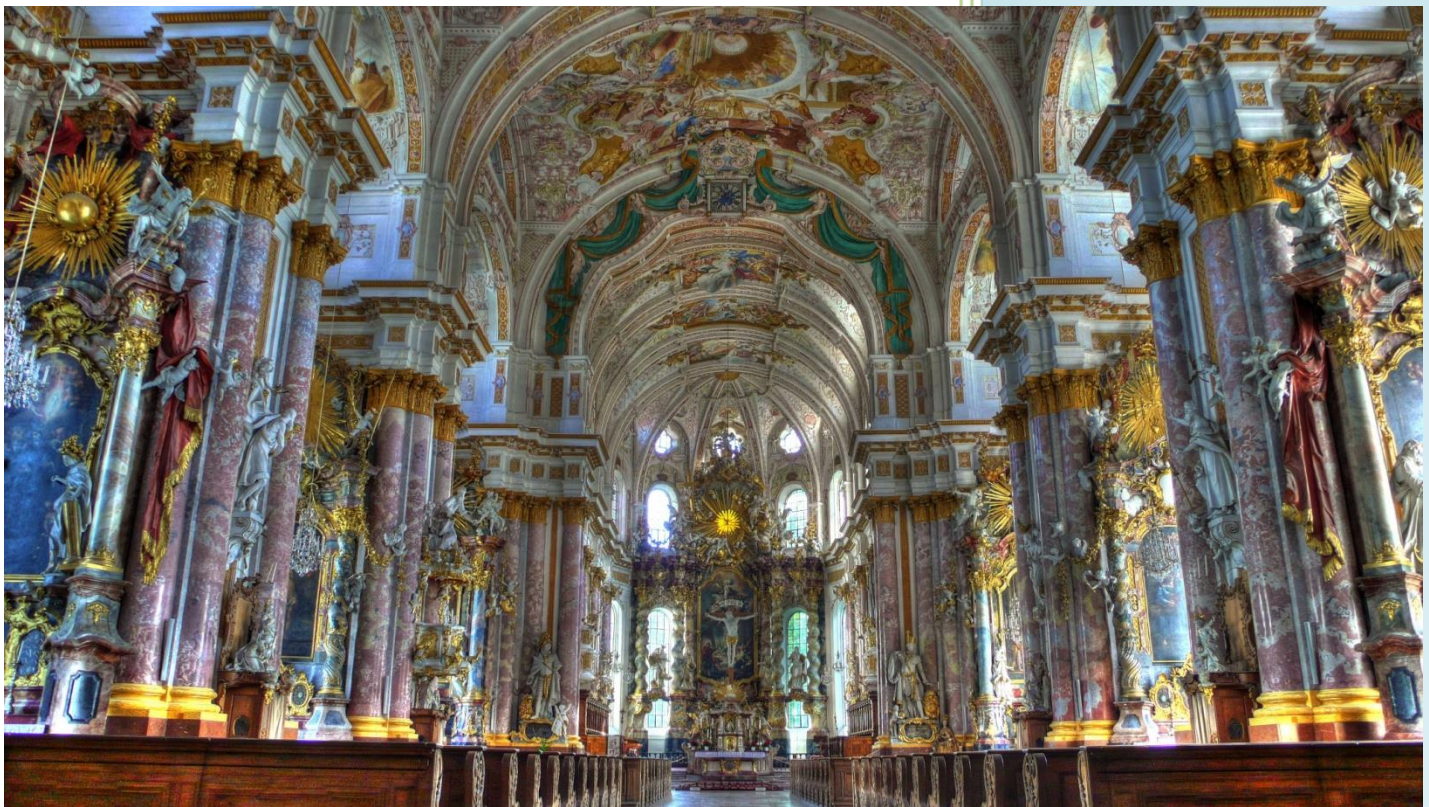


**AVE mbH**

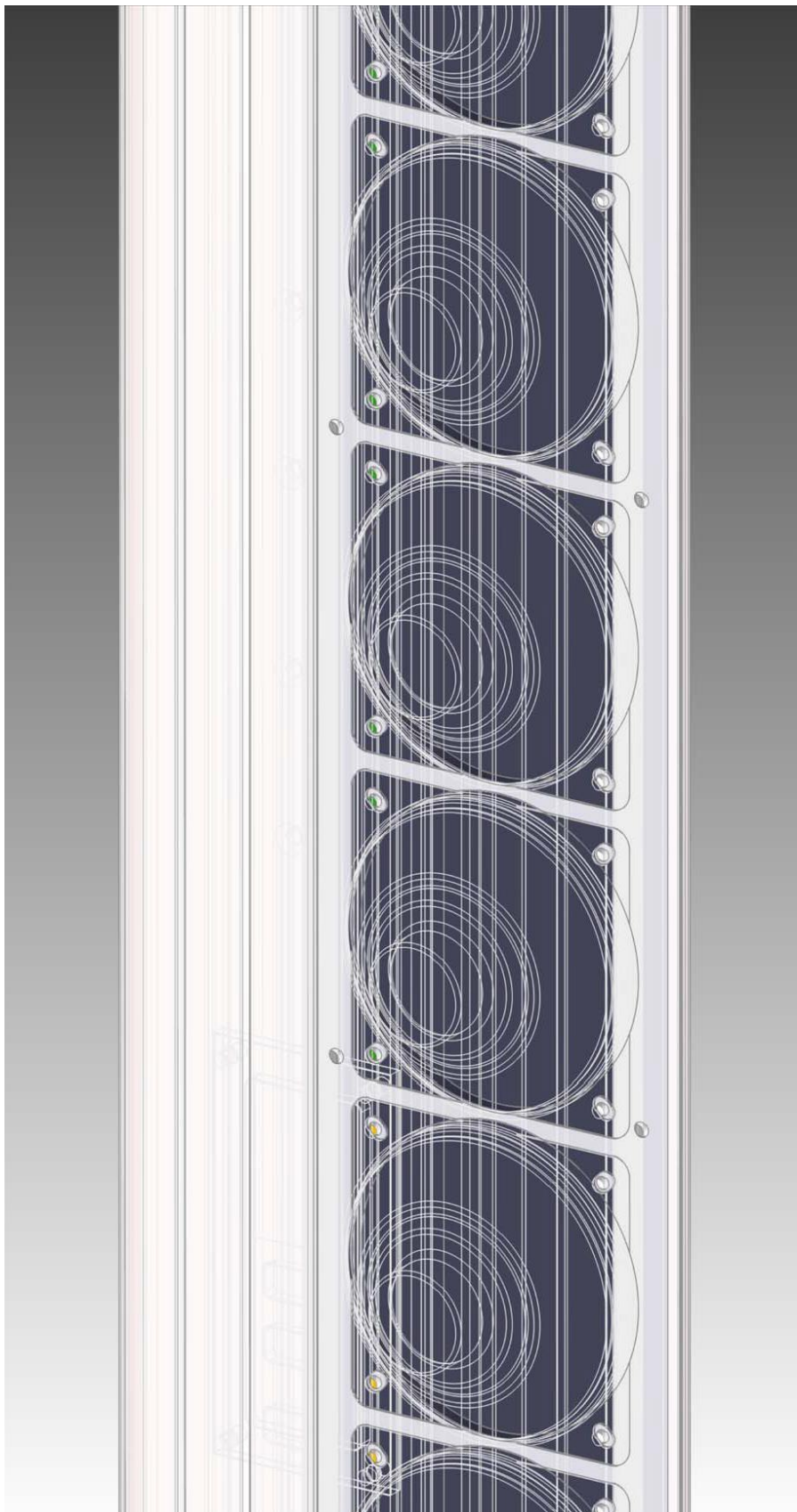
**Digitally Controlled Line Array**  
*Ascolto*<sup>®</sup>



**A.V.E. mbH**

**Audio Vertriebs-Entwicklungsgesellschaft**

**Germany**



**Digitally  
Controlled  
Line Array**  
*Ascolto*<sup>®</sup>

**LH1625  
Datasheet**

# Table of Contents

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## 1.0 – Acoustic Specifications

