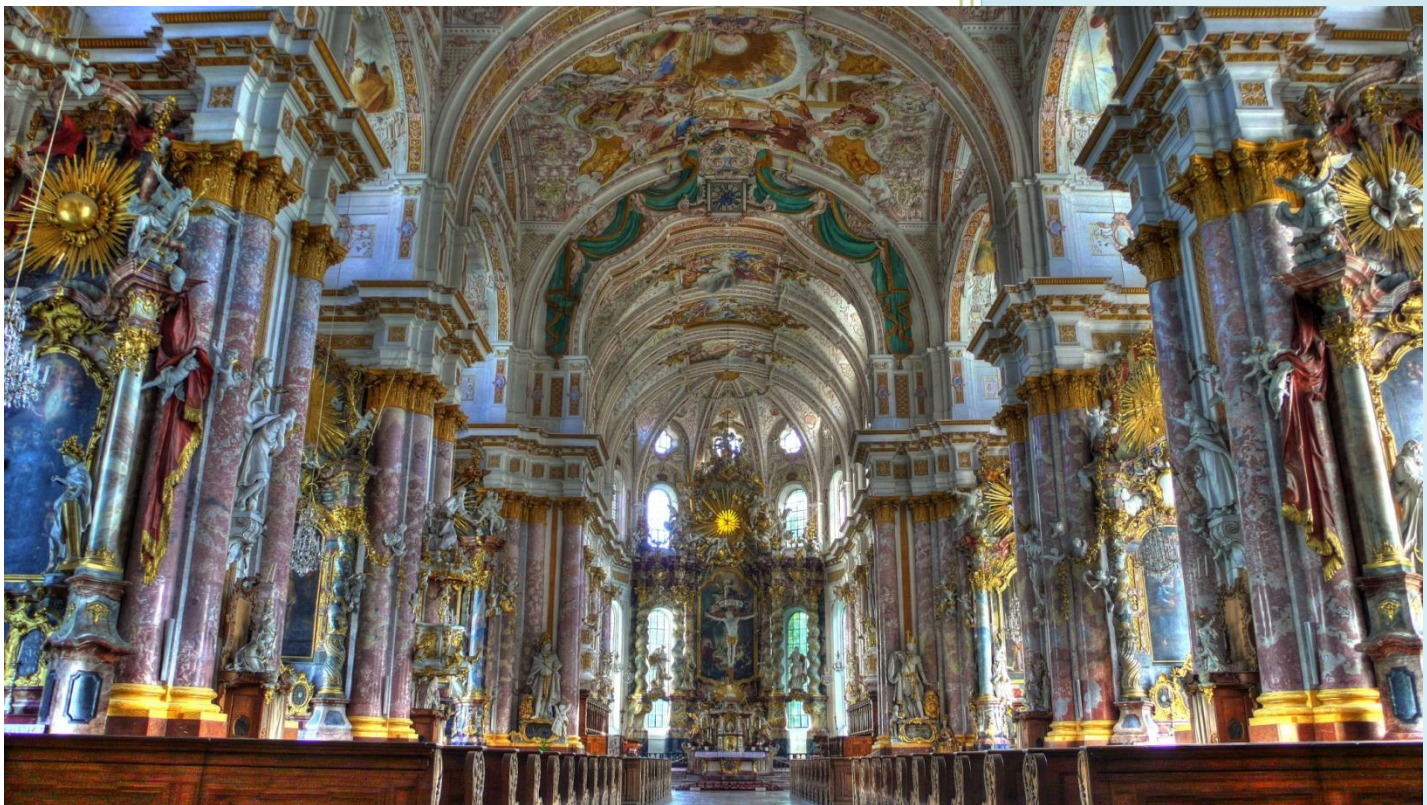


**AVE mbH**

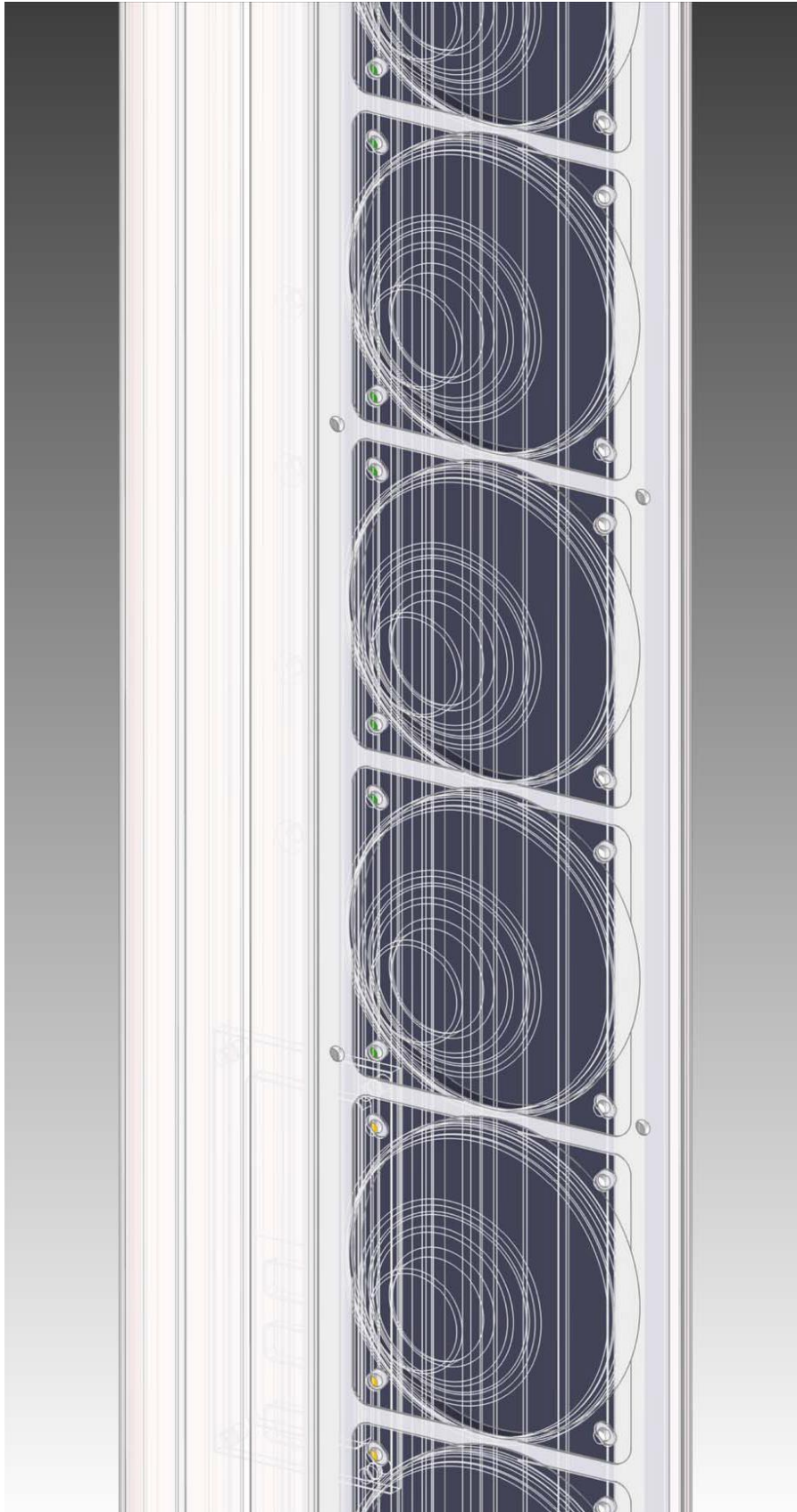
**Digitally Controlled Line Array**  
*Ascolto*<sup>®</sup>



**A.V.E. mbH**

**Audio Vertriebs-Entwicklungsgesellschaft**

**Germany**



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

**AH1635  
Datasheet**

# Table of Contents

1. **Acoustic Specifications**
2. **Electrical Specifications**
3. **General Specifications**
4. **Vertical Beam Pattern**
5. **Attenuation Balloon**
6. **Horizontal Polar Responses**
7. **Vertical Polar Responses**
8. **Schematic Blocks**
9. **Mechanical Details**

## 1.0 – Acoustic Specifications

### Frequency Bandwidth

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

### SPL

#### Nominal/Peak

103 dB/106 dB (A-Weighted at 10 m)

