DS500D

Intellivox Series - Active Beam Shaping, Self Powered, Loudspeaker Array

SPEC SHEET



KEY FEATURES

- Superior Speech Intelligibility
- Slim Unobtrusive Design
- Vertical Beam Shaping (DDS Technology)
- Wide Horizontal Dispersion
- AVC (Automatic Volume Control) via built-in ambient mic
- 32-bit floating point DSP

HIGHLIGHTS

DS500D is the flagship of JBL's Intellivox range of column speakers. It is a versatile and accurate solution for all venues, especially those with high reverberance, requiring excellent speech intelligibility. With an acoustic length in excess of 4 m, DS500D not only offers long throw capability but also greater control at lower frequencies.

It features our highly advanced Digital Directivity Synthesis (DDS) beam shaping algorithm. This allows custom shaping of the directivity pattern for the JBL Intellivox arrays to produce a beam which is tailored to precisely match the audience area within the space in which they are installed. As a result, the sound is aimed directly where it is needed – straight at the listener while avoiding the hard, reflective surfaces.

It features thirty-two custom designed, 4" full-range loudspeakers equipped with moisture resistant diaphragms, driven by sixteen 40W class D amplifiers. The horizontal coverage is 130° whereas the vertical coverage can be adjusted using DDS algorithm. DS500D can cover an area of up to 70 m while maintaining even sound pressure over the audience area.

The onboard sixteen-channel, 32-bit floating-point DSP delivers powerful processing capabilities, including an 8-band parametric equalizer, compensation filters, up to 20 seconds of delay, a limiter, and volume control—equipping installers with all the tools needed for precise system setup. DS500D also features AVC (Automatic Volume Control) via built-in ambient mic, ensuring a consistent sound level for the listener.

The unit is controlled using our proprietary WinControl software which offers user friendly control of the beam steering parameters, audio processing and surveillance features. Remote monitoring of parameters like status of the DSP, amplifiers and loads, external pilot tone, status of the ambient noise sensing microphone, chassis temperature, ambient temperature, and control for the input section is available.

The increased low-mid frequency control offered by the array makes the DS500D suitable for easy and unobtrusive implementation in very large, highly reverberant and architecturally sensitive environments. The low frequency response of the system can be easily extended using a JBL subwoofer system.

The speaker accepts both Analog line level balanced audio and DANTE input with 8 x 8 Audio channels.

The auto ranging power supply is suitable for use across the globe accepting voltages from 115 to 230VAC.

DS500D has a steel enclosure coated with an epoxy which is available by default in white (RAL9010) and can also be ordered in custom colour.

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SPECIFICATIONS

ACOUSTICAL	
Frequency Response (±3 dB)[1, 2]:	130 - 10 kHz (+/-3 dB)
Coverage Pattern:	130° Horizontal x Adjustable Vertical
Max SPL[3]:	97dB Continuous, 100dB Peak (A-weighted at 30m)
Dynamic Range[4]:	>100dB
Transducers:	32 x 4" Full-Range
Typical Throw:	70m
AUDIO INPUT	
Analog Input Type:	Transformer Balanced Line Level
Connectors:	3-way Phoenix
Maximum Peak Input Level:	+19dBV peak (+21.22 dBu)
Input Impedance:	6.8kΩ
Digital Input Type:	DANTE
Connectors:	Two 8p RJ-45 (Primary & Secondary)
AMPLIFIER	
Type:	Class D
Continuous Power:	16 x 40W RMS (4 Ohm)
Peak Power:	700W
DSP	
Sample Rate:	48.0 kHz (default)
Bit Depth:	32-bit Floating point
Latency[5]:	3.7 ms
A/D, D/A Converter:	24 bits (128 x oversampling)
Signal Processing:	21 sec (pre-delay) 2 x 10 sec (input channel delay) Equalizer and Compensation filtering Volume RMS and Peak limiters on each output Ambient Noise Sensing Autogain (fail-safe) 8 x Output filters + Delay Ring buffers
CONTROL	
Network Interface Type:	Ethernet through Dante
Connector:	8p RJ-45
Fault Monitoring[6]:	Failure relay SPDT 125 mA / 24 V
Connector:	2-way Phoenix
Fan Control:	For optional external fan (24VDC / 3W max)
Connector:	2-way Phoenix

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SPECIFICATIONS (Cont.)

