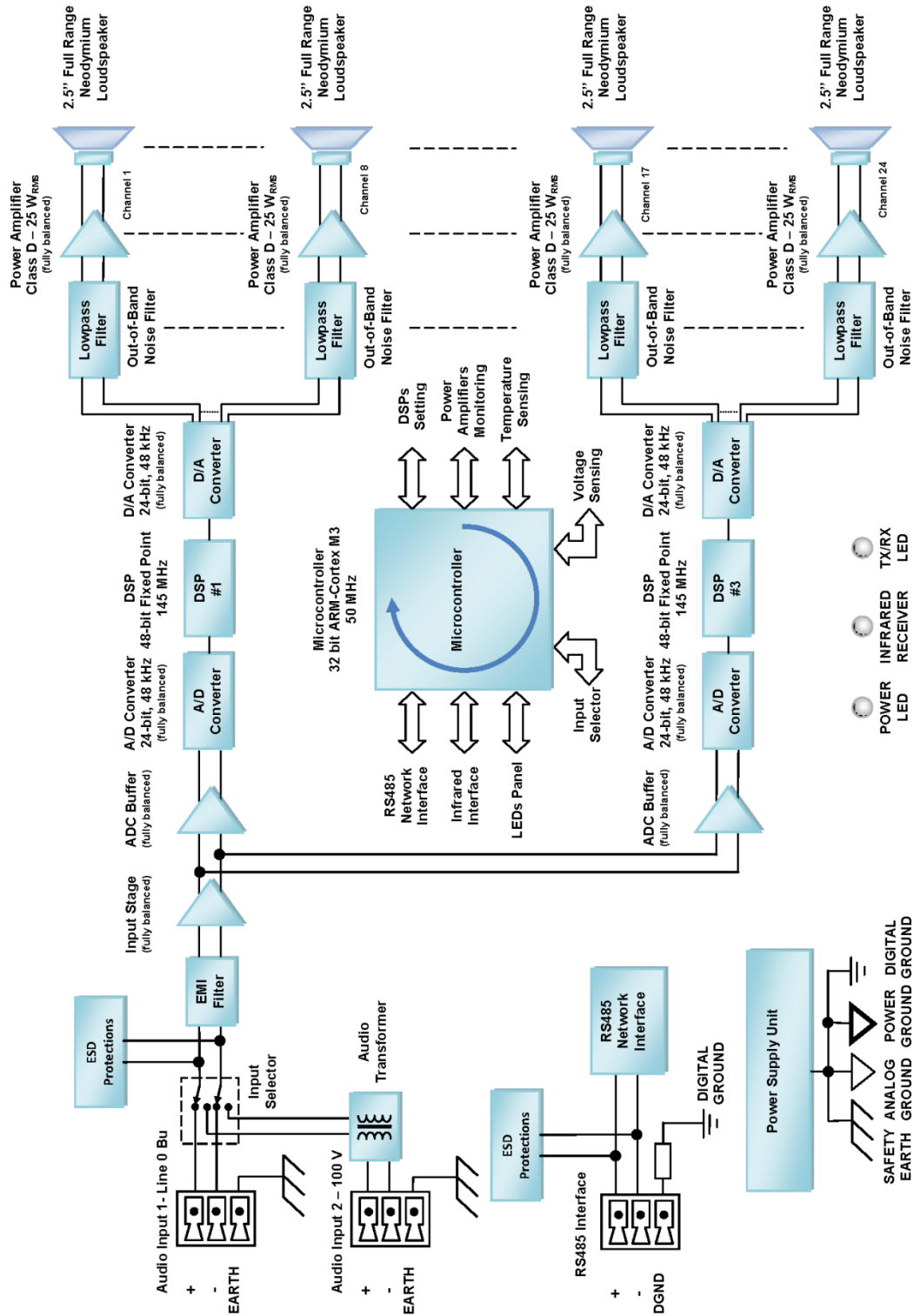
6.0 - Horizontal Polar Responses



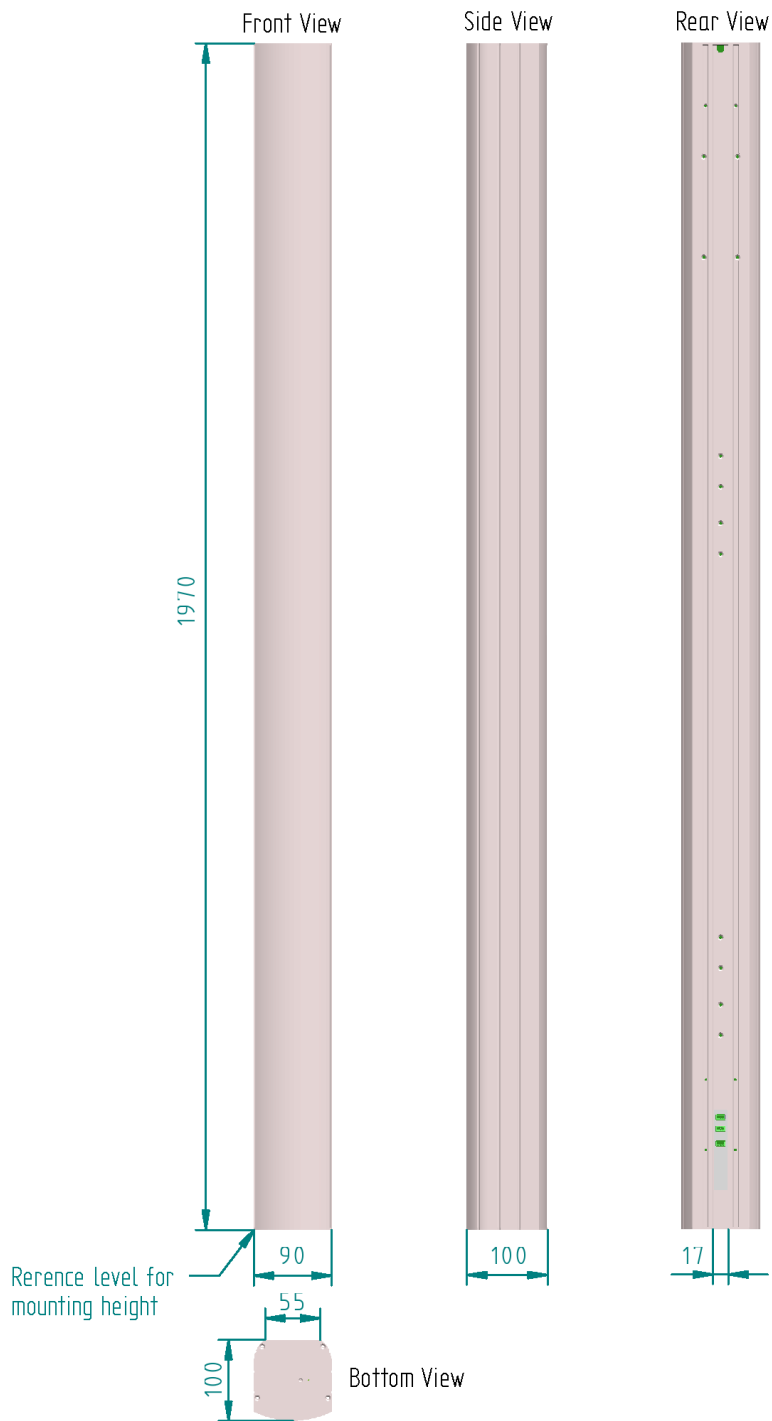
7.0 - Vertical Polar Responses



8.0 – Schematic Blocks



9.0 - Mechanicals Dimensions



Figures not drawn to scale

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