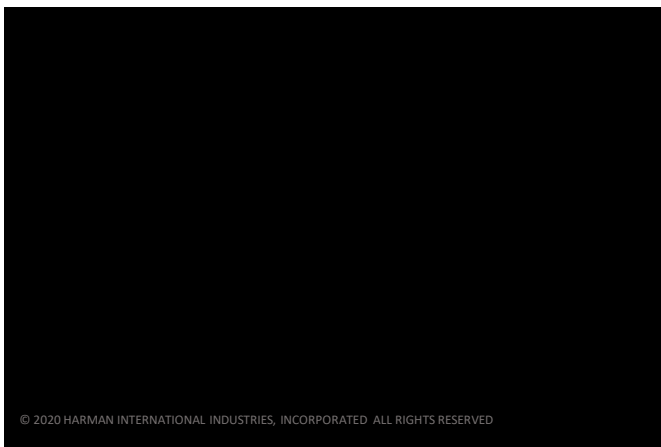




INSTALLATION LOUDSPEAKERS
INTRODUCTION

PART 1 – COMMERCIAL SPEAKERS



Harman University

[Harman Professional Training \(remote-learner.net\)](https://remote-learner.net)



JBL COMMERCIAL LOUDSPEAKERS

CEILING & PENDANT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trip Speakers

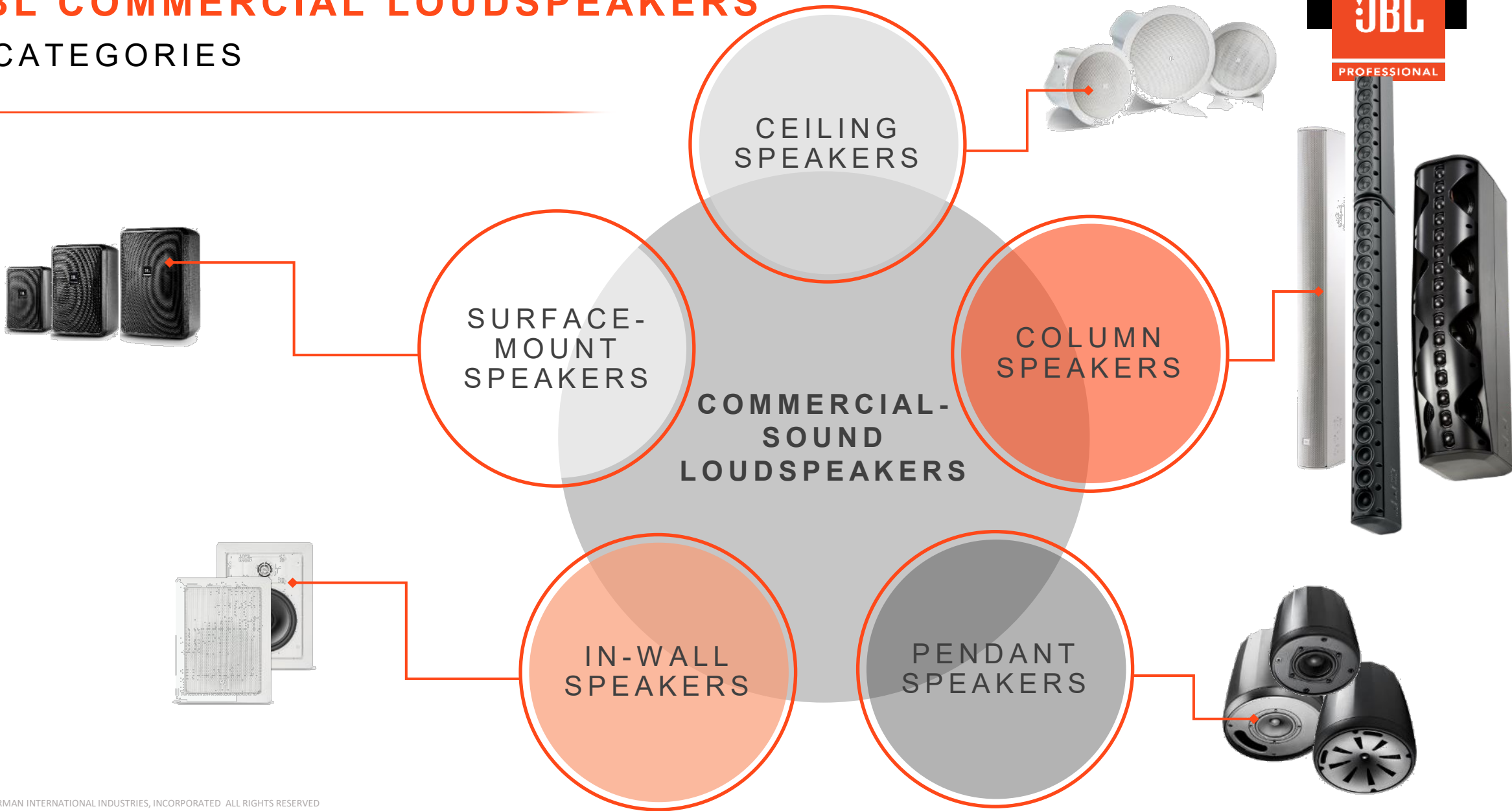
SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



JBL COMMERCIAL LOUDSPEAKERS

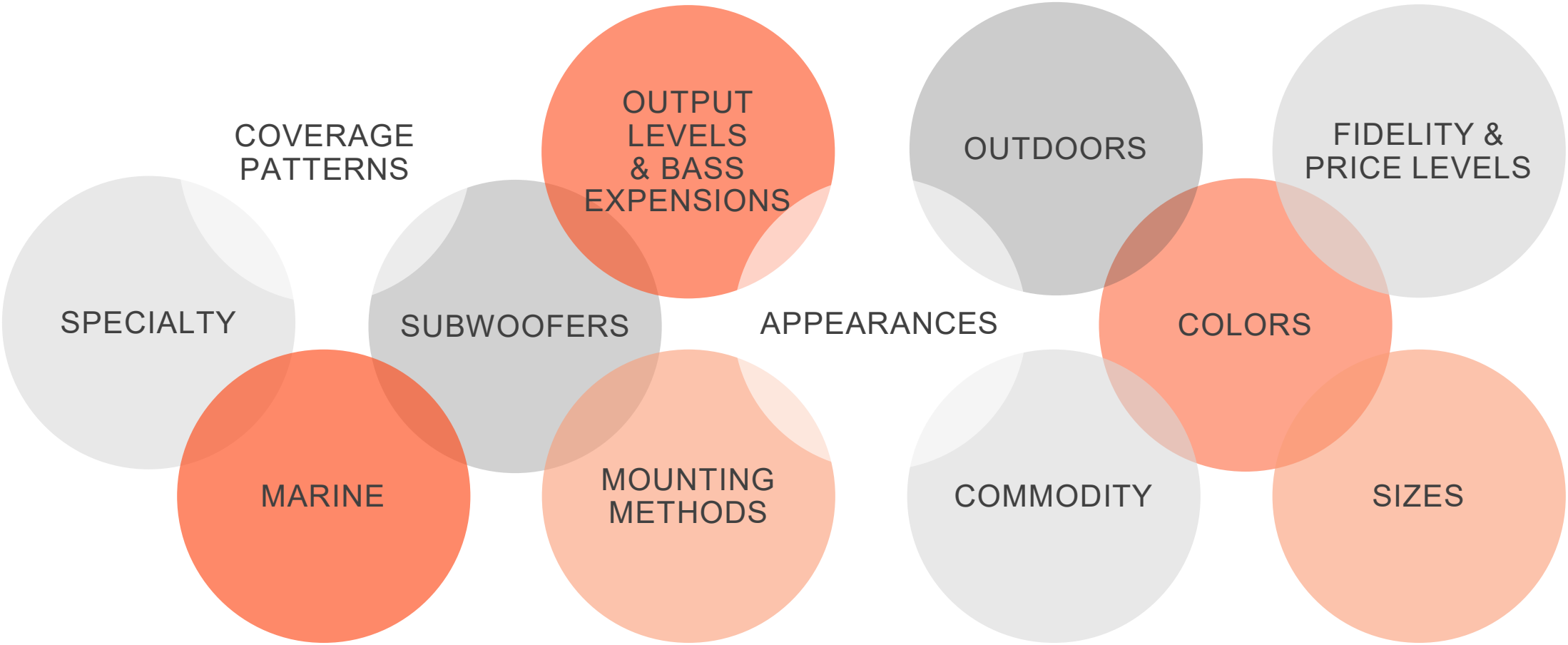
5 CATEGORIES





JBL COMMERCIAL LOUDSPEAKERS

COMPREHENSIVE PORTFOLIO – To Fit Any Application





CEILING SPEAKERS



JBL COMMERCIAL LOUDSPEAKERS

CEILING & PENDANT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



JBL COMMERCIAL LOUDSPEAKERS

CEILING & PENDANT SPEAKERS



Control 300 Series
Ceiling Speakers



Control 200 Series
Ceiling Speakers



Control 40 Series
Ceiling Speakers



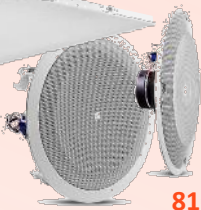
Control 20 Series
Ceiling Speakers



Control 10 Series
Ceiling Speakers



8100 Series
Ceiling Speakers



LCT Lay-In
Ceiling Speakers



CSS Commercial
Ceiling Speakers



\$\$\$

COST

\$

BASIC BGM
& PAGING

SYSTEM LEVEL & QUALITY

HIGH
PERFORMANCE



CSS COMMERCIAL SOLUTIONS SERIES

CEILING SPEAKERS



CCS COMMERCIAL SPEAKER FAMILY

- Commercial, Budget Friendly
- High Sensitivity Drivers
- Integrated 25V/70V/100V Transformer
- Ship with Speaker, Grill and Transformer Assembled
- All Models Available in the JBL Distributed System Design (DSD) Software

CSS8004

- 4" Speaker
- Open-Back or Backcan Installation Options
- 5 W transformer (25V/70V/100V)
- 90 dB Sensitivity
- 85 Hz to 18 kHz (-10dB)



CSS8008

- 8" Speaker
- Open-Back or Backcan Installation Options
- 5 W transformer (25V/70V/100V)
- 96 dBdSensitivity
- 55 Hz to 16 kHz (-10dB)



CSS8018

- Upgraded 8" Speaker
- Open-Back or Backcan Installation Options
- 10 W transformer (25V/70V/100V)
- 97 dB Sensitivity
- 50 Hz to 17 kHz (-10dB)





JBL CSS COMMERCIAL

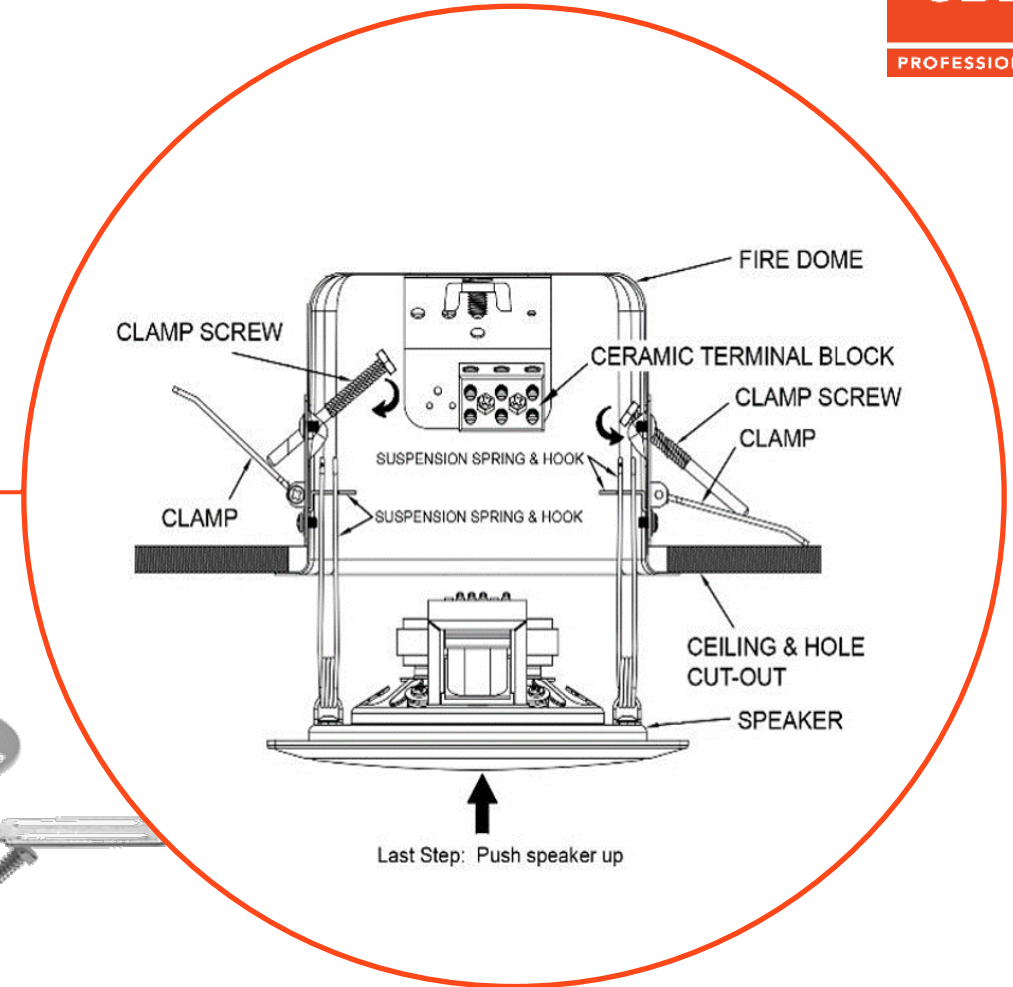
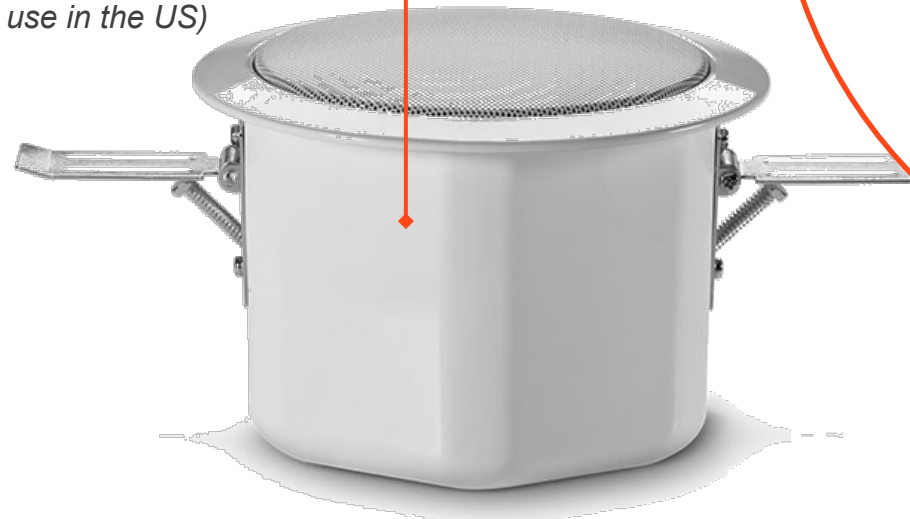
CEILING SPEAKERS



CSS-15C-VA

- **EN-54** Certified, 5" Ceiling Speaker
- Includes Blind-Mount Metal Fire Dome
- 6 W Transformer (100V only)
- 92 dB sensitivity (1m)
- 180 Hz to 20 kHz (-10dB)