### Frequency Bandwidth

120 Hz to 20 kHz ( $\pm 3$  dB)

### SPL

#### Nominal/Peak

101 dB / 104 dB (A-Weighted at 10 m)

97 dB / 100 dB (A-Weighted at 20 m)

96 dB / 99 dB (A-Weighted at 30 m)

### Coverage

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

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

Opening Angle: 23° to 40°

Typical Throw 15 m

Maximum Throw 20 m

### Dynamic Range

102 dB (f=1 kHz, AES17 filter)

### Loudspeaker

Number 16

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 87.5 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	16 × 25 W <sub>rms</sub> (8 Ω)
Power Efficiency	86%
THD+N	0.07% at 10 W <sub>rms/channel</sub>
Output Integrated Noise	65 μV (typical) measured from 20 Hz to 22 kHz
Input Signal	Balanced
Channel Protections	Thermal Shutdown (T <sub>junction</sub> > 150°C) Output Short Circuit

### DSP Module

DSP Processors	48 bit Fixed Point DSP 76-bit Internal Accumulator 145 MHz
----------------	--

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 <sub>FS</sub> to 0 dB <sub>FS</sub> ) 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 x 6.3 A (slow blow)

### 3.0 – General Specifications

#### Mechanical

Height	1434 mm
Width	90 mm
Depth	100 mm
Weight	5.2 Kg
Cabinet	Powder Coated Aluminum Extrusion
Colour	RAL 9010
Special colour	available for an additional charge