100 dB/103 dB (A-Weighted at 20 m)

98 dB/101 dB (A-Weighted at 30 m)

### Coverage

Horizontal (fixed) 130° (-6 dB average 1 kHz to 4 kHz)

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

Opening Angle: 16.9° to 40°

Typical Throw 20 m

Maximum Throw 30 m

### Dynamic Range

102 dB (f=1 kHz, AES17 filter)

### Transducers

Number 16

Diameter 3.5" Full Range

Magnet Neodymium

Rated Power 30 W (with pink noise, 6 dB crest factor)

Musical Power 60 W

Sensitivity 1 W/1 m 88.7 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 × 35 W <sub>rms</sub> (8 Ω)
Power Efficiency	86%
THD+N	0.07% at 10 W <sub>rms/channel</sub>
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
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)

### 3.0 – General Specifications

#### Mechanical

Height	1766 mm
Width	120 mm
Depth	121 mm
Weight	8.2 Kg (18.1 lbs)
Cabinet	Powder coated aluminium extrusion
Colour	RAL 9010
Special colour	available for an additional charge

#### Temperature Range

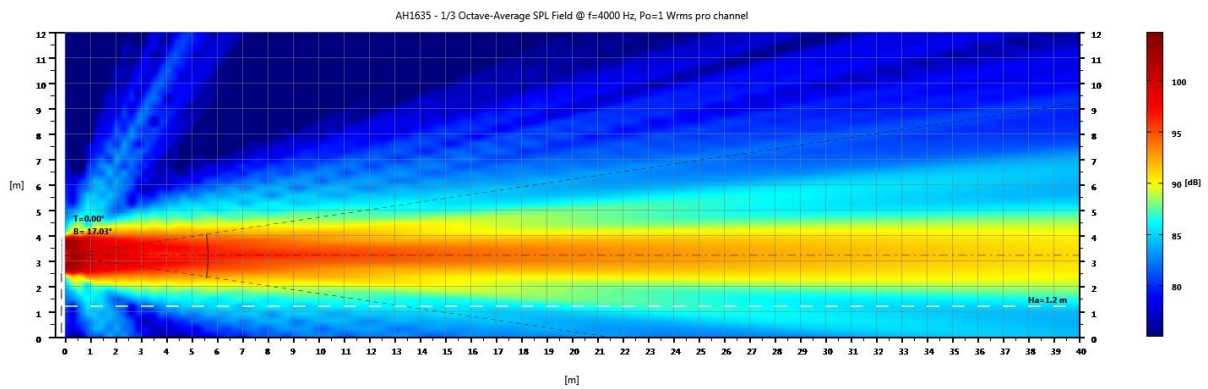
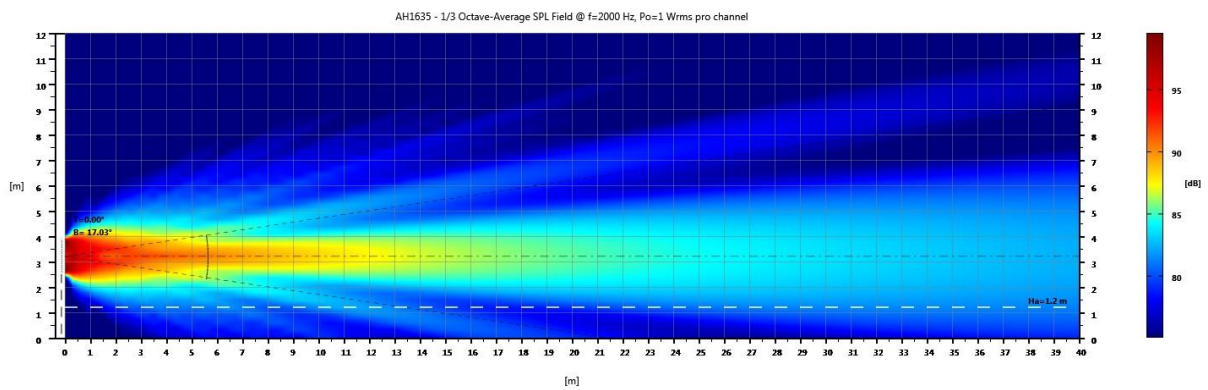
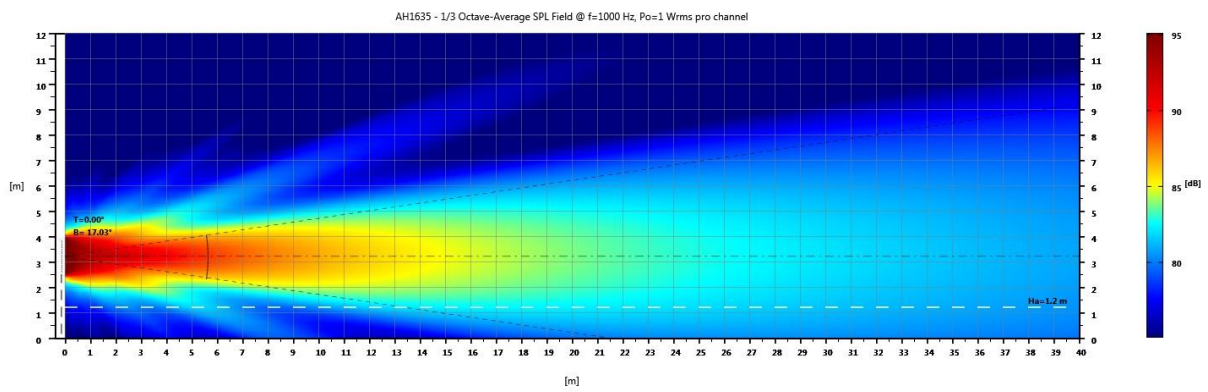
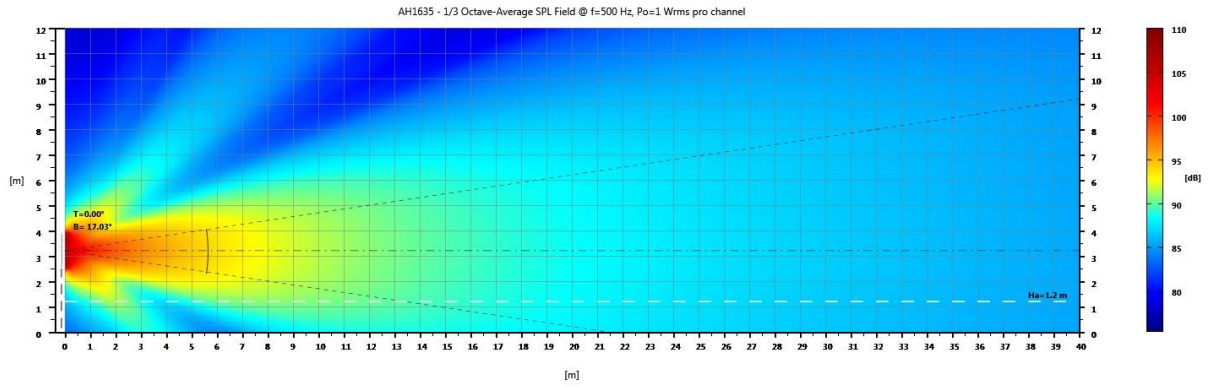
0°C to 40°C (32°F to 102°F)