(Note: Not UL, so generally not for use in the US)





JBL 8100 SERIES

CEILING SPEAKERS



JBL 8100 SERIES

- Aesthetically Elegant, Cost-Effective
- High Sensitivity Drivers
- Integrated 70V/100V Transformer
- Ship with Speaker, Grill and Transformer Assembled
- All Models Available in the JBL Distributed System Design (DSD) Software

8124

- 4", Full-Range Speaker
- Open Back, No Backcan Installation
- Dog-ear Blind Mounting
- 6 W Transformer
- 93 dB Sensitivity
- 60 Hz to 18 kHz (-10dB)



8128

- 8", Full-Range Speaker
- Open Back, No Backcan Installation
- Dog-ear Blind Mounting
- 6 W Transformer
- 97 dB Sensitivity
- 50 Hz to 16 kHz (-10dB)



8138

- 8", Full-Range Speaker
- **Installation with Backcan**
- 6 W Transformer
- 97 dB Sensitivity
- 95 Hz to 18 kHz (-10dB) (without backcan)



ACCESSORIES

81BB8
Backcan



81TB8
Tile Bridge





JBL LCT LAY-IN

CEILING TILE SPEAKERS



JBL LCT 81C/T

- 2' x 2' Lay-In Installation (US Size Only)
- High Intelligibility for Voice and Full-Range Quality for Program
- High 96 dB Sensitivity
- Very Low Profile (only 4" deep)
- Combined 8Ω and 10 W Transformer (70V/100V) Easy Rotary Switch
- Wide 100° Coverage
- Ships Fully Assembled





JBL CONTROL 10 SERIES

JBL CEILING SPEAKERS



JBL CONTROL 10 SERIES FAMILY

- Excellent Sound Quality with Installation-friendly features at a Value Price Point
- Blind-Mount for Easy Installation
- All Models Include Integrated 70V/100V Transformer with 8Ω Setting





JBL CONTROL 10 SERIES

JBL CEILING SPEAKERS



CONTROL 12C/T

- **3" Full-Range Driver**
- 15 W Transformer and 8Ω Direct
- 84 dB Sensitivity
- 68 Hz to 17 kHz (-10dB)
- Optional High Humidity Grills Available



CONTROL 14C/T

- **Two-Way 4" Full-Range, Coaxial Speaker**
- 25 W Transformer and 8Ω Direct
- 87 dB Sensitivity
- 74 Hz to 20 kHz (-10dB)
- Optional High Humidity Grills Available



CONTROL 16C/T

- **Two-Way 6.5" Full-Range, Coaxial Speaker**
- 30 W Transformer and 8Ω Direct
- 91 dB Sensitivity
- 62 Hz to 20 kHz (-10dB)
- Optional High Humidity Grills Available



CONTROL 18C/T

- **Two-Way 8" Full-Range, Coaxial Speaker**
- 60 W Transformer and 8Ω Direct
- 92 dB Sensitivity
- 58 Hz to 20 kHz (-10dB)
- Max SPL 112 dB Average, 118 dB Peak @ 1m





JBL CONTROL 10C-VA SERIES

JBL CEILING SPEAKERS



- C-VA Models are **EN-54** Certified

CONTROL 12C-VA

- 3" Full-Range Driver



CONTROL 14C-VA

- Two-Way 4" Full-Range, Coaxial Speaker



CONTROL 16C-VA

- Two-Way 6.5" Full-Range, Coaxial Speaker





JBL CONTROL 20 SERIES

JBL CEILING SPEAKERS



JBL CONTROL 20 SERIES FAMILY

- Superior Sound Quality and Installation-Friendly
- Dedicated Models for Low Impedance and 70V/100V Transformer
- UL Listed for Use in Air Handling Spaces and CE Compliant





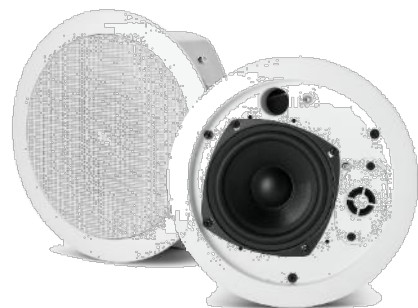
JBL CONTROL 20 SERIES

JBL CEILING SPEAKERS



CONTROL 24C MICRO CONTROL 24CT MICRO

- 4.5" Woofer with .5" Tweeter
- Shallow: 4.1" Deep
- 86 dB, 1-Watt @ 1-Meter
- 85 Hz to 25 kHz (-10dB)
- CT: 9 W Transformer
- C: 8Ω Direct



CONTROL 24CT MICRO PLUS

- High Output 4.5" Woofer with .5" Tweeter
- Shallow: 4.1" Deep
- 85 dB, 1-Watt @ 1-Meter
- 80 Hz to 25 kHz (-10dB)
- 25 W Transformer



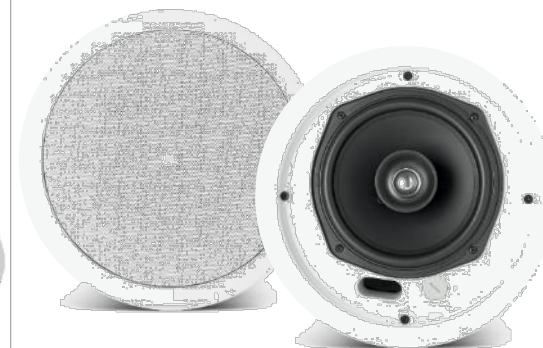
CONTROL 24C & 24CT

- Two-Way 4" Coaxial Woofer with .75" Tweeter
- 86 dB, 1-Watt @ 1-Meter
- 80 Hz to 20 kHz (-10dB)
- CT: 30 W Transformer
- C: 16Ω Direct



CONTROL 26C & 26CT

- Two-Way 6.5" Full-Range, Coaxial Speaker
- 89 dB, 1-Watt @ 1-Meter
- 75 Hz to 20 kHz (-10dB)
- CT: 60 W Transformer
- C: 16Ω Direct





JBL CONTROL 20 SERIES

JBL CEILING SPEAKERS



CONTROL 26CT-LS

- **UL Fire Alarm Version**
- 60 W Transformer (No Low-Z)
- 89 dB, 1-Watt @ 1-Meter
- 80 Hz to 20 kHz (-10dB)



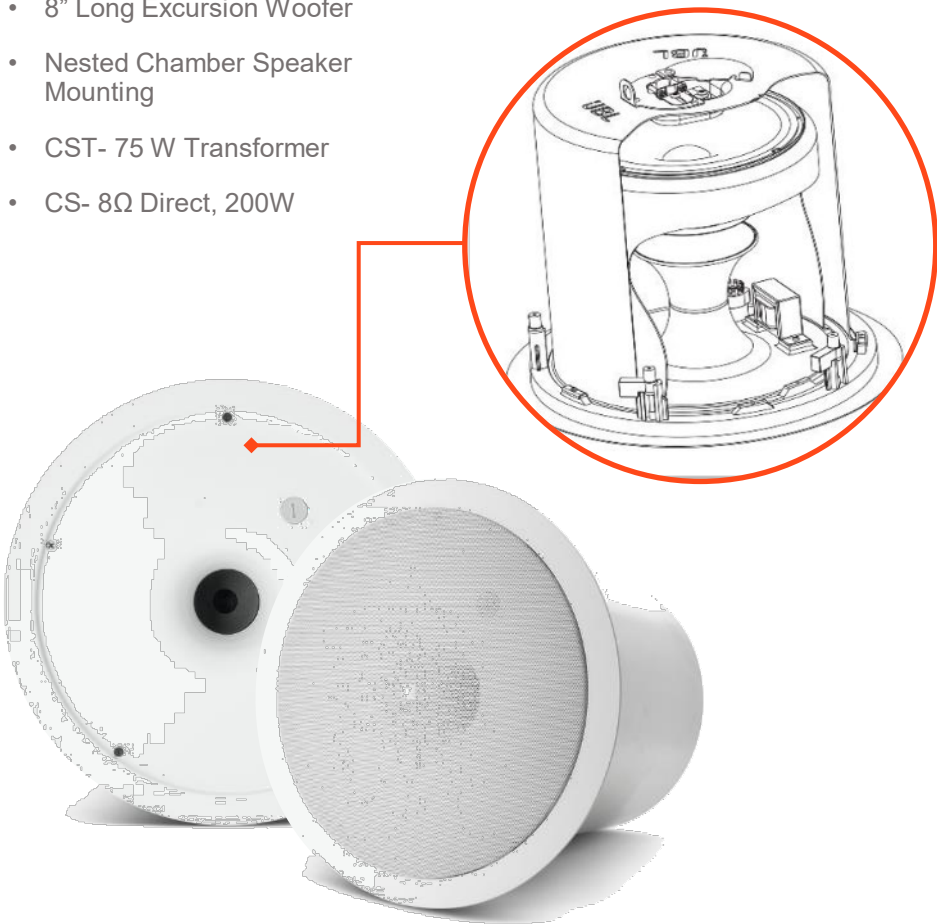
CONTROL 26-DT

- Same Driver and Transformer as Control 26CT
- Fits Some Third-Party 8" Speaker Backcans and Grilles



CONTROL 19CS & 19CST

- 8" Long Excursion Woofer
- Nested Chamber Speaker Mounting
- CST- 75 W Transformer
- CS- 8Ω Direct, 200W





JBL CONTROL 40 SERIES

PREMIUM SMALL-FORMAT



JBL CONTROL 40 SERIES FAMILY

- Premium In-Ceiling: Outstanding Pattern Control throughout the Frequency Range
- Exclusive RBI® Technology Provides Wide, Consistent Coverage
- All Models (excluding 42C) Include Integrated 70V/100V Transformer plus 8Ω Direct Setting





JBL CONTROL 40 SERIES

JBL CEILING SPEAKERS



RBI™ (RADIATION BOUNDARY INTEGRATOR®)

- RBI Technology was Originally Developed for JBL Line Arrays, then Adapted for the Control 40s
- The Waveguide and Apertures are Designed with a Specific Size, Shape and Diameter to Provide Consistent Broadband Coverage Over a Very Wide Area





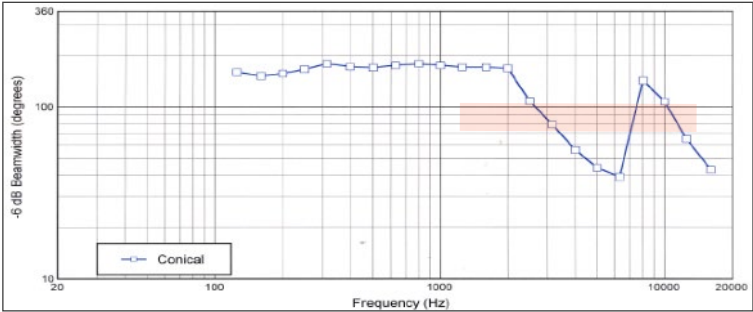
JBL CONTROL 40 SERIES

JBL CEILING SPEAKERS



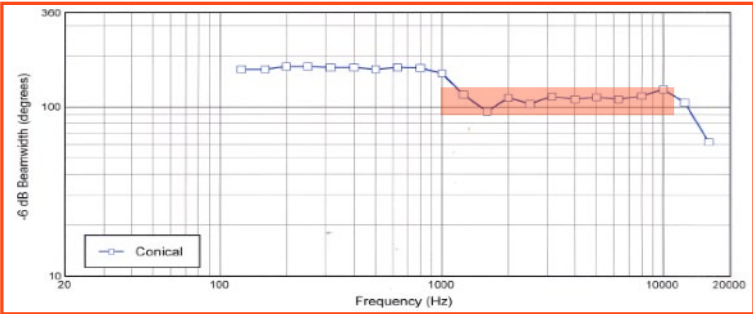
RBI™ COVERAGE

Same-Price Competitor 'X' Premium Ceiling Speaker Claims 90° Coverage
(Coverage is Inconsistent)



JBL Control 47C/T Premium Ceiling Speaker

True Constant Directivity 120 Degree Coverage





JBL CONTROL 40 SERIES

JBL CEILING SPEAKERS



CONTROL 45C/T

- **Two-Way, 5-1/4"**, Premium, Coaxial Speaker
- 88 dB Sensitivity
- 55 Hz to 20 kHz (-10dB)
- 60 W Transformer, plus 8Ω Direct
- 120° Conical Coverage



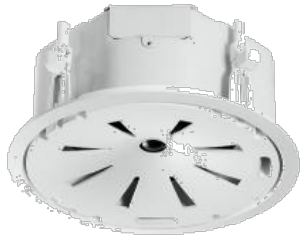
CONTROL 47C/T

- **Two-Way, 6.5"**, Premium, Coaxial Speaker
- 91 dB Sensitivity
- 55 Hz to 20 kHz (-10dB)
- 60 W Transformer, plus 8Ω Direct
- 120° Conical Coverage



CONTROL 47LP

- **Low Profile**
Two-Way, 6.5", Premium, Coaxial Speaker
- 91 dB Sensitivity
- 68 Hz to 20 kHz (-10dB)
- 60 W Transformer, plus 8Ω Direct
- 120° Conical Coverage





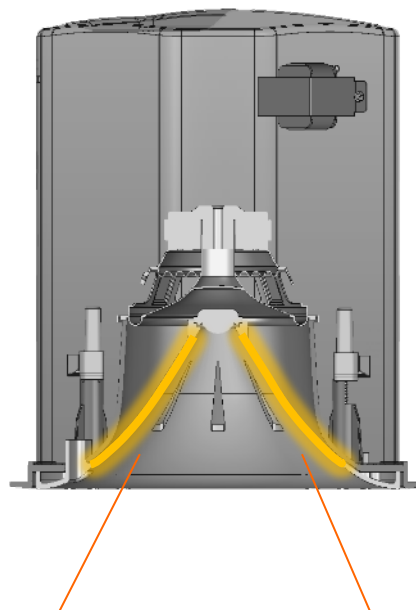
JBL CONTROL 40 SERIES

JBL CEILING SPEAKERS



CONTROL 47HC

- Narrow 75° Coverage
- Two-Way, 6.5", Premium, Coaxial Speaker
- 93 dB, Sensitivity
- 55 Hz to 17 kHz (-10dB)
- 60 W Transformer, plus 8Ω Direct



CONTROL 40CS/T

- High-Impact 8" Subwoofer
- Built in Passive Crossover:
 - Full-Range Output for Satellite Speakers
- Sensitivity:
 - 95 dB Near Corner
 - 89 dB Center of Ceiling
- 32 Hz to 300 kHz (-10dB)
- 80 W Transformer, plus 8Ω Direct