#### Temperature Range

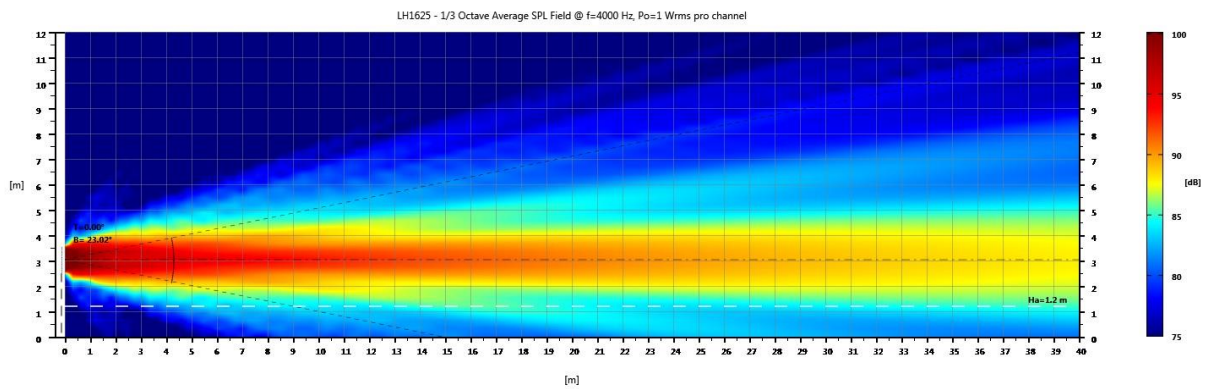
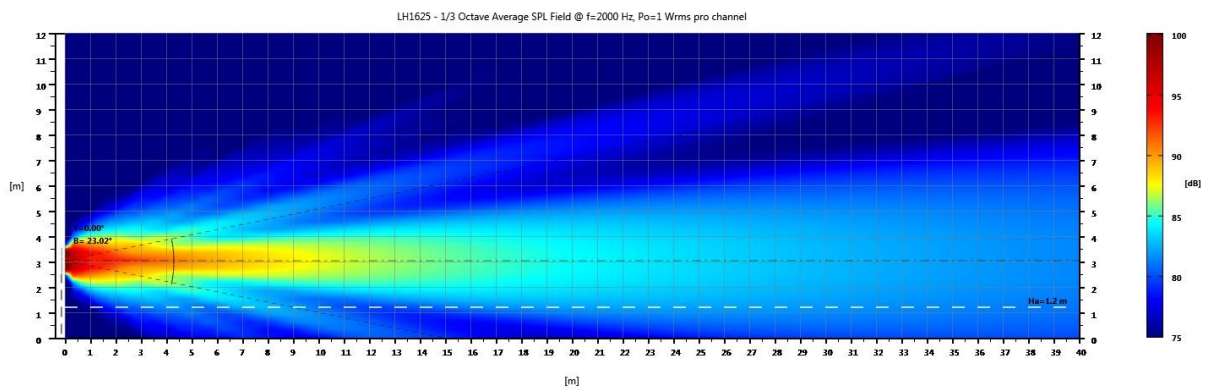
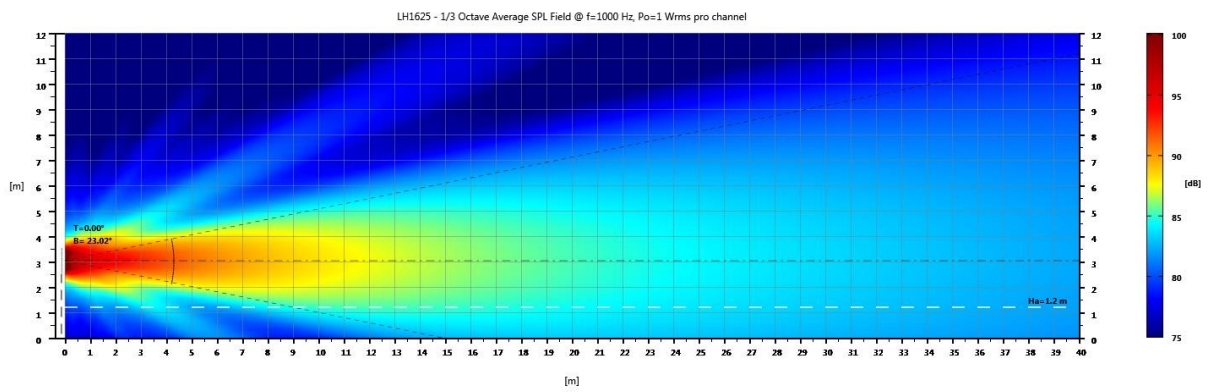
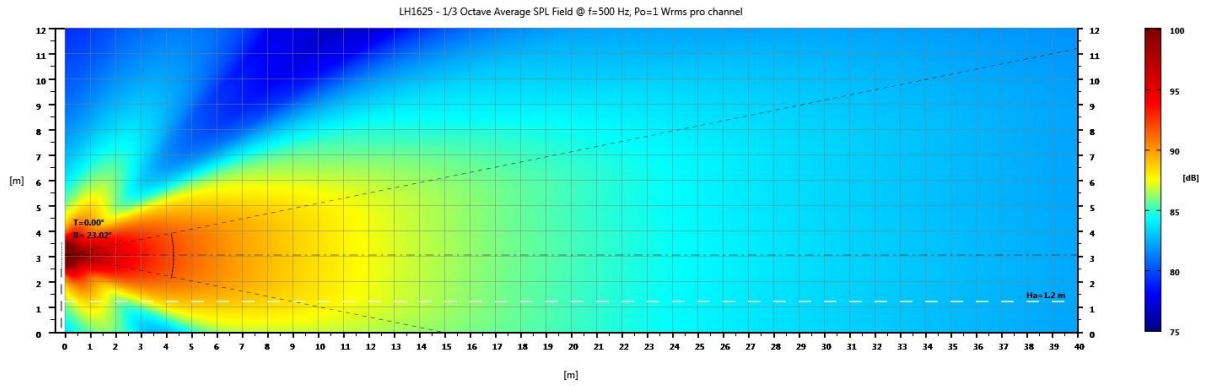
0°C to 40°C (32°F to 102°F)