#### Certificates

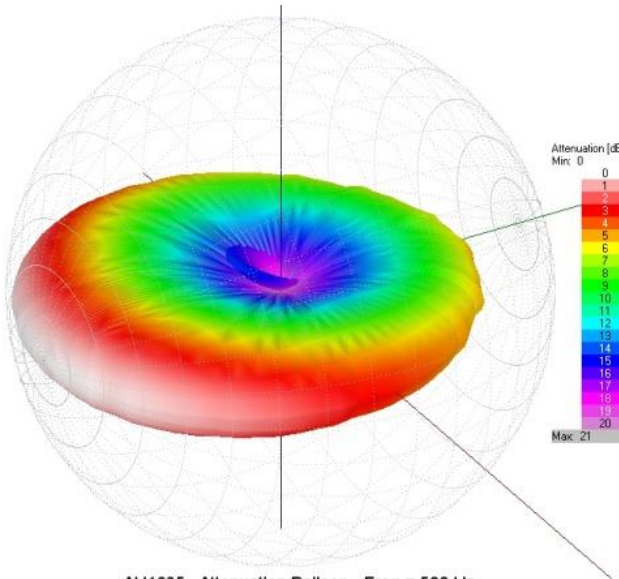
CE



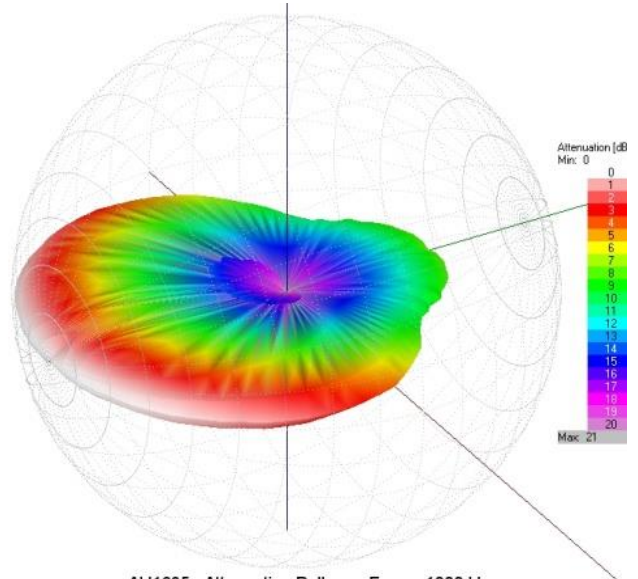
## 4.0 – Vertical Beam Pattern



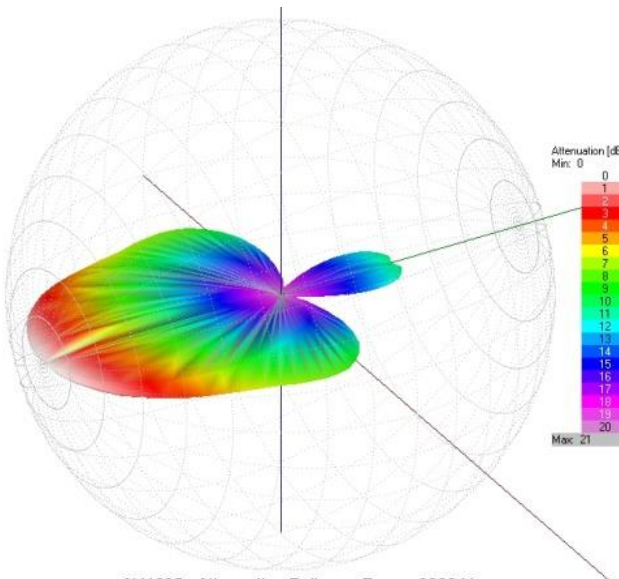
## 5.0 - Attenuation Balloon



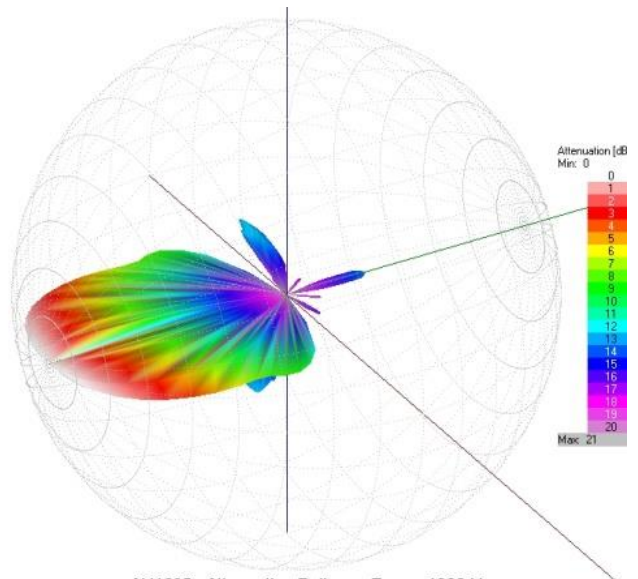
AH1635 - Attenuation Balloon - Freq = 500 Hz