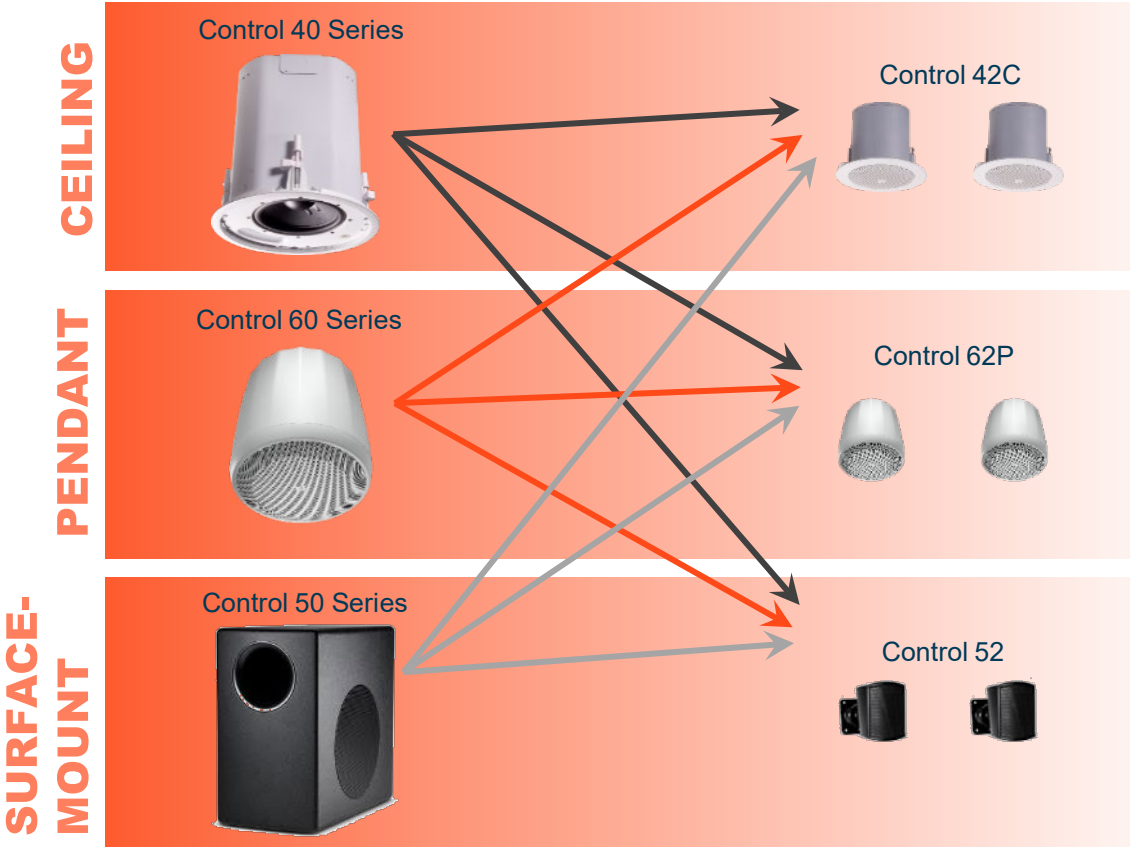


JBL CONTROL 40 SERIES

JBL CEILING SPEAKERS



SATELLITE & SATELLITE SYSTEMS



SUBWOOFER-SATELLITE SYSTEMS

- **Systems can be Mixed as Shown**
- One Sub Supports 2 or 4 Satellites
- 70/100V or Low Impedance

CONTROL 42C

- **Ultra-Compact Satellite Speaker**
- 2.5" Mid-High Driver
- 82 dB, 1-Watt @ 1-Meter
- 140 Hz to 20 kHz (-10dB)
- 160° Conical Coverage





JBL CONTROL 200 SERIES

JBL CEILING SPEAKERS



CONTROL 226C/T

- Two-Way, 6.5", Coaxial with 1" Compression Driver
- 47Hz to 19kHz (-10dB)
- 60 W Transformer, plus 8Ω Direct
- 120° Constant Directivity Coverage
- 150 W (600 W Peak)



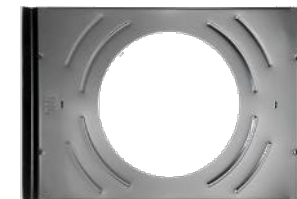
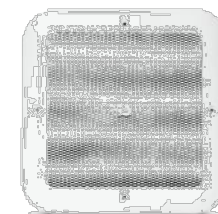
CONTROL 227C & CT

- C: 150 W (600 W Peak) , 8Ω
- CT: 68 W Transformer



CONTROL 200 ACCESSORIES

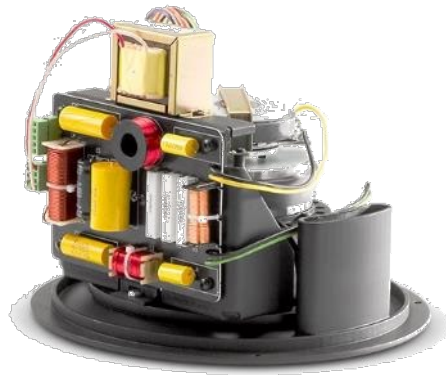
- MTC-200BB6, Premium .5 Cubic Foot Backcan
- MTC-RG6/8 Round Grill
- MTC-SG6/8 Square Grill (Fits 227 & 328)
- MTC-TB6/8 Tile Bridge (Fits 227 & 328)





JBL CONTROL 300 SERIES

JBL CEILING SPEAKERS



CONTROL 328C & CT

- 8" Coaxial Speaker with 2" Voice-Coil
- 1" Comp Driver
- 93 dB, sensitivity
- 34 Hz to 18 kHz (-10dB)
- C - 250W (1000W Peak), 8Ω
- CT – 68 W Transformer
- 120° Constant Directivity Pattern Control

CONTROL 312CS

- High-Output 12" Subwoofer with 3" Voice-Coil
- 34 Hz to 3.5 kHz (-10dB)
- 400 W (1600 W Peak) , 8Ω
- Optional 300 W Transformer





JBL CONTROL 300 SERIES

JBL CEILING SPEAKERS

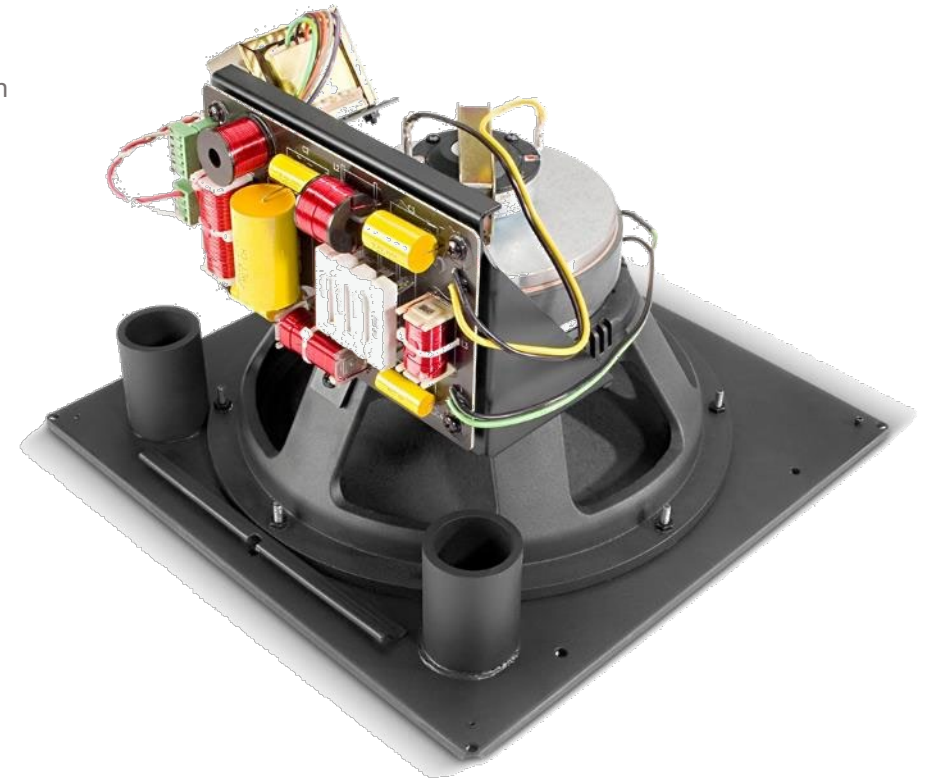


CONTROL 321C & CT

- 12" LF Coaxial Speaker with 2" Voice-Coil
- 1" HF Comp Driver
- 94 dB Sensitivity
- 34 Hz to 18 kHz
- 90° Consistent Pattern Control (Good for High Ceilings)
- C – **250 W** (1000 W Peak), 8Ω
- CT – **60 W** Transformer

CONTROL 322C & CT

- High-Output 12" LF Coaxial Speaker with 3" Voice-Coil
- 1" HF Comp Driver
- 95 dB Sensitivity
- 32 Hz to 20 kHz
- 90° Consistent Pattern Control (Good for High Ceilings)
- C – **400 W** (1600 W Peak) , 8Ω
- CT – **100 W** Transformer





JBL CONTROL 300 SERIES

JBL CEILING SPEAKERS



MTC-300BB12

- 2.4 Cubic Ft. Backbox for 312, 321 & 322
- 16-Gauge Metal with 1/2" MDF Lining

MTC-300SG12

- Square 12" Speaker Grille





JBL DESIGN TOOLS

JBL DISTRIBUTED SYSTEM DESIGN (DSD) SOFTWARE



FREE AT JBLPRO.COM UNDER SUPPORT / DOWNLOADS

How to use JBL's Distributed System Design Software

From Jeff McDonald, Plan Four Marketing

For more complete instructions, explanations and recommendations, see the README.TXT file in the DSD folder.

Download JBL's DSD from http://www.jbl.com/pages/software_downloads.htm and select the Distributed System Design (DSD) - this will have the most current version

Launch the program. To start your design, click on the Distributed System Design menu and click New Design

1- Name your project

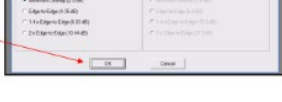



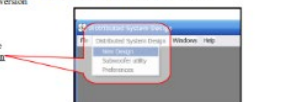
2- Input the room dimensions: length, width and height (length must be greater than width)

3- Select which model you are using
In this case we are using a Control 25T (on the ceiling, pointing straight down).
For available models, click on http://www.jbl.com/pages/controls25t_main.htm

4- Choose either Square or Hexagonal Array (this can be adjusted later to determine what is best for the room. Square is usually best for first choice.)

5- Choose the dB variation you expect (1.4x and 2x are NOT recommended except for very non-critical projects).

6- Click OK to see the results



Computes how many speakers to use, spacing, SPL, amplifier size, more

JBL Professional Distributed System Design

Project Name: Restaurant Design -- Large, Open, Single-Zone, Foreground
Project Date: 6/9/2020
Side Wall 28 (meters)
3.3
3.8 * 5.1 * * * *
5.1
* * * * *
* * * * *
* * * * *
* * * * *

End wall 22 (meters)

Side Wall 28 (meters)

Type of Speaker/Connection: Control 45C/T -- 30W tap
Layout Type: Square
Spacing Selection: Edge-to-Edge
Room Length (meters): 28
Room Width (meters): 22
Ceiling Height (meters): 3.5
Listener Height (meters): 1.5

Number of Speakers: 20
Number of Rows: 4
Number of Columns: 5

Row Spacing (meters): 5.1
Column Spacing (meters): 5.1
Row Distance from Each Side Wall (meters): 3.3
Column Distance from Each End Wall (meters): 3.8

Maximum Continuous Average SPL (Pink Noise, dB): 97.4
Maximum Continuous Peak SPL (Pink Noise, dB): 103.4
Maximum Continuous Average SPL (music speech, dB): 93.4

Expected Level Variation (dB): 4.35
Recommended Amplifier Power (watts): 720.0



JBL CEILING SPEAKERS

ACCESSORY COMPATIBILITY GUIDE



JBLPRO.COM

Accessory Compatibility Guide for JBL Professional Ceiling Speakers

Updated 1/30/2019

		Backcans & Grilles			Drop-Ceiling Accessories			New Construction Brackets			Accessories
		Included Blind-Mount Backcan	Separate Pre-Install Backcan	Grilles	C-Ring	Tile Bridge	Tile Rail	"NC" New Construction Bracket	"MR" Plaster-Ring Construction Bracket	"TR" Trim Rings	Other Accessories
CSS Series -- Affordable, punched metal grille, for use with pre-installed backcans.											
CSS8004			CSS-BB4x6 (1 = set of 6 pcs)	included							
CSS8008			CSS-BB8x6 (1 = set of 6 pcs) (More in footnote #1)	included							
CSS8018			CSS-BB8x6 (1 = set of 6 pcs) (More in footnote #1)	included							
8100 Series -- Affordable, step-up sculpted baffle/grille, 2 with open-back and 1 for pre-install backcan.											
8124				included							
8128				included							
8138			MTC-81BB8 (priced as each, sold in packs of 4 pcs) (More in footnote #2)	included							
					MTC-8124C (priced as each, sold in packs of 4 pcs)						
					MTC-8128C (priced as each, sold in packs of 4 pcs)						
						MTC-81TB8 (priced as each, sold in packs of 4 pcs)					
Control 10 Series Ceiling -- Affordable, small-format blind-mount speakers.											
Control 12C/T (8-BK)	included		included		included						
								MTC-24NC (1 = set of 6 pcs)	MTC-24MR (1 = set of 6 pcs)	MTC-24TR (1 = set of 6 pcs)	MTC-TCO (1 = set of 6 pcs)
								MTC-24NC (1 = set of 6 pcs)	MTC-24MR (1 = set of 6 pcs)	MTC-24TR (1 = set of 6 pcs)	MTC-TCO (1 = set of 6 pcs)



PENDANT SPEAKERS



JBL COMMERCIAL LOUDSPEAKERS

SURFACE-MOUNT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trip Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



JBL CONTROL 60 SERIES

JBL PENDANT SPEAKERS



JBL CONTROL 60 PENDANT SPEAKER FAMILY

4 cabinet sizes, 6 Models

CONTROL 64P/T

- Basic, 4" Full-Range Driver

CONTROL 65P/T

- Two-Way, 5.25", Premium, Coaxial Speaker with RBI

CONTROL 67HC/T

- Two-Way, 6.5", Premium, Coaxial Speaker
- Narrow 75° Coverage

CONTROL 60PS/T

- 8" Subwoofer

CONTROL 62P

- Ultra-Compact Satellite
- 2.5" Mid-High Driver

CONTROL 67P/T

- Two-Way, 6.5", Premium, Coaxial Speaker with RBI





JBL CONTROL 60 SERIES

JBL PENDANT SPEAKERS



CONTROL 64P/T

- Cost Effective, Compact Pendant
- 4" Full-Range Driver
- 65 Hz to 15 kHz (-10dB)
- 30W Transformer, plus 8 Ω



CONTROL 65P/T

- Two-Way, 5.25", Premium, Coaxial Speaker with RBI
- Same Driver and RBI as Control 45C/T



CONTROL 67P/T

- Two-Way, 6.5", Premium, Coaxial Speaker with RBI
- Same Driver and RBI as Control 47C/T



CONTROL 67HC/T

- Narrow 75° Coverage
- Two-Way, 6.5", Premium, Coaxial Speaker
- Same Driver and RBI as Control 47HC/T





JBL CONTROL 60 SERIES

JBL PENDANT SPEAKERS



CONTROL 60PS/T

- High-Impact 8" Subwoofer
- Built-in Passive Crossover
 - Full-Range Output for Satellite Speakers
- 32 Hz to 300 kHz (-10dB)
- 110 W Transformer, plus 8Ω
- Similar to the Control 40CS/T

CONTROL 62P

- Ultra-Compact Mid-High Satellite Pendant Speaker
- 16Ω, No Transformer
- Same Driver as Control 42P