#### Certificates

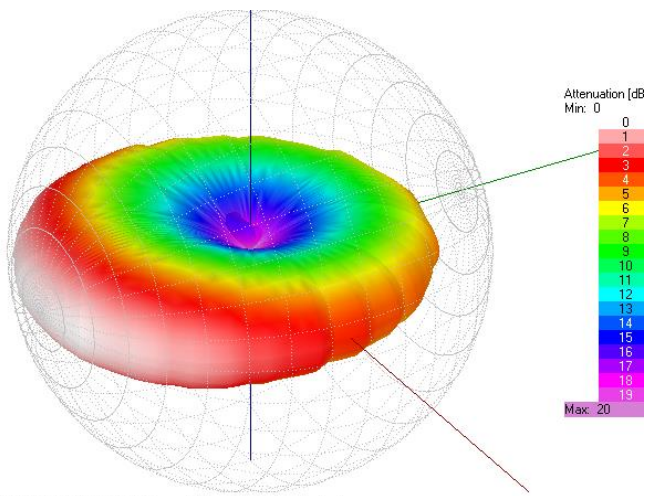
CE



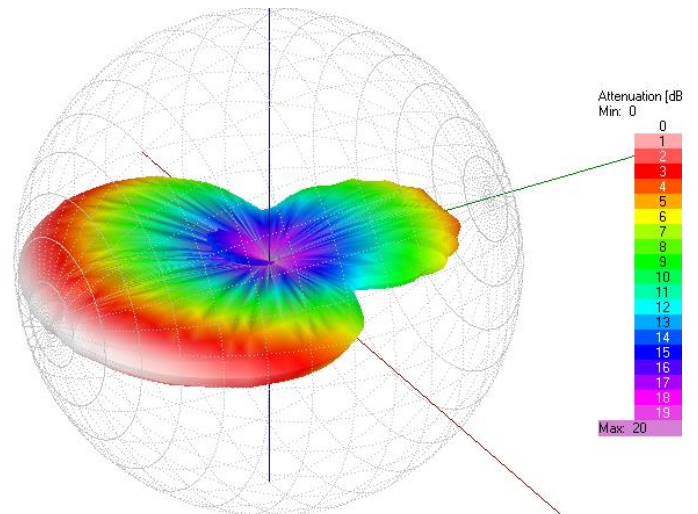
## 4.0 – Vertical Beam Pattern



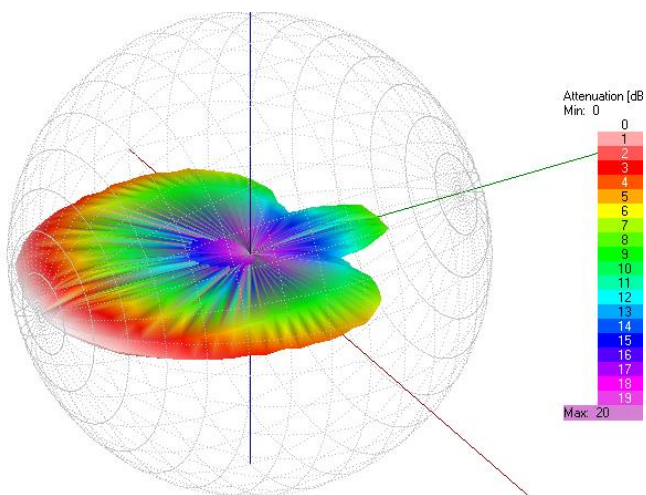
## 5.0 - Attenuation Balloon



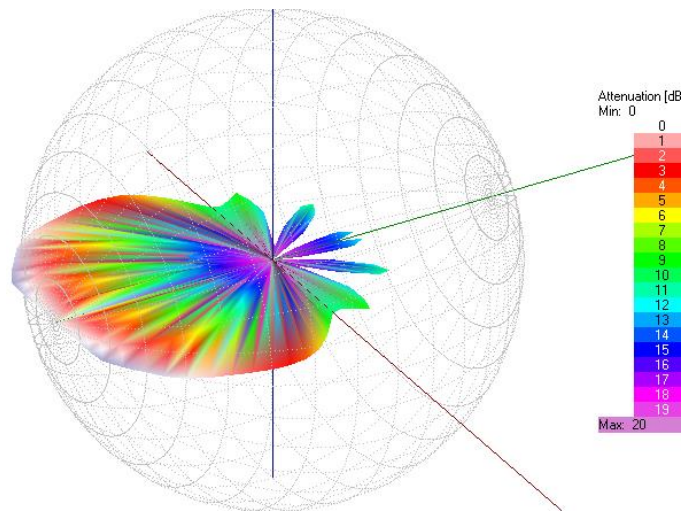
LH1625 – Attenuation Balloon – Freq = 500 Hz