AC POWER	
Mains Voltage Range:	115V to 230V
Connector:	3p IEC
Max mains inrush current:	25 A short-time peak (230 V)
Current Draw[7]:	84 VA (idle) / 500 VA (male speech STIPA) / 920 VA (full load)
GENERAL	
Enclosure Material:	Steel
Colour:	Enclosure and grill RAL9010 (White) Speaker Baffle RAL9011 (Black)
Dimensions (H x W x D)[8]:	4930 x 134 x 92mm (194.1 x 5.3 x 3.6 inch)
Temperature Range:	0 to 40 °C (32 - 104 °F)
Net Weight:	44 kg (97 lbs)
Shipping Weight:	54 kg (120 lbs)
Environmental Standards:	CE, CSA/UL, CCC Safety EN 62368-1:2014+A11:2017 EMC EN 55032:2012/AC:2013 class A EMC EN 55103-2:2009 Mains harmonics EN 61000-3-2:2014
Included Accessories	Wall Bracket (25 mm); connector set
Optional Accessories	Swivel Bracket 90° Swivel Bracket 45° Cover Plate Hinge Bracket 90° Cover Box 58 mm Program Set Universal USB

Notes:

1. Measured outside under semi-anechoic 'full-space' conditions with typical filter and delay settings unless stated otherwise.
2. Data is determined from 1/3 octave averaged data measured on-axis. The frequency response of the complete array is depending on the actual signal processing parameters and air absorption (at larger distances).
3. Levels are valid for pink noise (100 to 10 kHz bandwidth) with a crest factor of 3 dB. Default EQ and minimum opening angle setting. 'Continuous' is the RMS level, 'Peak' is the absolute peak level, both determined at the onset of the output limiters.
4. For this measurement the signals at all power amplifier outputs are summed together. Measured as the A-weighed difference (in dB) between the maximum rms level (with pink noise input signal) and the noise output (with no input signal present).
5. Minimum latency due to hardware and frame processing from analogue input to amplifier output.
6. For volt-free operation COM is connected to NC if the device is switched-on and has no failure.
7. Defined as the rms mains current multiplied by the rms mains voltage under normal operating conditions. 'Full load' figures are maximum values measured with a pulsating pink noise input signal.
8. Depth of enclosure only, without mounting brackets.

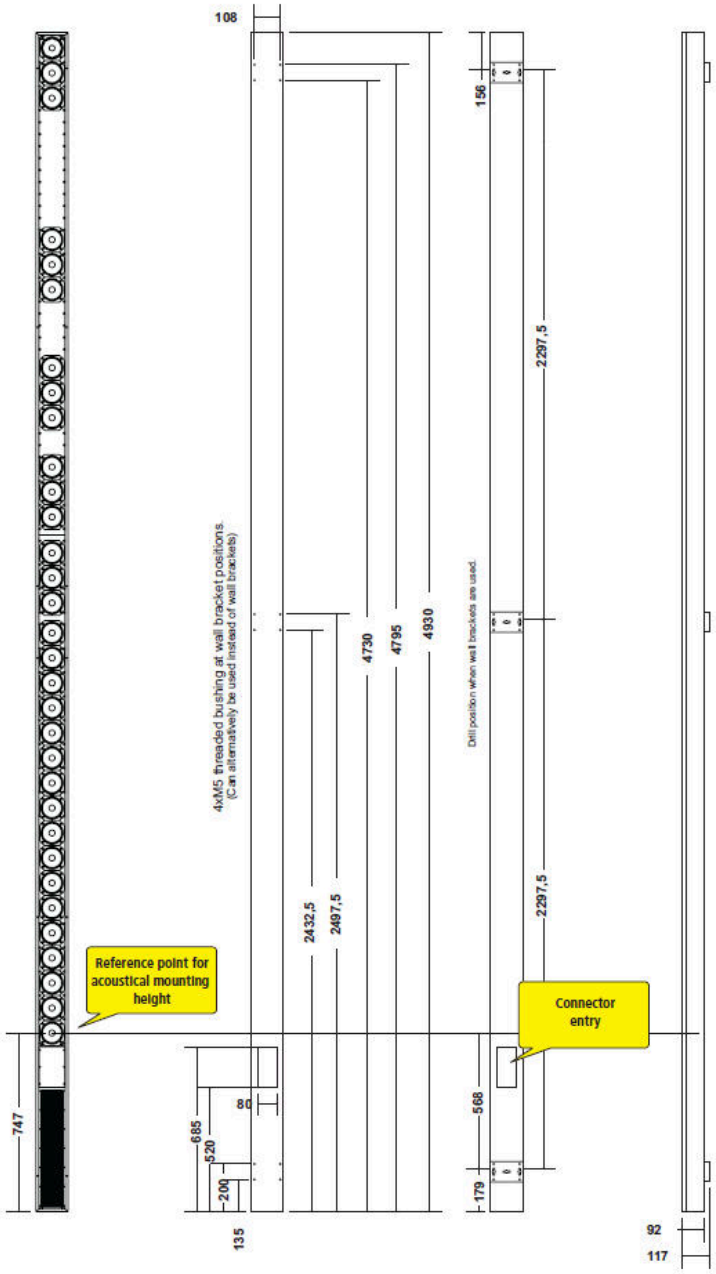
Note: SPL values will vary depending upon opening angle, DDA should be used to verify SPL values for each individual installation.