SURFACE-MOUNT SPEAKERS



JBL COMMERCIAL LOUDSPEAKERS

SURFACE-MOUNT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers

CSS-H Paging Homs

Control Contractor 20 Series Surface-Mount Speakers

Control 50 Series Subwoofer/Satellite Speakers

Control 1 Pro Speakers

Control 2P Powered Speakers

Control 5 Speakers

Control CRV Architectural Speakers



JBL COMMERCIAL LOUDSPEAKERS

SURFACE-MOUNT SPEAKERS



BASIC BGM
& PAGING

SYSTEM LEVEL & QUALITY

HIGH
PERFORMANCE



JBL CONTROL 1, 2P, CSS & CRV SERIES

JBL SURFACE-MOUNT SPEAKERS



CONTROL 1 PRO

- Bookshelf / Desktop
- 5.25" Woofer with 3/4" Tweeter
- 80 Hz to 20 kHz (-10dB)
- 150 W @ 8Ω Direct
- Magnetically Shielded



CONTROL 2P

- Powered Control 1 Pro
- 2 Channel, 35 W Amplifier
- 115 dB Max SPL (Pair)
- Balanced & Unbalanced Inputs
- C2PS + Stereo Pair
- C2PM = Master Only



CONTROL CSS-IS/T

- 10 W Transformer, plus 60 W @ 8Ω Direct
- Wall Bracket Included



CONTROL CRV

- Curved Design
- Dual 4" Woofers with 3/4" Tweeter
- 80 Hz to 20 kHz (-10dB)
- 30 W Transformer, plus 75 W @ 8Ω Direct





JBL CONTROL CONTRACTOR-1 SERIES

JBL SURFACE-MOUNT SPEAKERS



CONTROL 23-1, 25-1, 28-1

- Woven Fiberglass LF Cone
- Laminated HF for Low Distortion
- Steep Crossover Slopes
- High Power Handling
- Superb Frequency Response
- Great Bass Extension
- Consistent 100° x 100° Coverage
- -1 Models: Combined T (Transformer) and Non-T (8Ω)
- -1L Models: 8° only

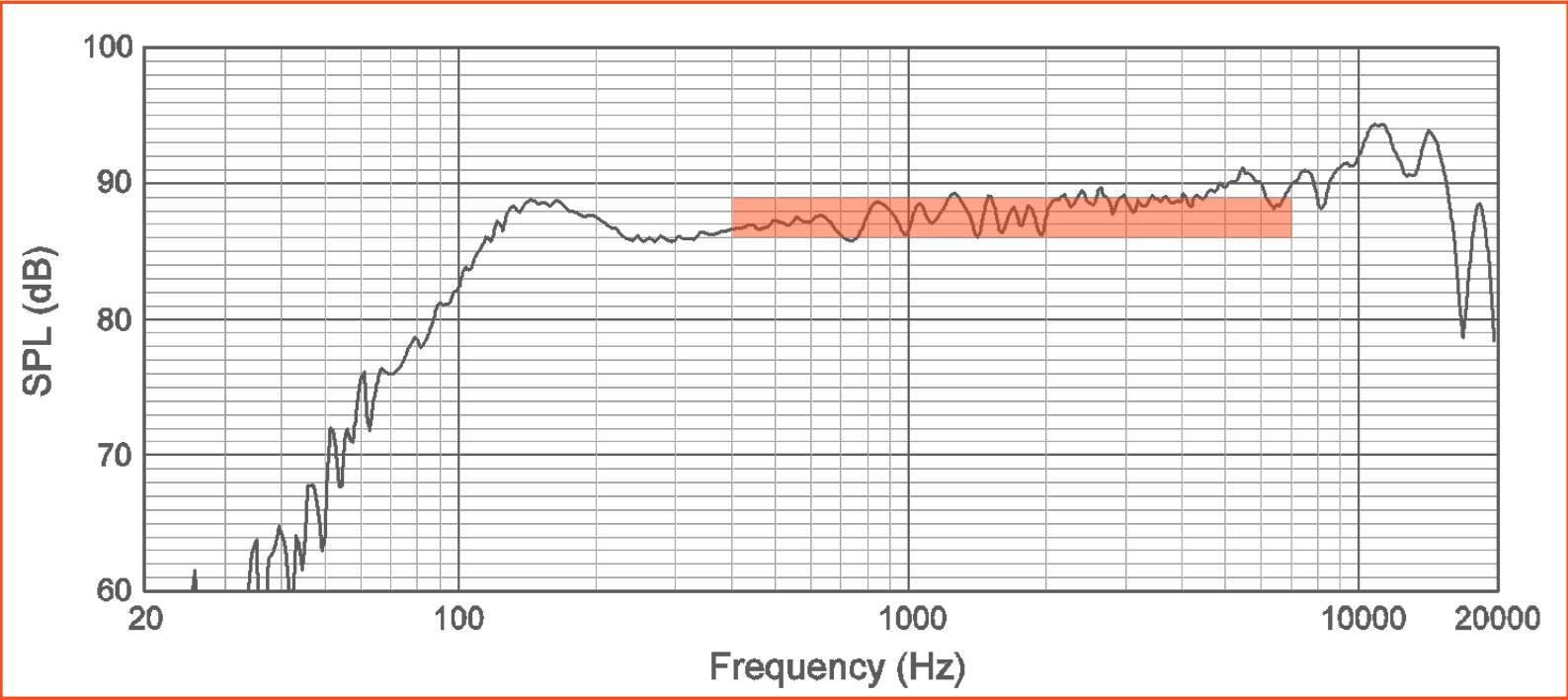


JBL CONTROL CONTRACTOR-1 SERIES

JBL SURFACE-MOUNT SPEAKERS



SUPERB FREQUENCY RESPONSE





JBL CONTROL CONTRACTOR-1 SERIES

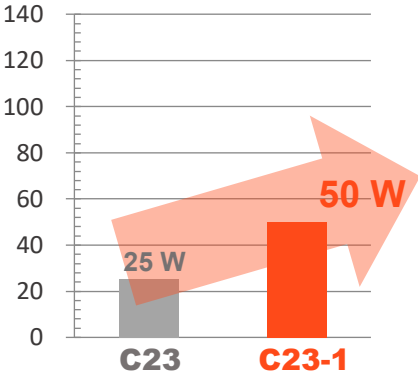
JBL SURFACE-MOUNT SPEAKERS



HIGHER POWER HANDLING

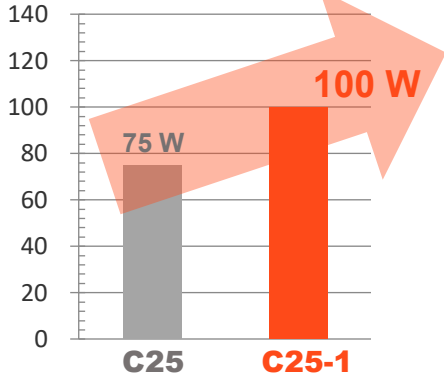
CONTROL-1 23-1

100% HIGHER



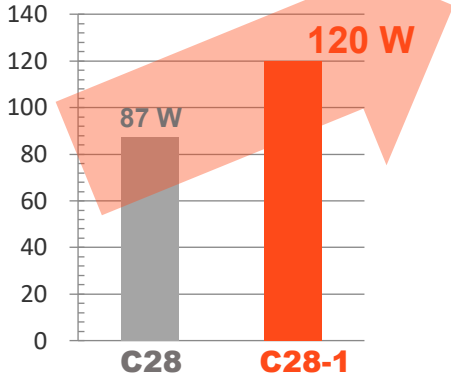
CONTROL-1 25-1

33% HIGHER



CONTROL-1 28-1

40% HIGHER





JBL CONTROL CONTRACTOR-1 SERIES

JBL SURFACE-MOUNT SPEAKERS



EXTENDED LOW-FREQUENCY

NOW to 70 Hz

OLD CONTROL 23
WAS 85 Hz

CONTROL-1 23-1



NOW 60 Hz

OLD CONTROL 25
WAS 80 Hz

CONTROL-1 25-1



NOW 45 Hz

OLD CONTROL 28
WAS 60 Hz

CONTROL-1 28-1





CONTROL CONTRACTOR-1 SERIES

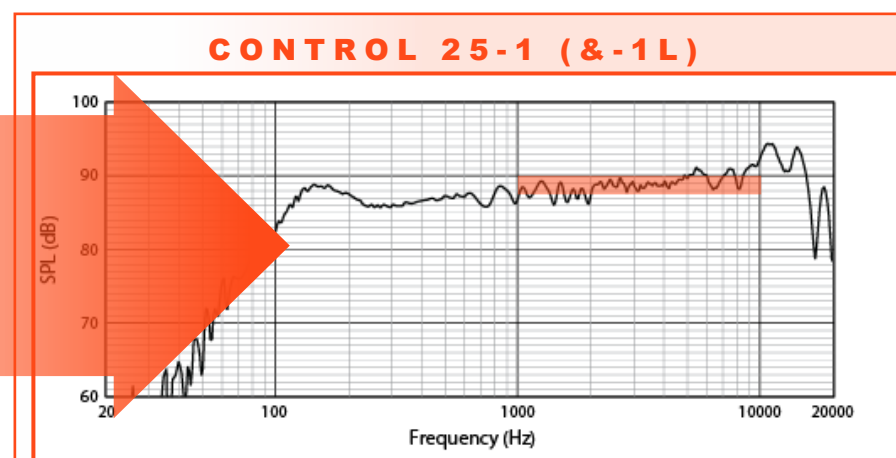
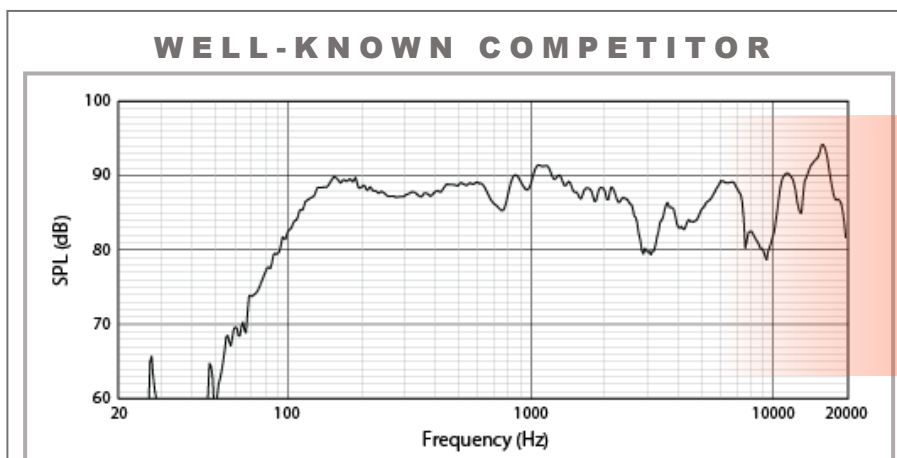
JBL SURFACE-MOUNT SPEAKERS

JBL

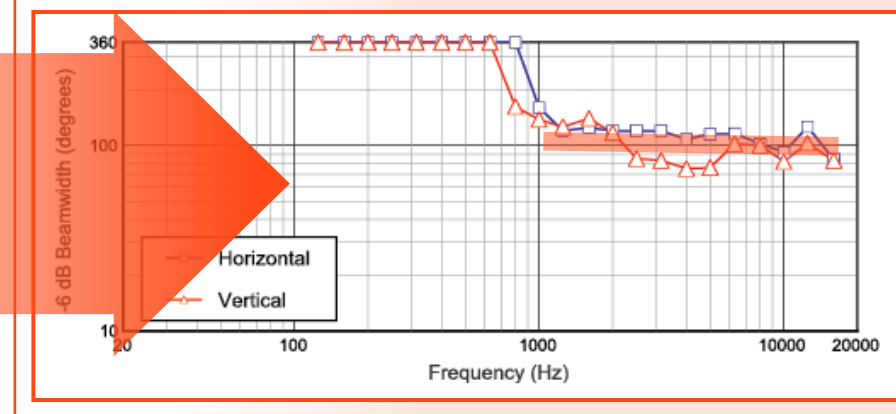
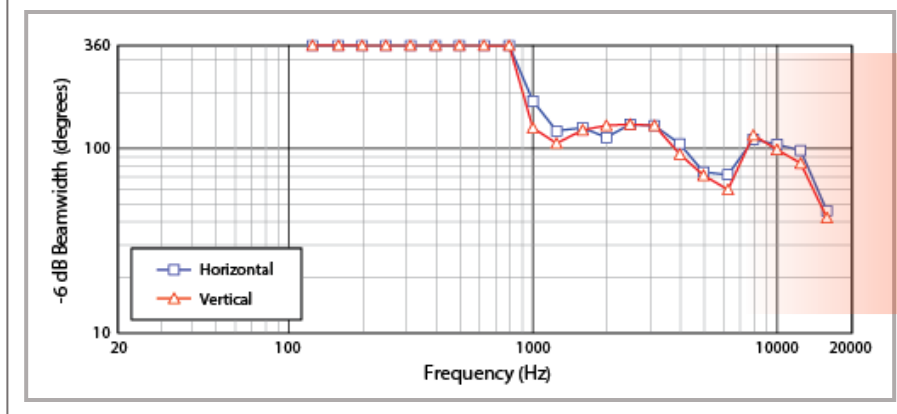
PROFESSIONAL

FREQUENCY RESPONSE & BEAMWIDTH/COVERAGE

FREQUENCY
RESPONSE



BEAMWIDTH
/ COVERAGE



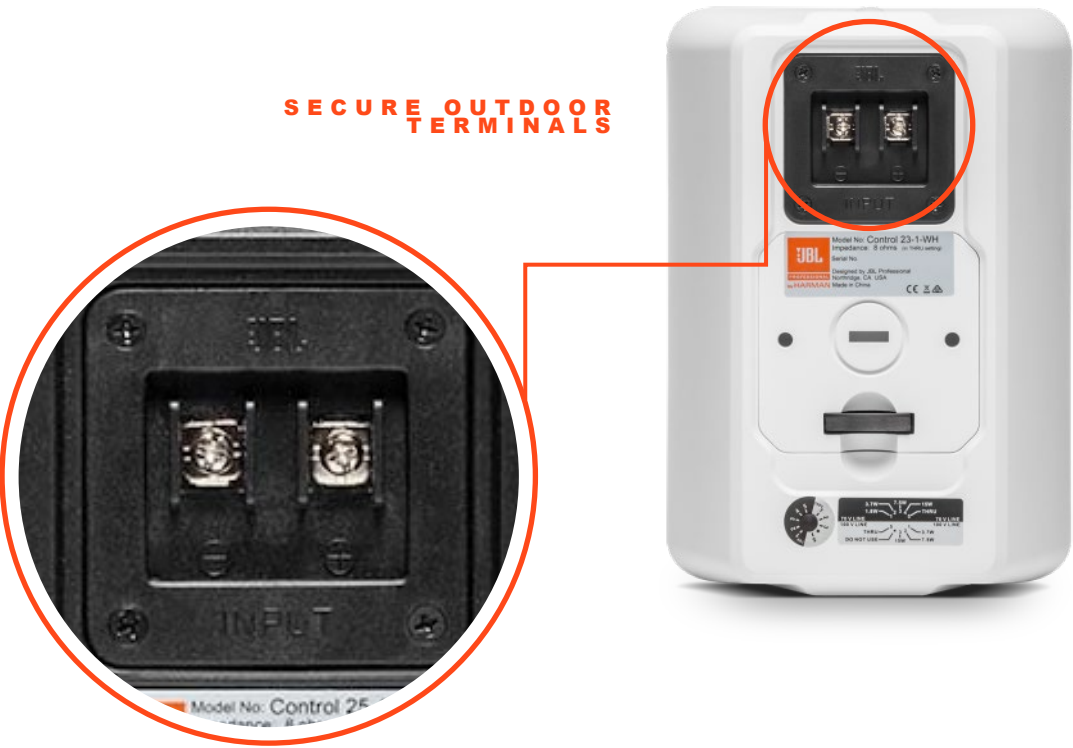


NEW JBL CONTROL CONTRACTOR SERIES

JBL SURFACE-MOUNT SPEAKERS



OUTDOOR CAPABILITY



SECURE OUTDOOR
TERMINALS



ROBUST STOCK GRILLS

OPTIONAL
WMG™ WEATHER MAX GRILLS
FOR SEVERE ENVIRONMENTS



NEW JBL CONTROL CONTRACTOR SERIES

JBL SURFACE-MOUNT SPEAKERS



MOUNTING OPTIONS

OPTIONAL
U-BRACKETS



STOCK
INVISIBALL™





JBL CONTROL CONTRACTOR SERIES

JBL SURFACE-MOUNT SPEAKERS



CONTROL 25AV

- 5.25" Woofer with 3/4" Horn-Loaded Tweeter
- 87 dB Sensitivity
- 70 Hz to 23 kHz (-10dB)
- 60 W Transformer, plus 200 W @ 8Ω Direct
- Magnetically Shielded