LH1625 – Attenuation Balloon – Freq = 1000 Hz

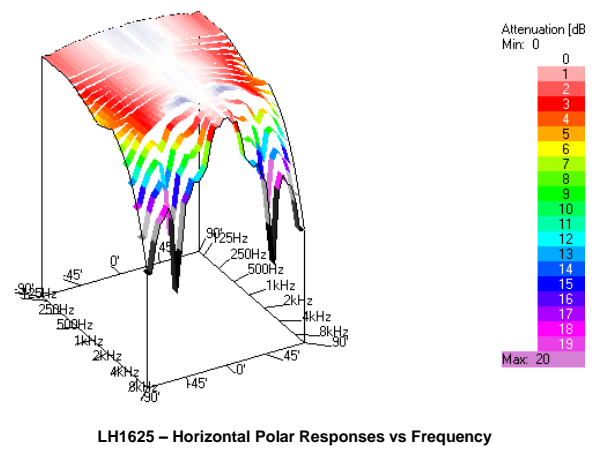
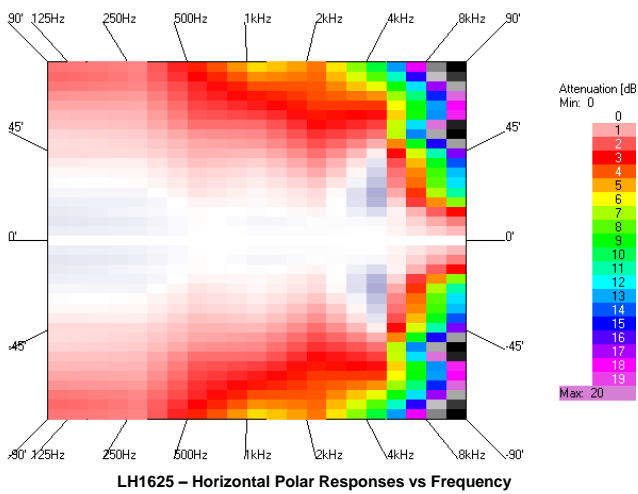


LH1625 – Attenuation Balloon – Freq = 2000 Hz

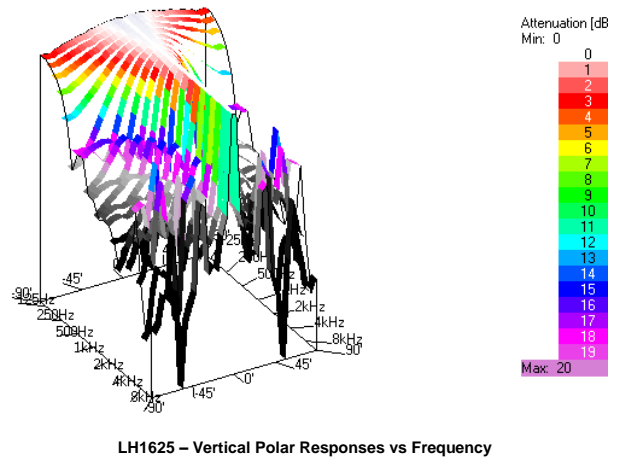
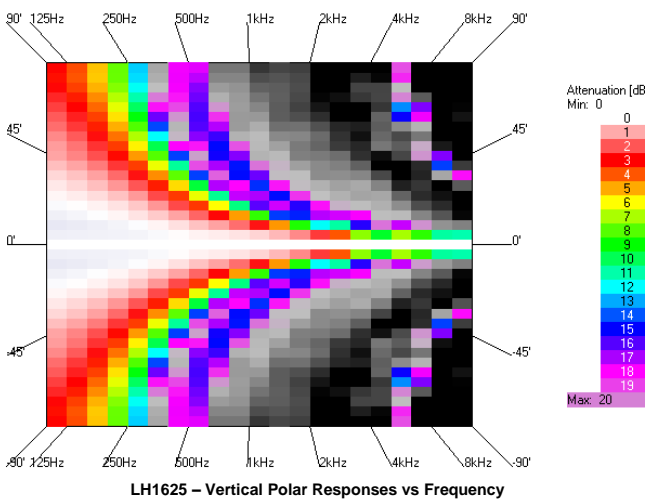