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DIMENSIONS



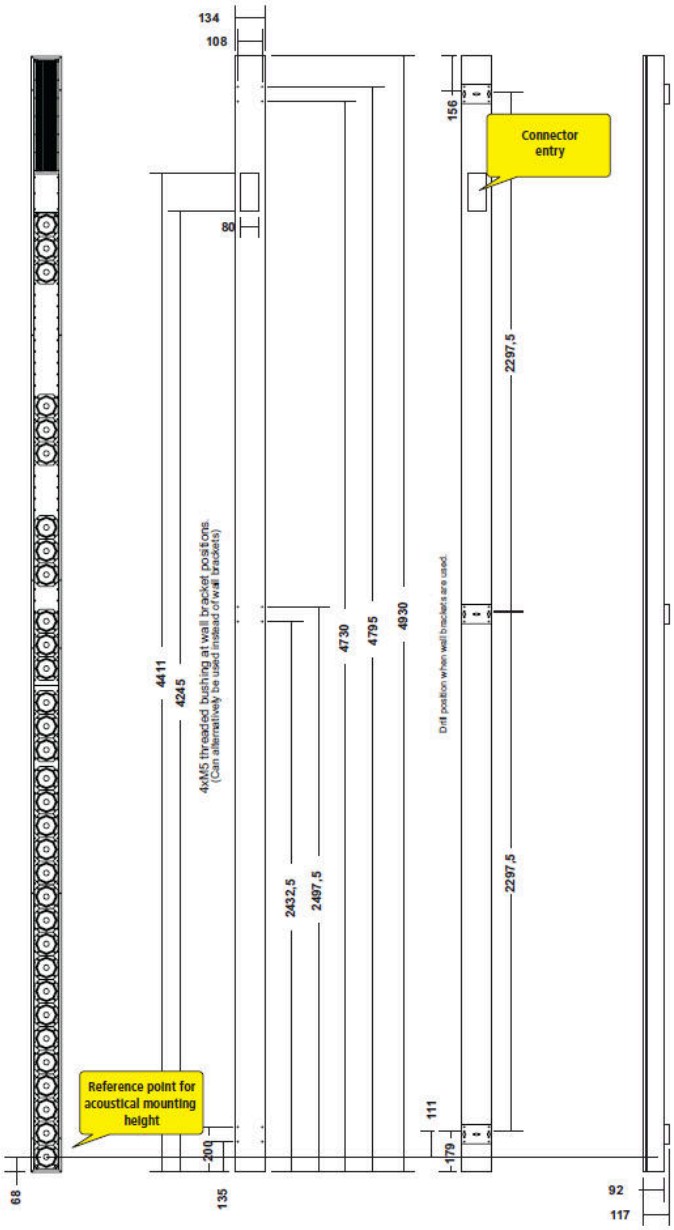
This drawing is valid for the default 'amp-at-bottom' version - Order SKU: JBL-DS500D-B

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DIMENSIONS



This drawing is valid for the 'amp-at-top' version - Order SKU: JBL-DS500D-T

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