CONTROL 29AV-1

- 2-Way, Premium Indoor /Outdoor Speaker
- 8" Woofer with 1" Compression Driver
- Rotatable 100° x 85° Horn
- 90dB Sensitivity
- 37 Hz to 18 kHz (-10dB)
- 55 W Transformer, plus 300 W @ 8Ω Direct



CONTROL 30

- High Output, 3-Way Indoor /Outdoor Speaker
- 10" LF with Coaxial 5" Mid and 1" Comp Driver
- 93 dB Sensitivity
- 38 Hz to 17 kHz (-10dB)
- 150 W Transformer, plus 250W (1000 W peak) @ 8Ω Direct



CONTROL 31

- High Output, 2-Way, Indoor /Outdoor Speaker
- 10" Woven Fiberglass LF with 2414H-C High-Output Comp Driver
- 92 dB Sensitivity
- 33 Hz to 19 kHz (-10dB)
- 150 W Transformer, plus 200W (800 W peak) @ 8Ω Direct





JBL CONTROL CONTRACTOR SERIES

JBL SURFACE-MOUNT SPEAKERS



SB2210 SUBWOOFER

- Dual 10" with Woven Fiberglass Cones
- 500 W (2000 W Peak)
- 95 dB Sensitivity
- 38 Hz to 500 Hz (-10dB)





JBL CONTROL 50 SERIES

JBL SURFACE-MOUNT SPEAKERS

Control 50S/T Subwoofer & 52 Satellite

- High-Fidelity Sub/Sat Sound
- Switchable 70V/100V or Low Impedance
- Wall-Mount Brackets Included
- Can Mix-and-Match with C40 In-Ceiling and C60 Pendant Sub-Sat

C50S/T = Subwoofer

C52 = Satellite

C50Pack = C50S/T Sub with 4 x C52 Sats





CONTROL CONTRACTOR SERIES

JBL SURFACE-MOUNT SPEAKERS



JBL CONTROL HST

- Especially Wide 160° x 150° Coverage
- Patented HST™ Hemispherical Sound-field Technology Design
- Single 5-1/4" Rear Firing Woofer with Dual 3/4" Fluid-Cooled Tweeters
- Includes Fixed Distance Wall Bracket
- 60 W Transformer, plus 100 W (400 W Peak) @ 8Ω
- 50Hz to 20KHz (-10dB)





LANDSCAPE SPEAKERS



JBL CONTROL 80 SERIES

JBL SURFACE-MOUNT SPEAKERS



CONTROL 85M

- 5¼" 2-Way Co-ax
- 360° Horiz. Coverage
- 30 W Transformer, plus 80 W (320 W Peak) @ 8Ω
- IP56 Weather Rating
- 86 dB Sensitivity
- 55 Hz to 18 kHz (-10dB)

CONTROL 88M

- 8" 2-Way Co-ax
- 360° Horiz. Coverage
- 60 W Transformer, plus 120 W (480 W Peak) @ 8Ω
- IP56 Weather Rating
- 87 dB Sensitivity
- 47 Hz to 16 kHz (-10dB)





IN-WALL SPEAKERS



JBL CONTROL CONTRACTOR SERIES

JBL IN-WALL SPEAKERS

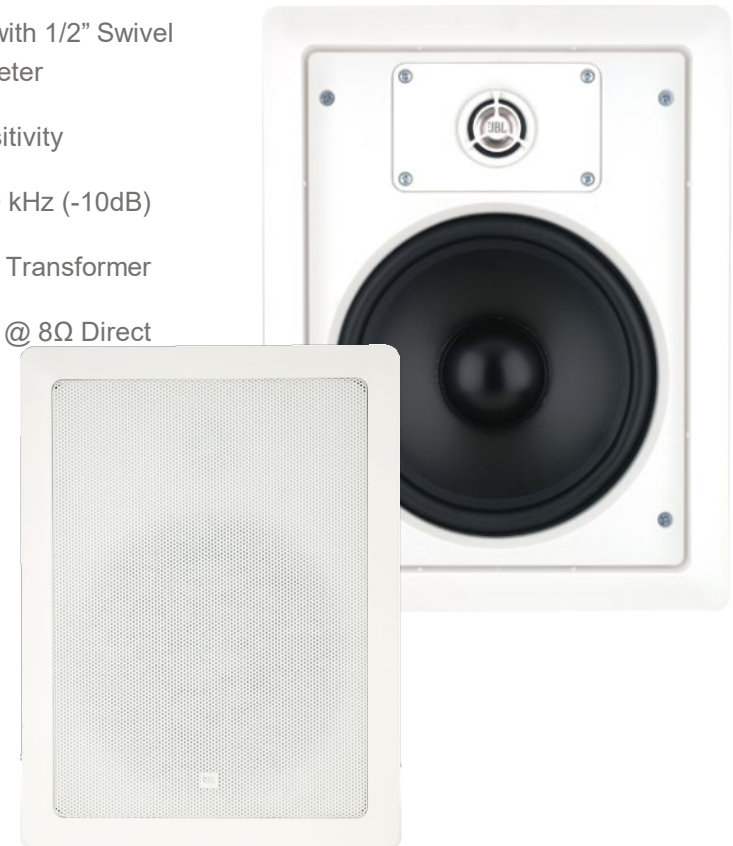


CONTROL 126W & 126 WT

- 6.5" Woofer with 1/2" Swivel Mount Tweeter
- 88 dB Sensitivity
- 35 Hz to 20 kHz (-10dB)
- WT – 30 W Transformer
- W – 100 W @ 8Ω Direct

CONTROL 128W & 128WT

- 8" Woofer with 1/2" Swivel Mount Tweeter
- 90 dB Sensitivity
- 35 Hz to 20 kHz (-10dB)
- WT – 50 W Transformer
- W – 120 W @ 8Ω Direct





SOUND BAR



PRO COMMERCIAL SOUND BAR



JBL PSB-1

- **Designed for the Requirements of Hotel Rooms and Cruise Ship Staterooms**
- 2 Channels, 20 W per Channel
- Compatible with both Fixed and Variable Volume Sources or Displays
- Learning IR Feature makes it Compatible with Almost Any Remote
- Max Gain Switch -- Lockout Plate Prevents Tampering
- Universal Voltage Power Supply
- Max 94 dB SPL
- Full-Range at 42 Hz to 20 kHz (-10dB)





AWC ALL WEATHER COMPACT SPEAKERS



JBL COMMERCIAL LOUDSPEAKERS

CEILING & PENDANT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



AWC 62

- 6.5" 2-Way,
Compact Coaxial Full-Range



AWC 82

- 8" 2-Way,
Compact Coaxial Full-Range



AWC 129

- 12" 2-Way,
Coaxial Full-Range



AWC 159

- 15" 2-Way
Coaxial Full-Range



AWC 15LF

- 15" Dedicated Low-Frequency





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



AWC62 ULTRA-COMPACT, COAXIAL SPEAKER

- 6.5" Woofer with Kevlar-Reinforced LF & 1" Compression Driver
- 110° Conical Coverage
- 175 W (700 W Peak)
- 92 dB Sensitivity, 114 dB SPL Continuous (120 dB Peak)
- 70 Hz – 18 kHz (-10dB).
- 120 W Transformer or 8Ω Direct
- ABS with Fiber Glass, U-Bracket Included
- ASTM G85 Rated for Corrosive Environment, plus IP56 Rating





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



AWC82 COAXIAL SPEAKER

- 8" Woofer with Kevlar-Reinforced LF & 1" Compression Driver
- 120° Conical Coverage
- 250 W (1000 W Peak) 94 dB Sensitivity, 118 dB SPL Continuous (124 dB Peak)
- 80 Hz – 20 kHz (-10dB).
- 200 Watt Transformer, or 8Ω Direct
- ABS with Fiber Glass, U-Bracket Included
- ASTM G85 Rated for Corrosive Environment, plus IP56 Rating





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



AWC129 COAXIAL SPEAKER

- 12" Woofer with Kevlar-Reinforced LF & 1" Compression Driver
- 90° Conical Coverage
- 400 Watt (1600 W Peak)
- 96 dB Sensitivity, 122dB SPL Continuous, (128dB Peak)
- 55 Hz – 20 kHz (-10dB).
- 200 W Transformer, or 8Ω Direct
- ABS with Fiber Glass, U-Bracket Included
- ASTM G85 Rated for Corrosive Environment, plus IP56 rating





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



AWC159 COAXIAL SPEAKER

- 15" Woofer with Kevlar-Reinforced LF & Compression Driver
- 90° Conical Coverage
- 500 W (2000 W Peak)
- 98 dB Sensitivity, 125dB SPL Continuous (131dB Peak)
- 52 Hz – 20 kHz (-10dB).
- 300 W Transformer), or 8Ω Direct
- ABS with Fiber Glass, U-Bracket Included
- ASTM G85 Rated for Corrosive Environment, plus IP56 rating





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



AWC15LF LOW-FREQUENCY SPEAKER

- 15" Woofer with Kevlar-Reinforced LF with 3" Voice Coil
- 500 W (2000 W Peak)
- 94 dB Sensitivity, 121 dB SPL Continuous (127dB SPL Peak)
- 45 Hz – 2 kHz (-10dB).
- 300 W Transformer), or 8Ω Direct
- ABS with Fiber Glass, U-Bracket Included
- ASTM G85 Rated for Corrosive Environment, plus IP56 rating





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS

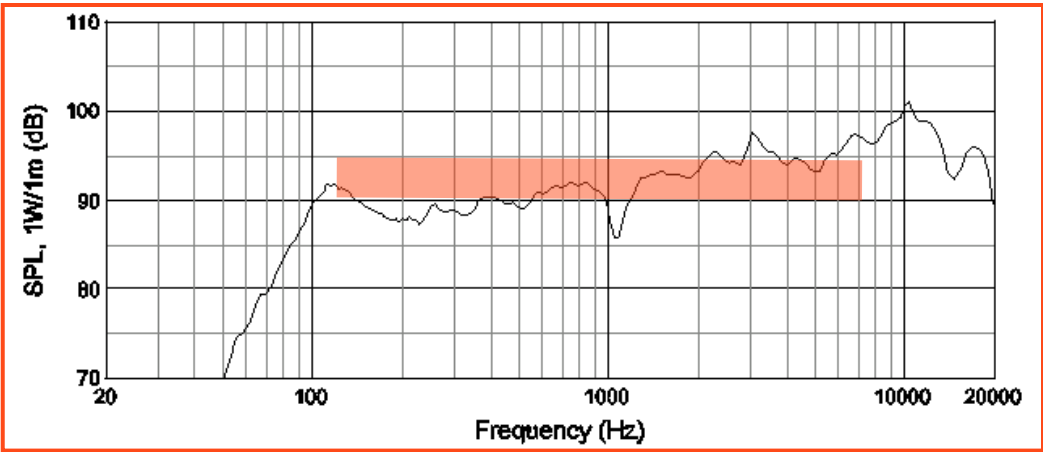


PRODUCT FREQUENCY COMPARISON



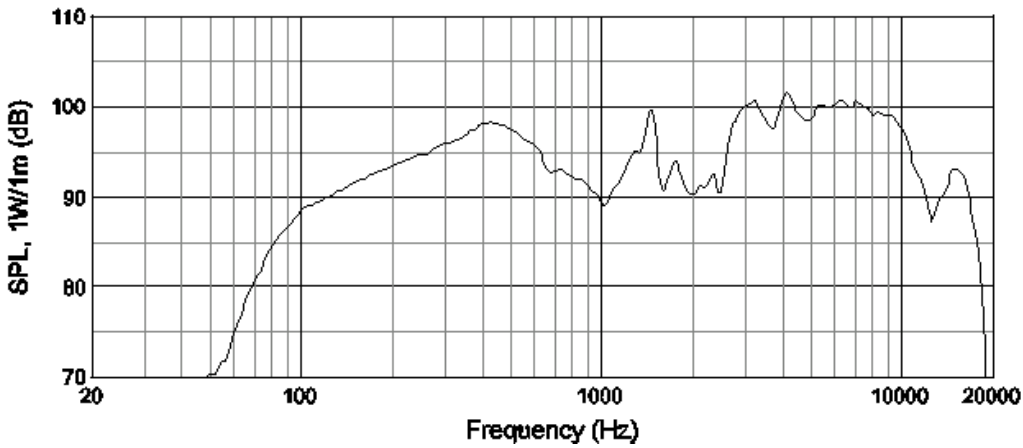
JBL AWC 82

- 250W, 200W Transformer
- IP-56 Outdoor Rating
- Smooth Frequency Response



COMMUNITY R.25

- 200W, 200W Transformer
- IP-55 Outdoor Rating
- Choppy Frequency Response





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS

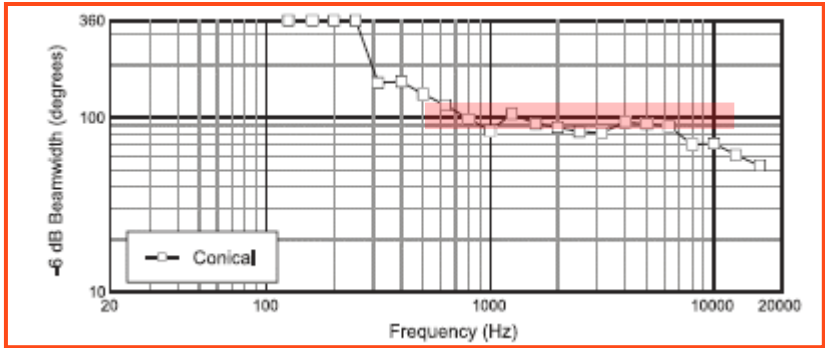


PRODUCT BEAMWIDTH COMPARISON



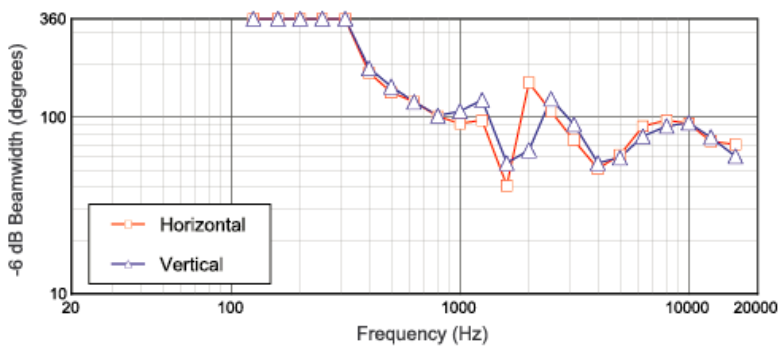
JBL AWC 129

- Constant Directivity Coverage



COMMUNITY R.5

- Very Inconsistent Coverage





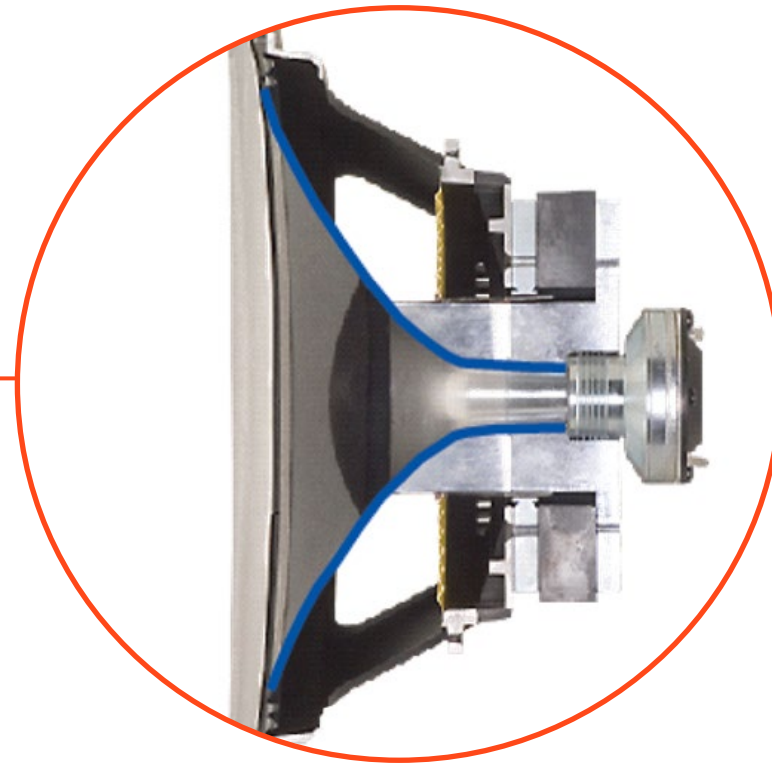
JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