LH1625 – Attenuation Balloon – Freq = 4000 Hz

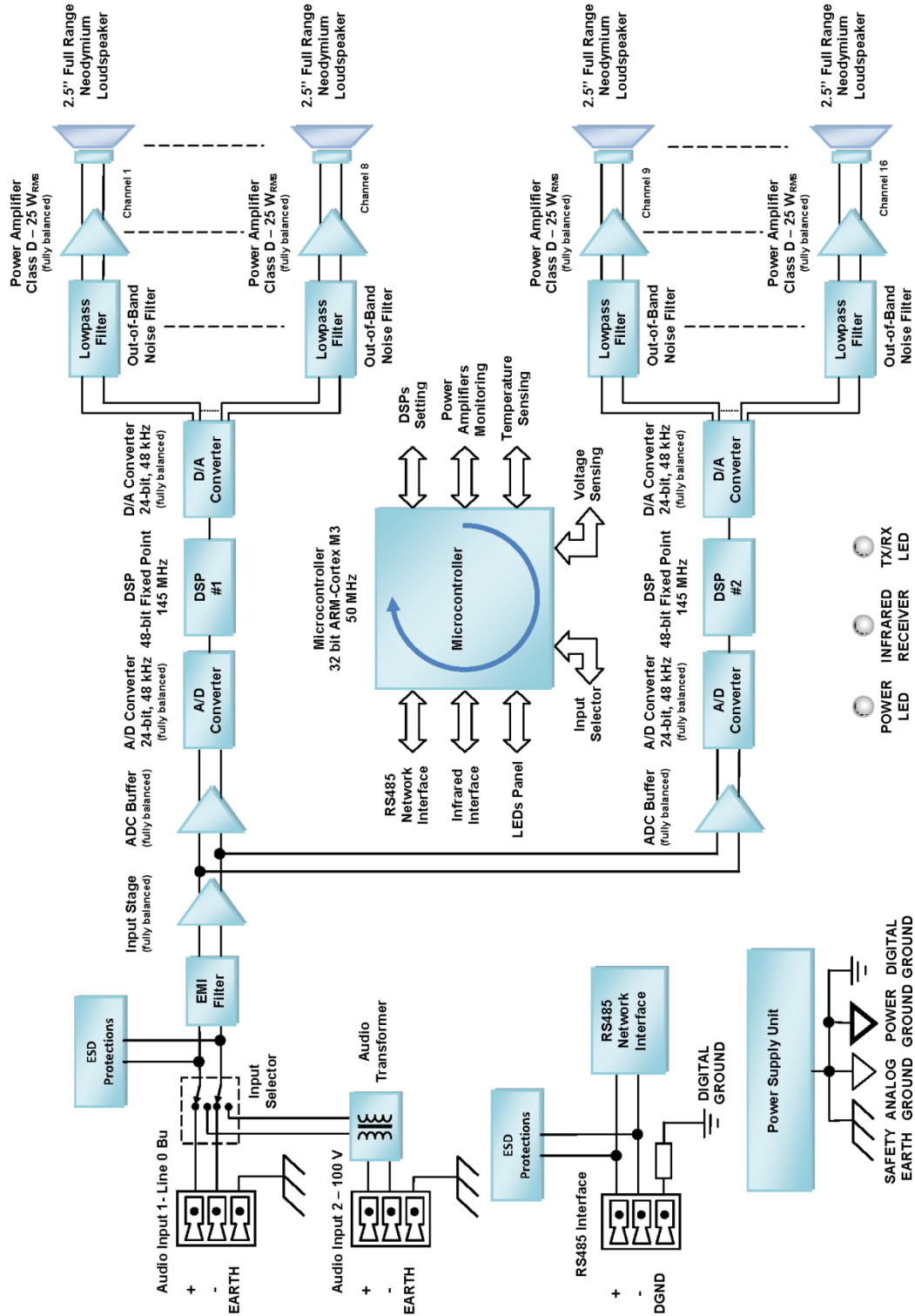
## 6.0 - Horizontal Polar Responses



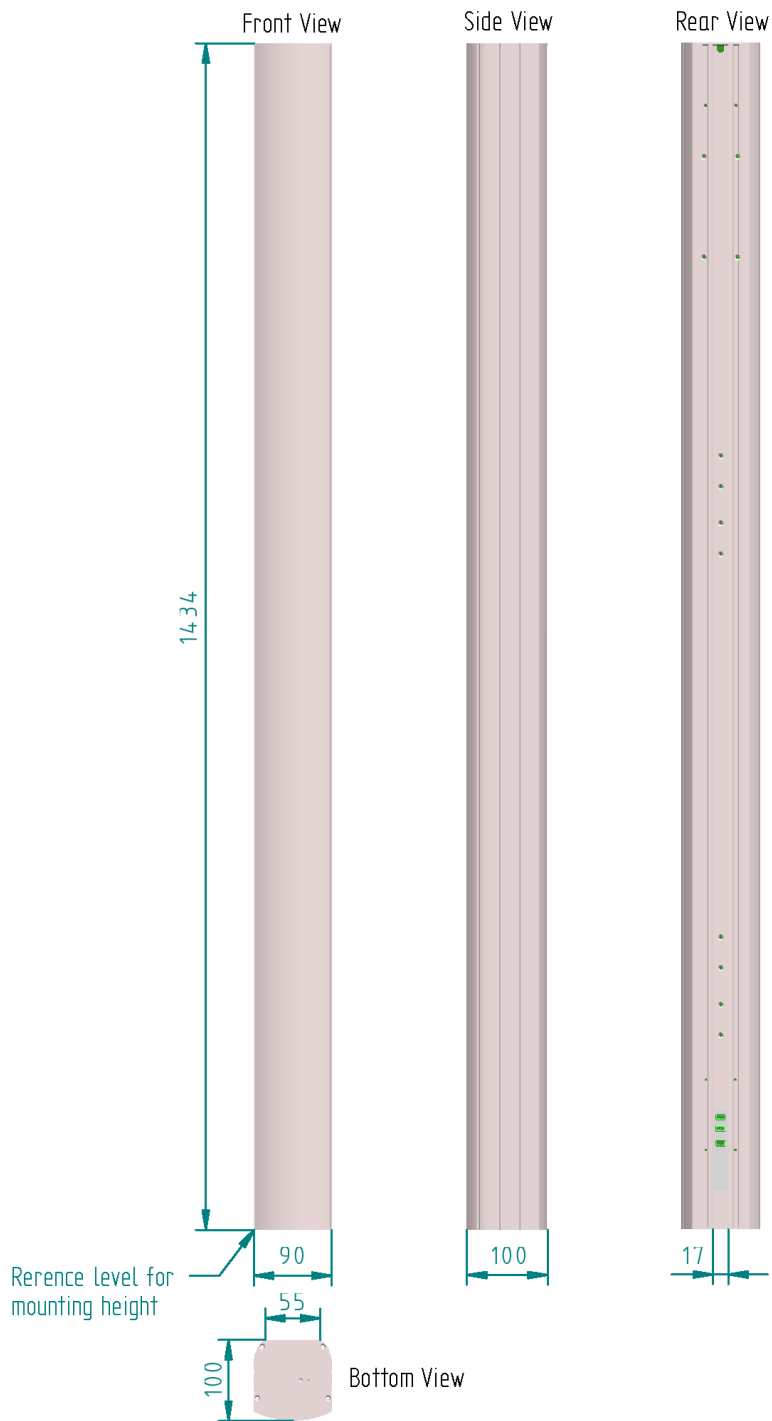
## 7.0 - Vertical Polar Responses



## 8.0 – Schematic Blocks



## 9.0 - Mechanicals Dimensions



Figures not drawn to scale

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