AH1635 - Attenuation Balloon - Freq = 1000 Hz

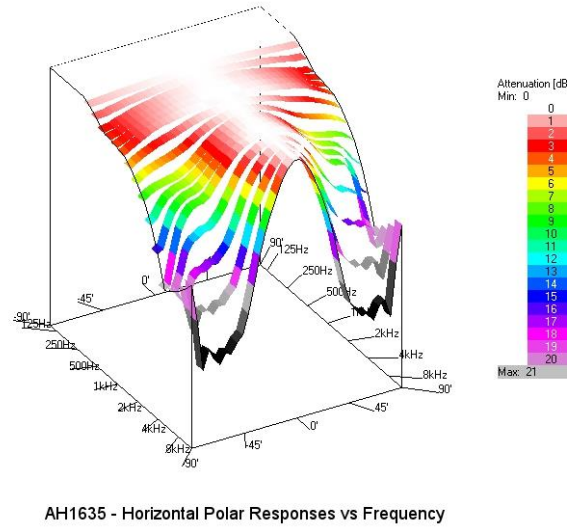
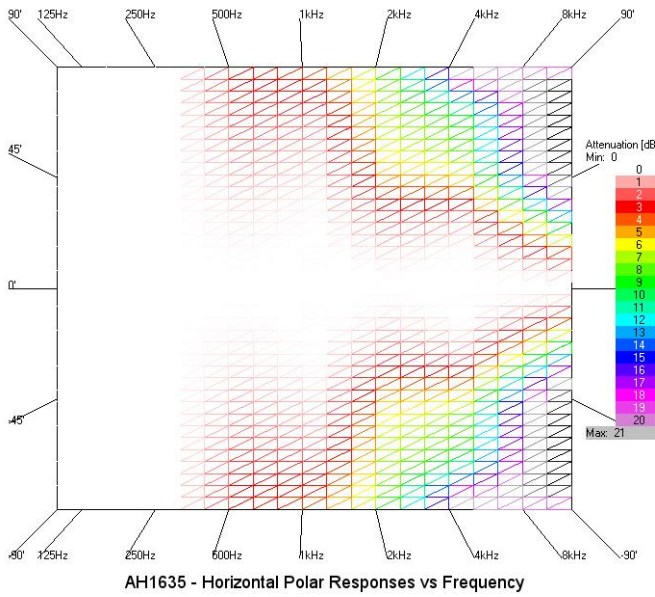


AH1635 - Attenuation Balloon - Freq = 2000 Hz

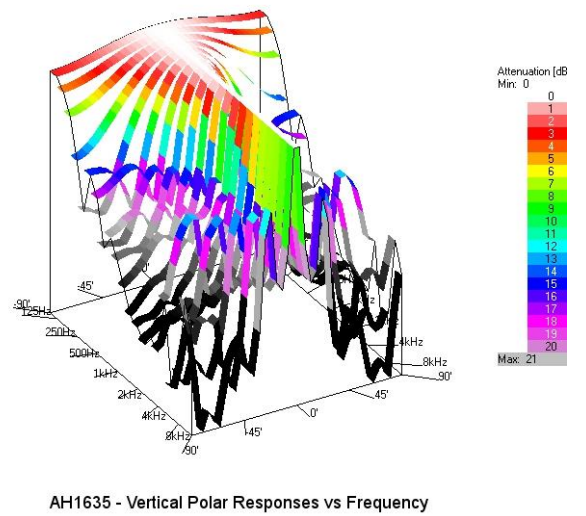
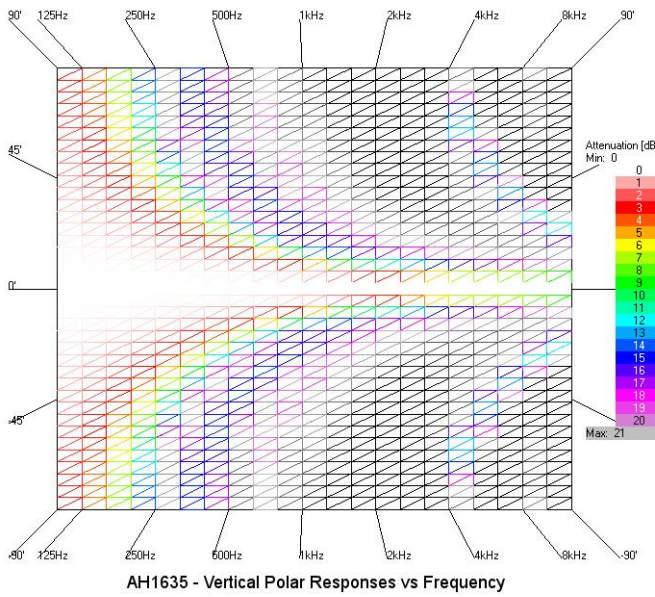


AH1635 - Attenuation Balloon - Freq = 4000 Hz

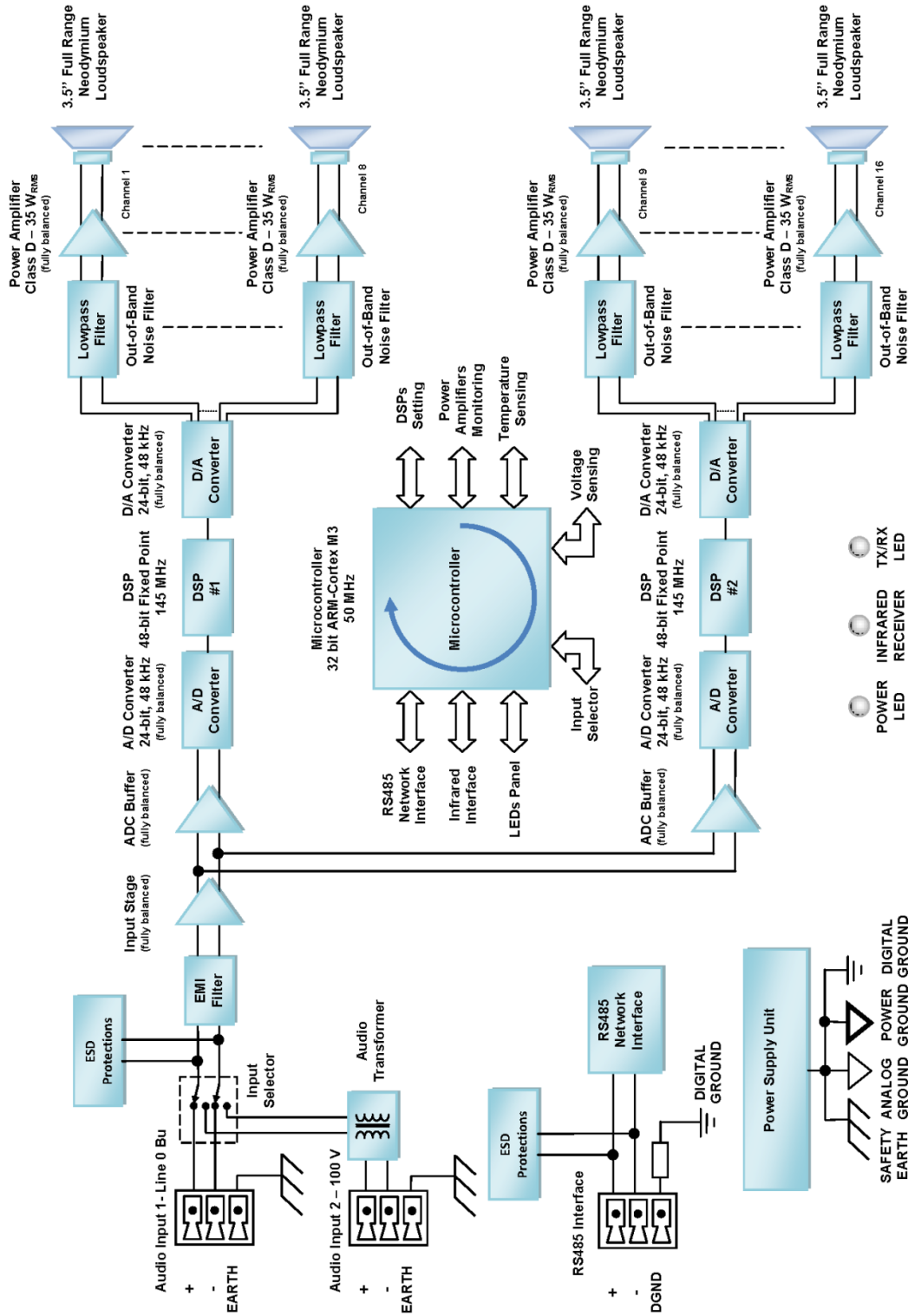
## 6.0 - Horizontal Polar Responses



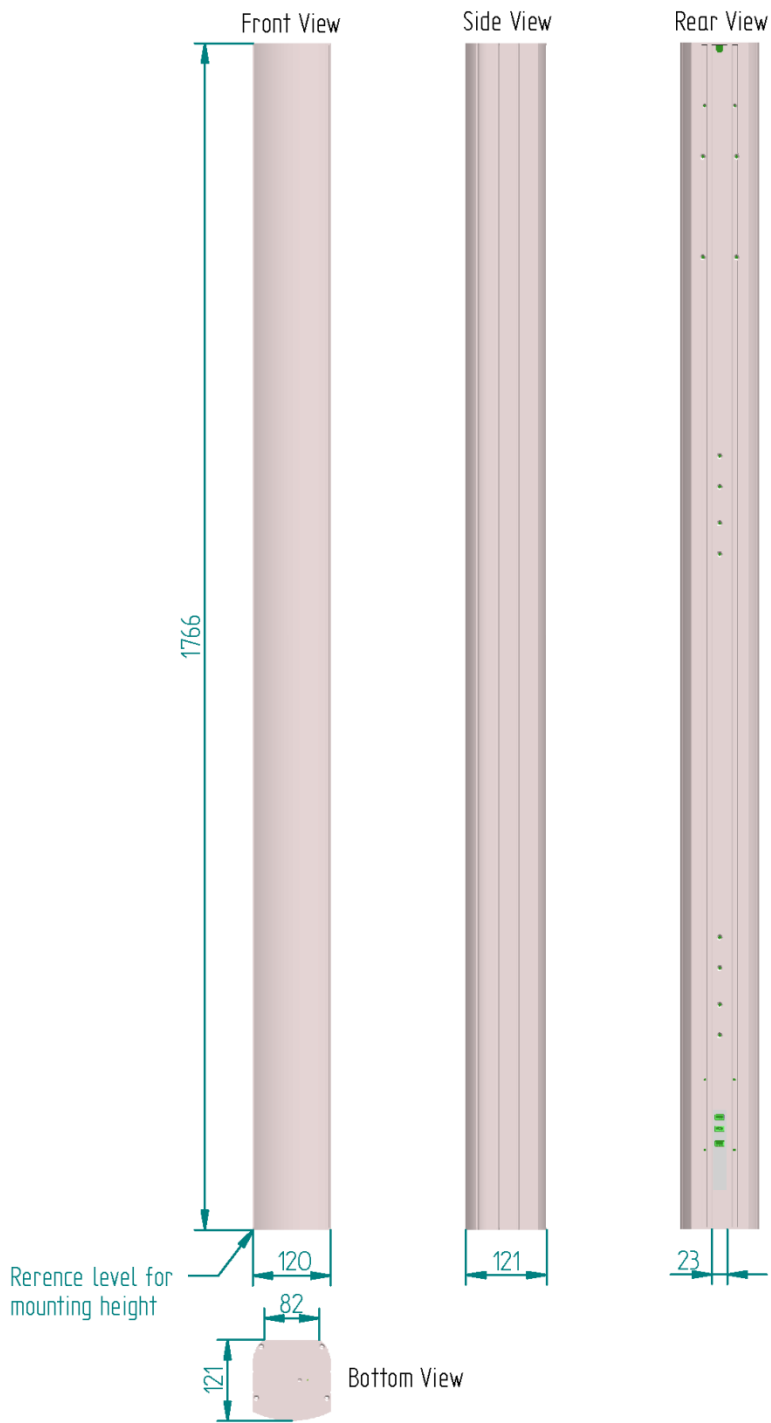
## 7.0 - Vertical Polar Responses



## 8.0 – Schematic Blocks



## 9.0 - Mechanical Dimensions



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