JBL AWC SERIES CO-AXIAL 2-WAY DRIVER

- High Fidelity 2-Way Co-ax Driver
- Thru-the-Cone Pattern Control



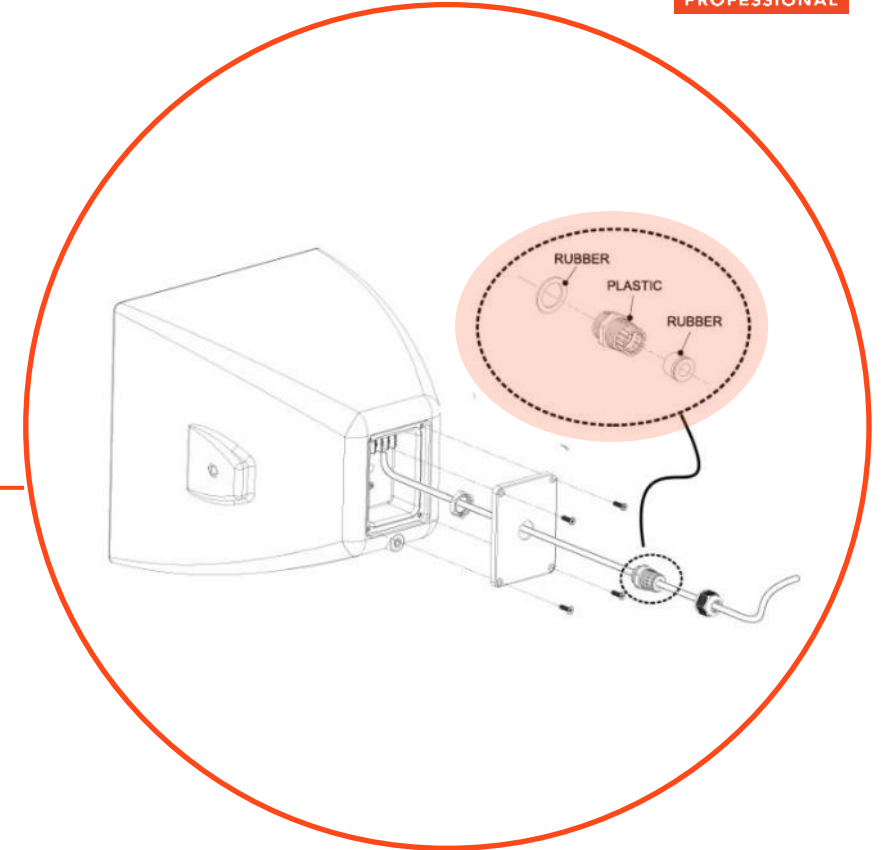


JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



- Sealed Terminal Compartment with Water-Tight Cable Entrance
- All Models Available in Black or Light Gray and are Paintable





JBL ALL WEATHER COMPACT

JBL ALL WEATHER SPEAKERS



WEATHER AND CORROSION RESISTANCE

- After 336 Hours of Sulfuric Acid Air and Salt Water Spray (ASTM G85)





COLUMN LOUDSPEAKERS



JBL COMMERCIAL LOUDSPEAKERS

CEILING & PENDANT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Controlled-Coverage Column Speakers

Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



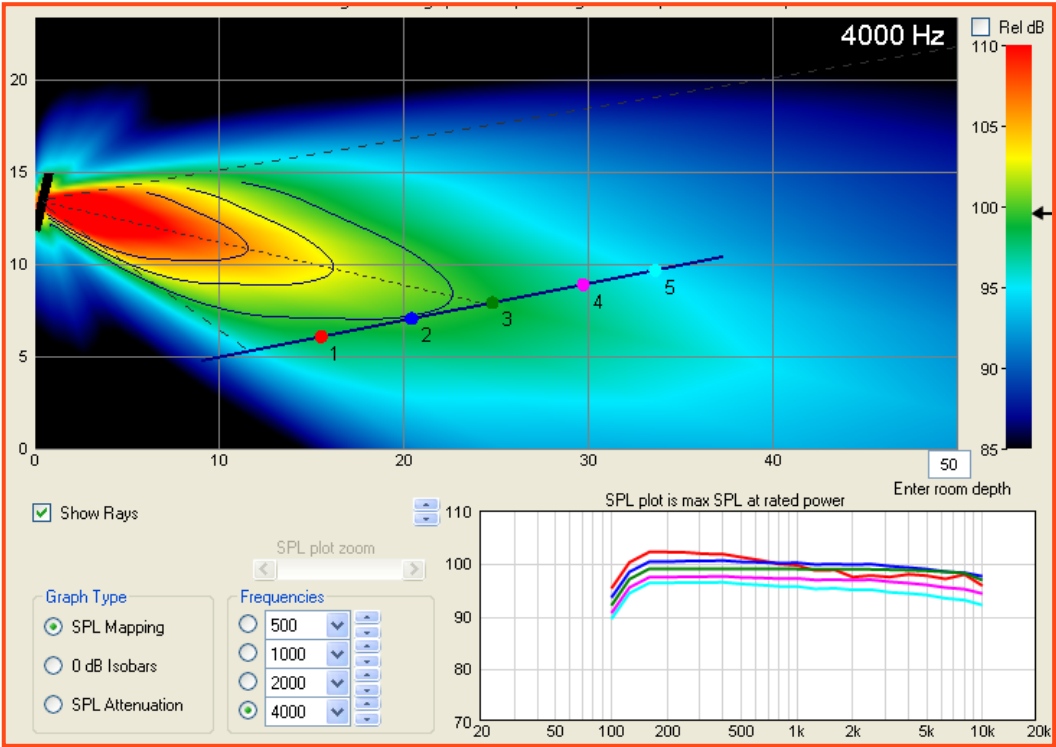
JBL INTELLIVOX SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



WHY USE COLUMN SPEAKERS?

- Less Sound to the Ceiling
- Less Sound to the Stage
- Less Reverberation in the Room



Better DIRECT Sound Quality for Listeners

Better Intelligibility

Better Sounding Music



JBL INTELLIVOX SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



WHY USE COLUMN SPEAKERS?

- Inconspicuous





JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



CONSTANT BANDWIDTH TECHNOLOGY™

4 EXCLUSIVE HARMAN TECHNOLOGY PATENTS





JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



CONSTANT BANDWIDTH TECHNOLOGY™

50LA-1



70J-1



70JE-1



100LA-1



200LA-1



1000



1000E





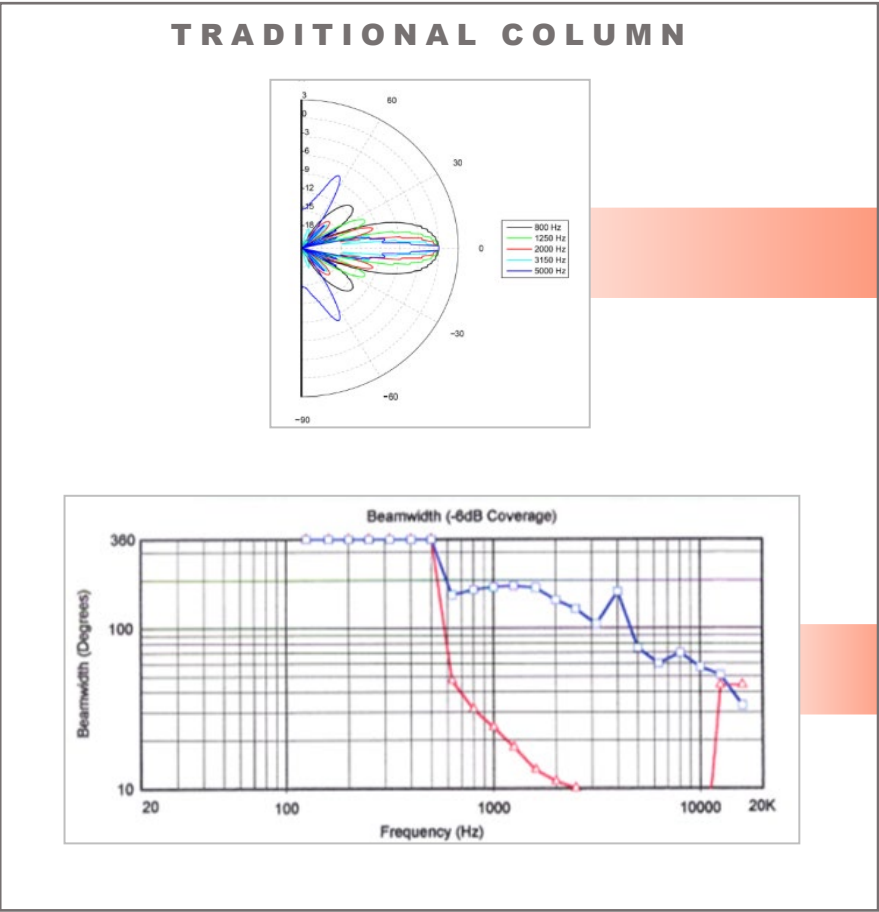
JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS

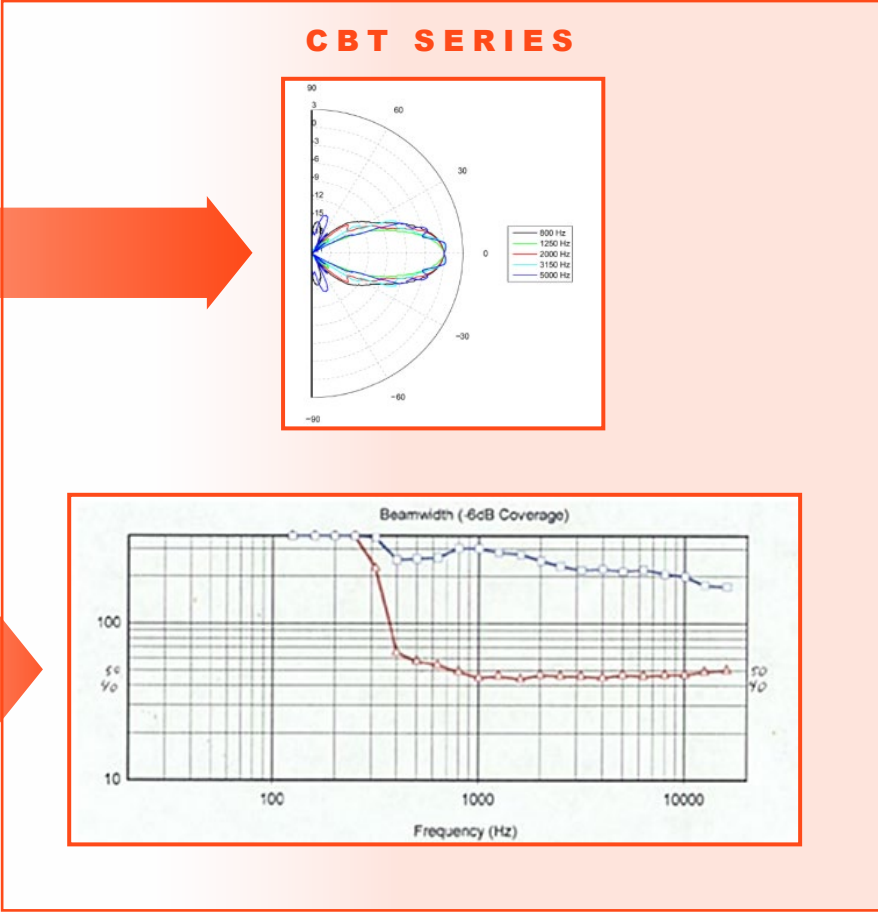


BEST-IN-CLASS PATTERN CONTROL

Erratic Coverage



Extremely Consistent Coverage



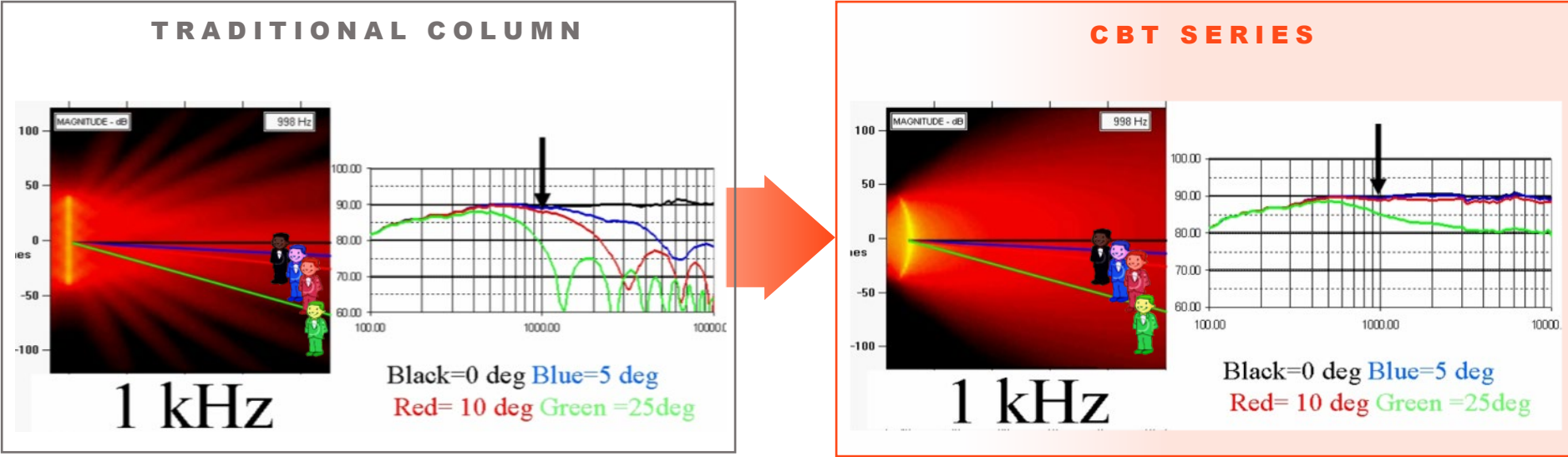


JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



SAME FREQUENCY RESPONSE EVERYWHERE



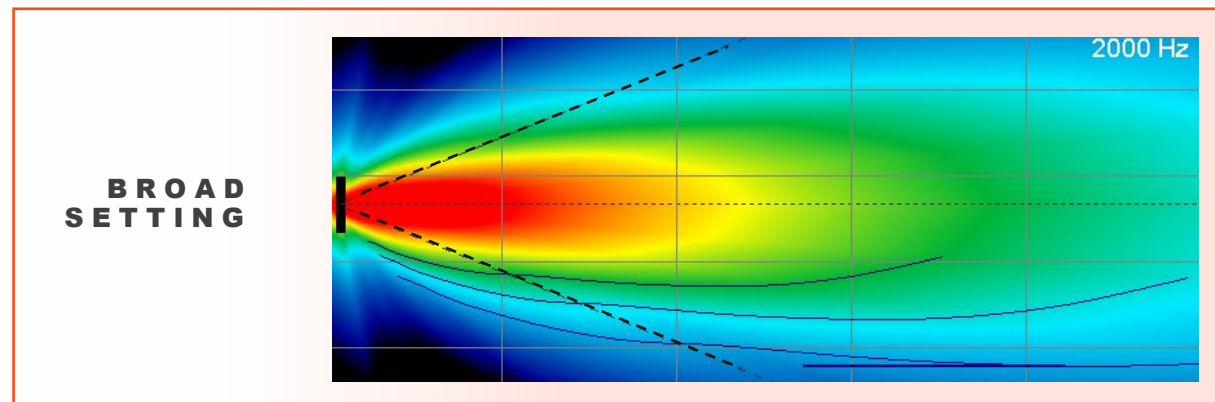
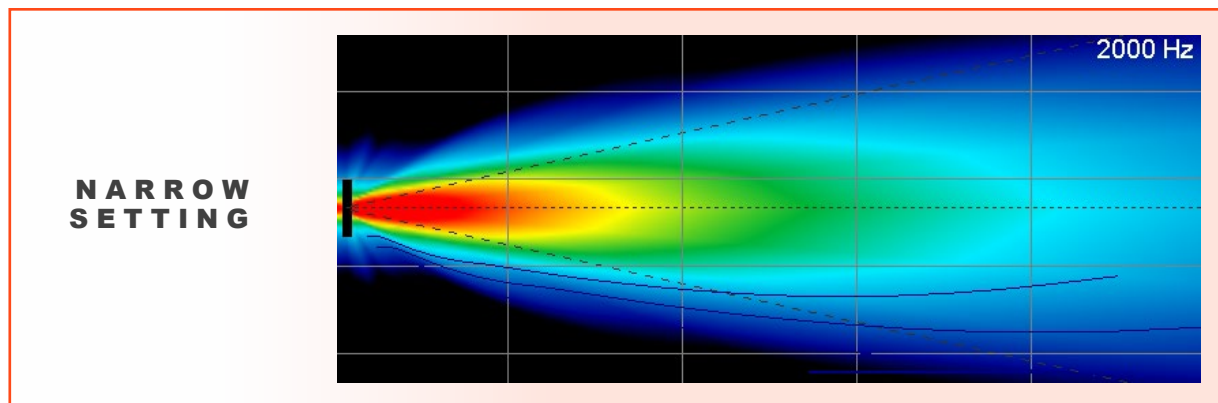


JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



SWITCHABLE COVERAGE TO FIT THE APPLICATION





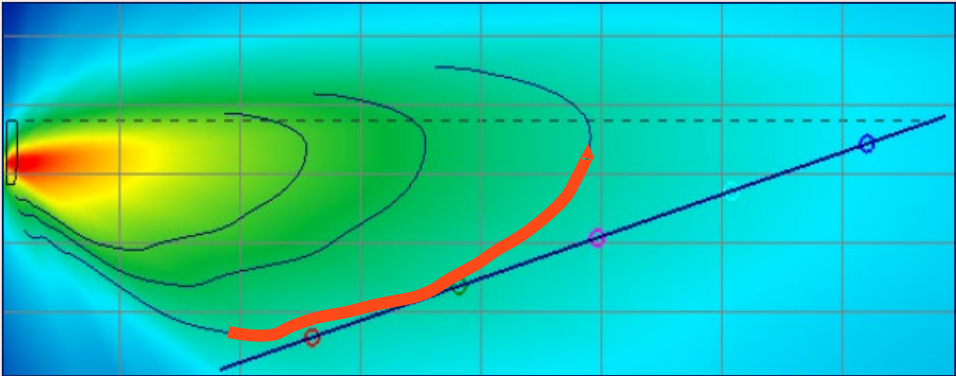
JBL CBT 70J SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS

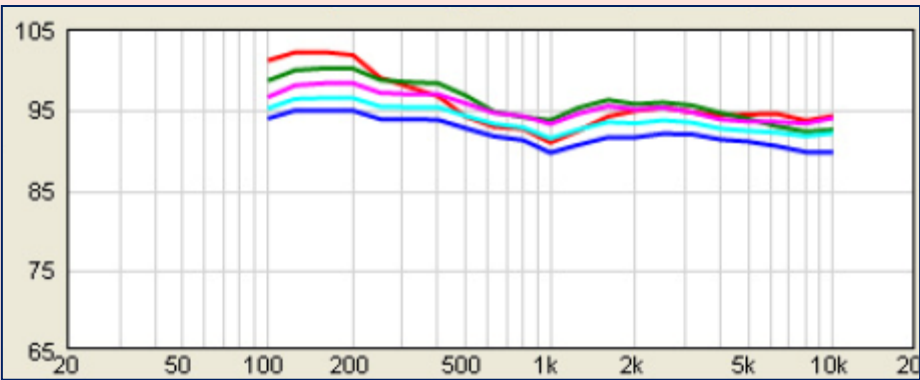


ASYMMETRICAL “PROGRESSIVE-GRADIENT” VERTICAL COVERAGE

**MORE CONSISTENT
SPL FRONT-TO-BACK**



**SIMILAR FREQUENCY
RESPONSE AT EVERY SEAT**



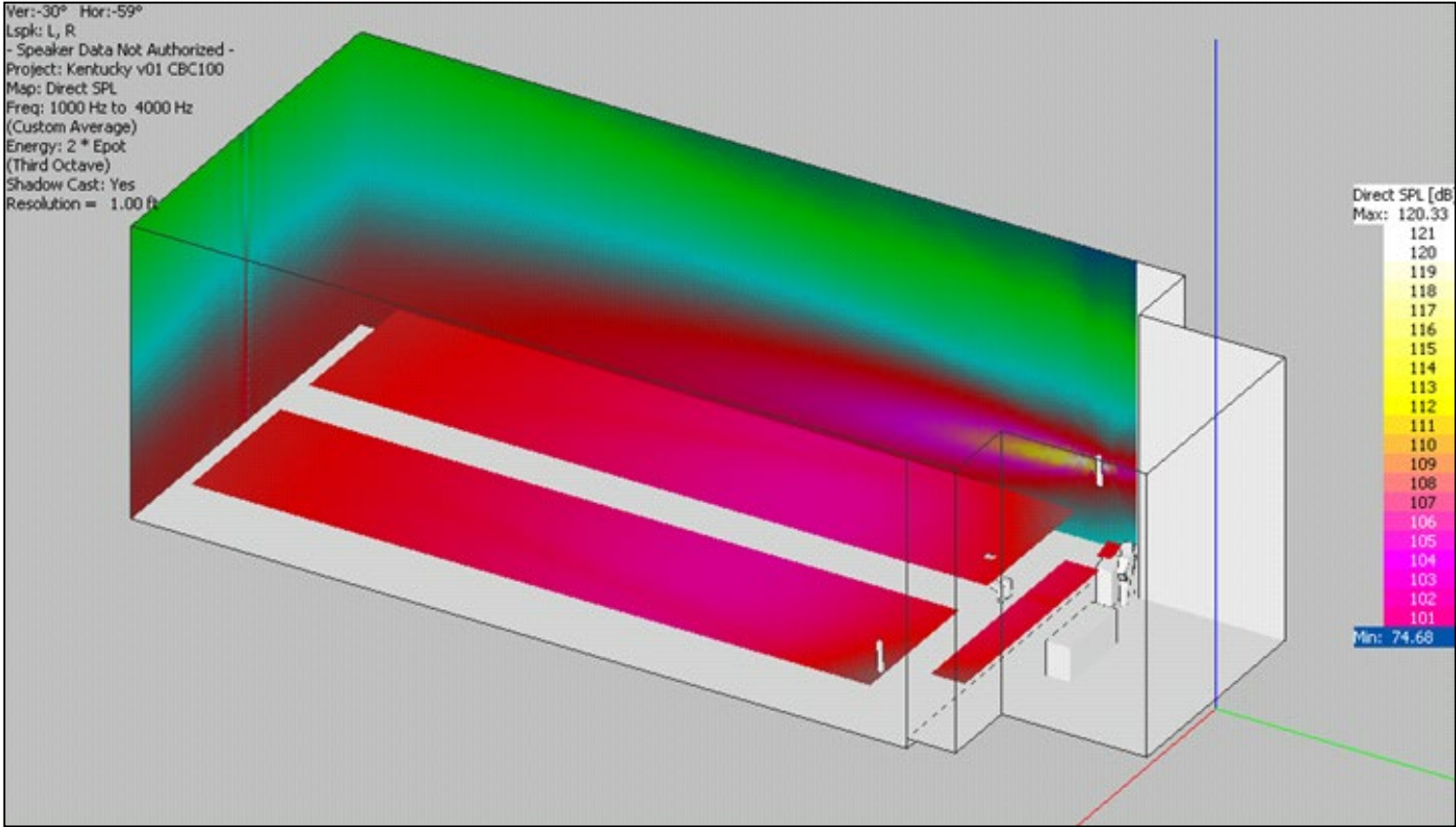
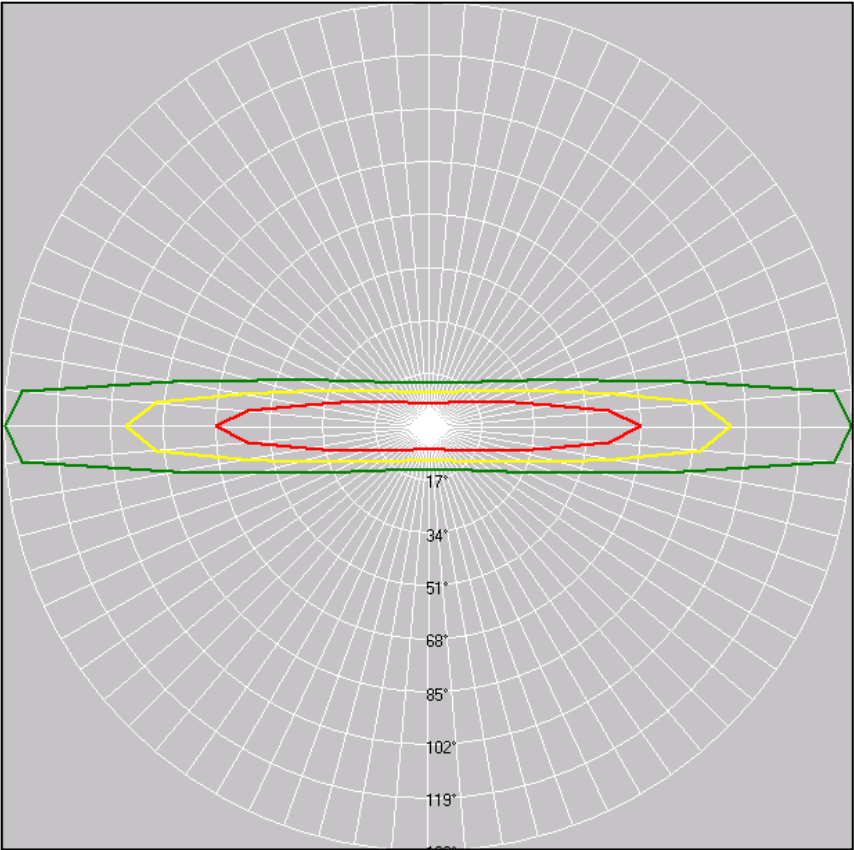


JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



EXCELLENT COVERAGE



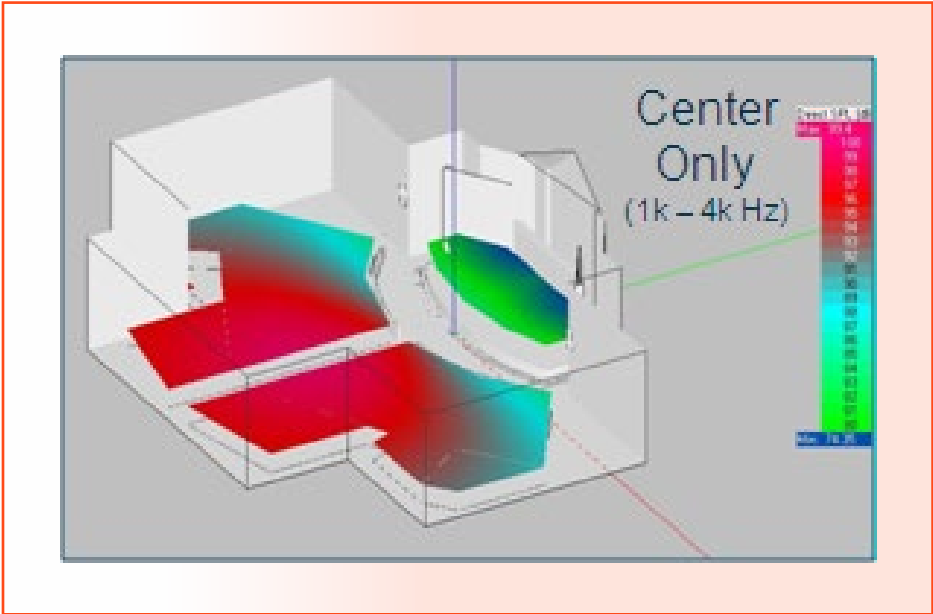


JBL CBT SERIES SPEAKERS

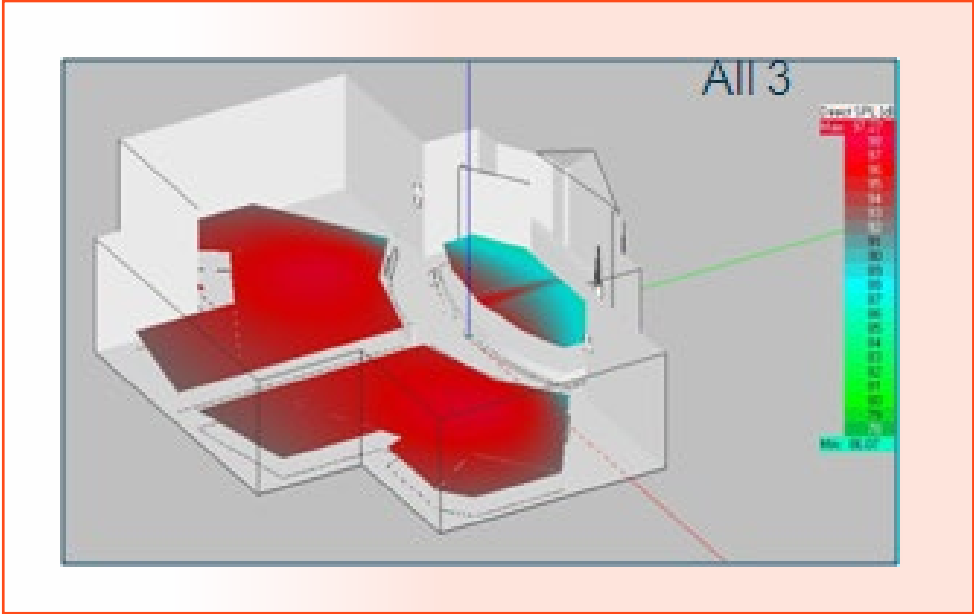
JBL FLAGSHIP COLUMN SPEAKERS



EXCELLENT COVERAGE



One CBT 100LA-1



Three CBT 100LA-1s
(Left-Center-Right)



JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS

NEW FLAGSHIP **CBT1000** & **CBT1000E**

- Next Generation **Adjustable-Coverage** Column Array
- Adjustable Vertical Coverage and Tapered Horizontal Waveguide
- Single Speaker Coverage of Some Rooms
- Deep/Strong Bass
- Twelve (12) 6-1/2" High-Excursion LF Drivers
- Twenty-Four (24) High-Power Tweeters
- 3000 W (12,000 W Peak)
- 130 dB Continuous (136 dB Peaks)
(102 dB at 60 Feet)
- Outstanding Bass Extension -- 38 Hz





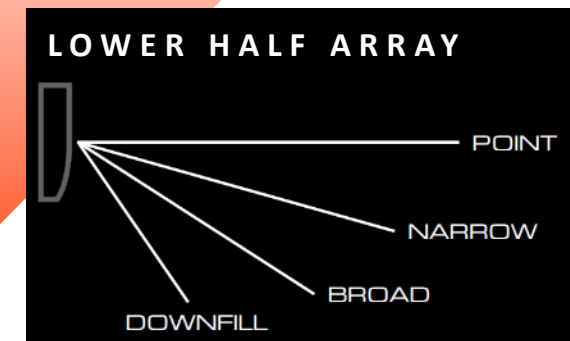
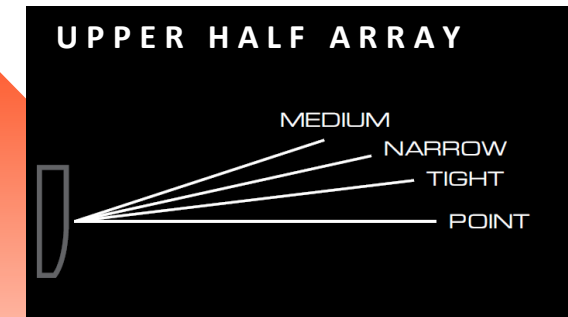
JBL CBT 1000 SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



INDIVIDUAL TOP & BOTTOM AIMING

- Selection of Four (4) “Pattern Up” Angles
- Selection of Four (4) “Pattern Down” Angles
- Total of Sixteen (16) Different Coverage Combinations
- Patented





JBL CBT 1000 SERIES SPEAKERS

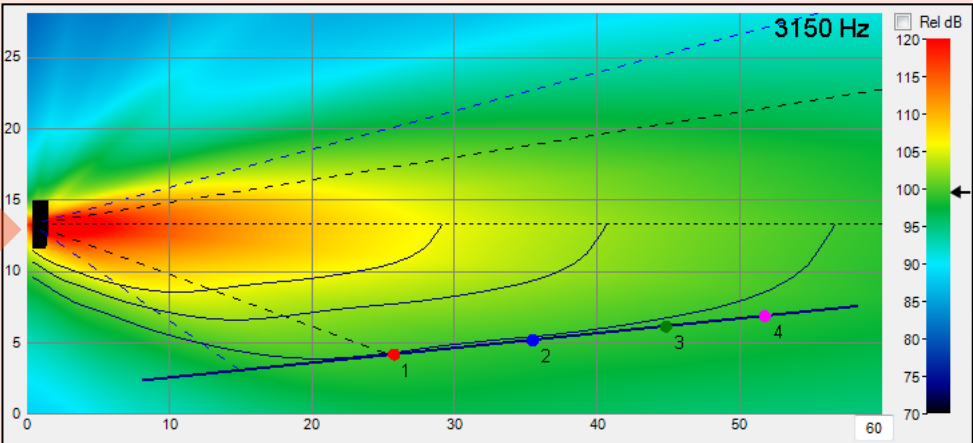
JBL FLAGSHIP COLUMN SPEAKERS



EXCELLENT COVERAGE

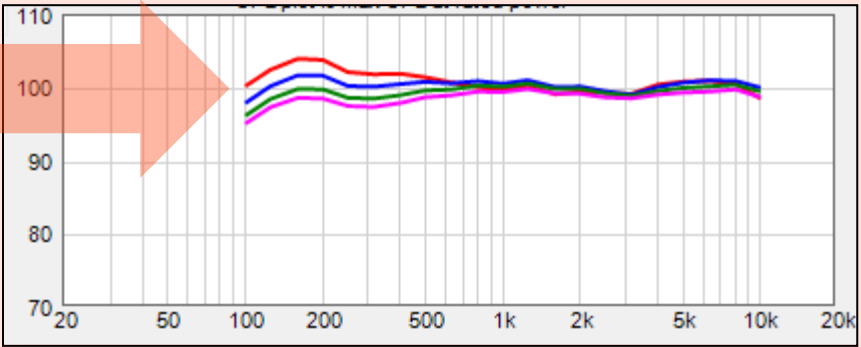
**CONSISTENT SPL & FREQUENCY ACROSS
THE ENTIRE LISTENING PLANE**

CBT 1000 (NO EXTENDER)
“POINT” (VERY TIGHT) AT TOP
“DOWNFILL” (WIDEST) AT THE BOTTOM



**CONSISTENT SPL &
FREQUENCY RESPONSE**

100 dB





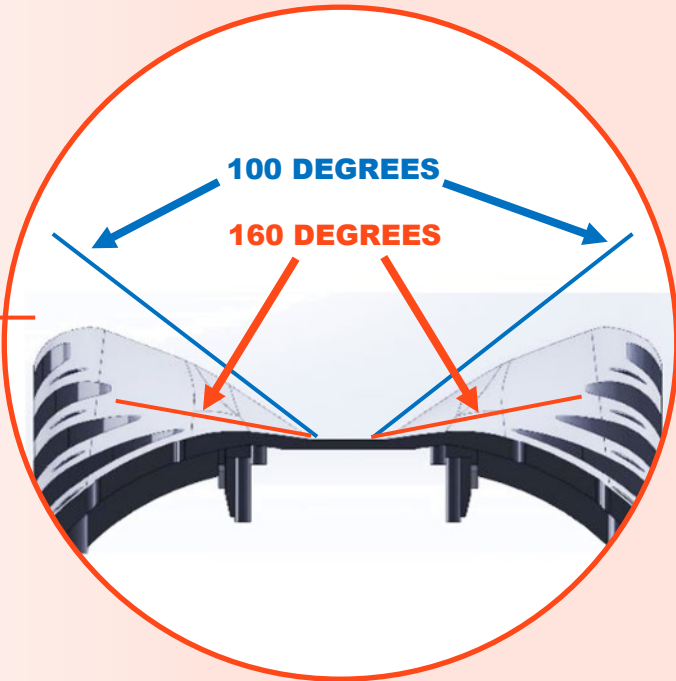
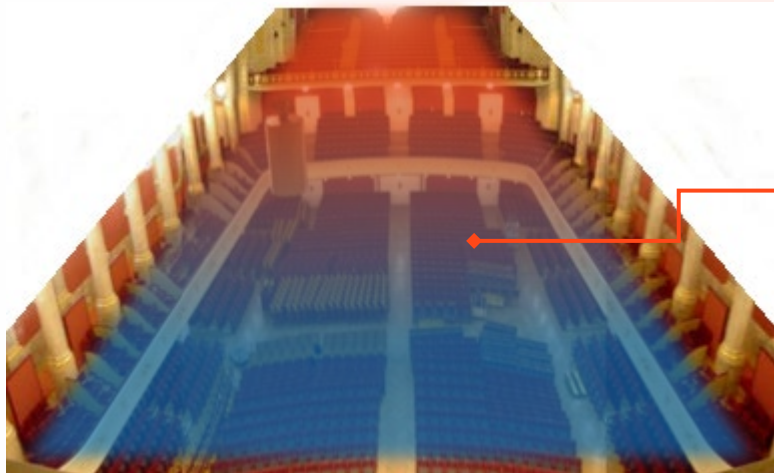
JBL CBT 1000 SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



CBT 1000 CONTINUOUSLY VARYING HORIZONTAL WAVE GUIDE

CONCERT HALL AS SEEN FROM THE
PERSPECTIVE OF THE SPEAKER



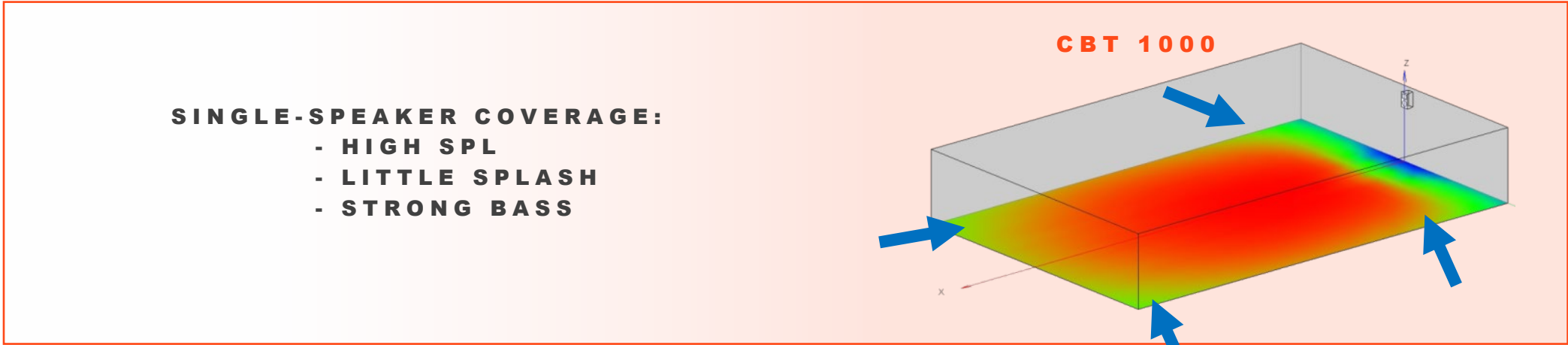
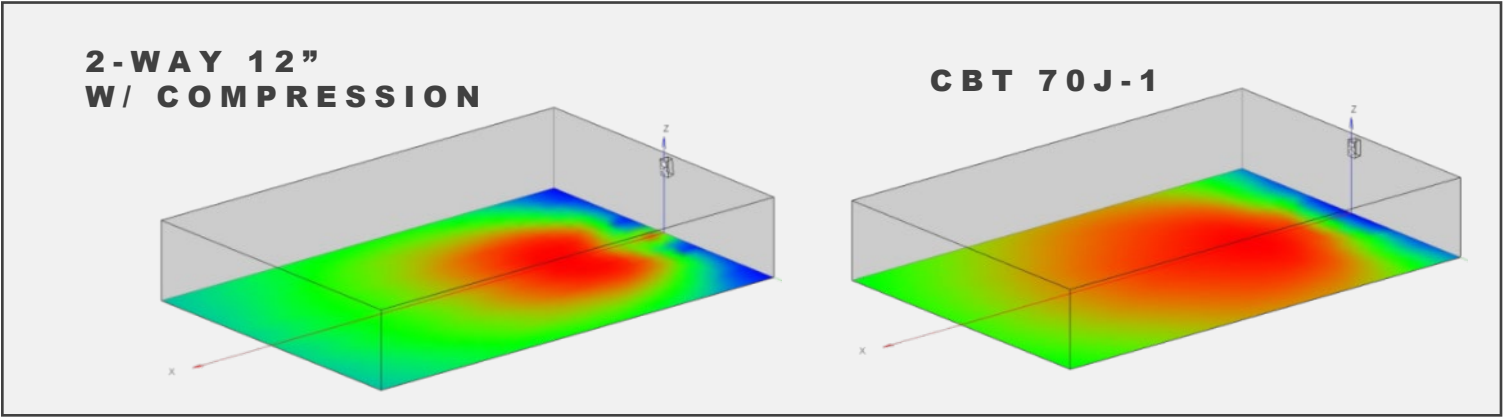


JBL CBT 1000 SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



WHAT DOES THIS MEAN IN THE REAL WORLD?





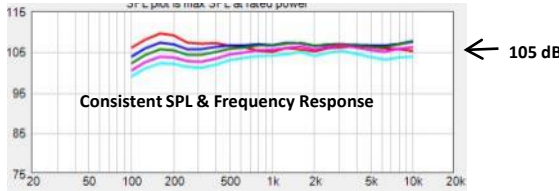
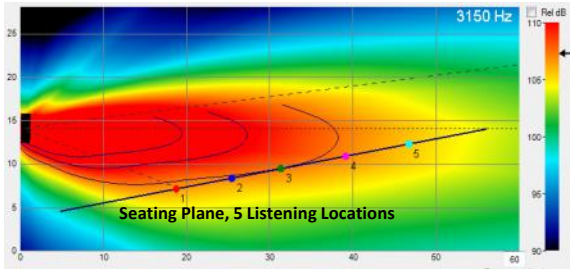
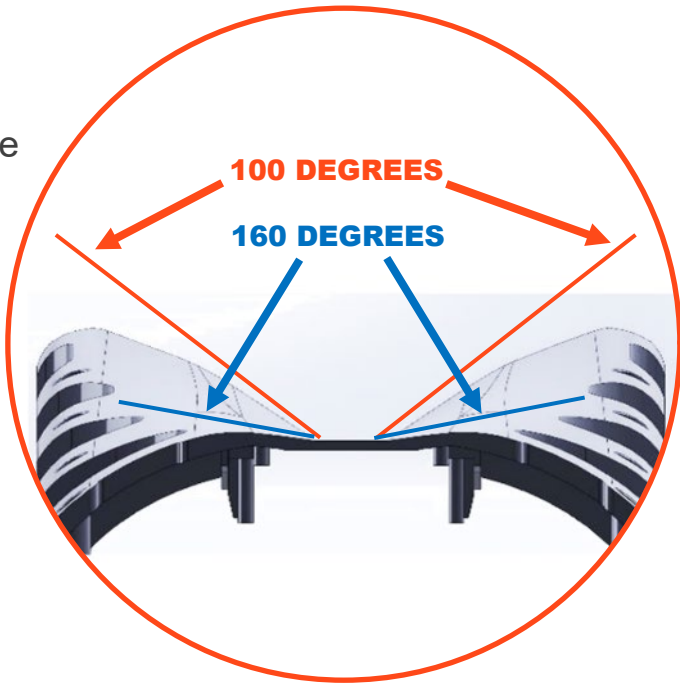
JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



RECAP: JBL CBT1000 & CBT1000E

- Highly Adjustable Vertical Coverage to Map the Room
- Tapered Horizontal Coverage
- High Output SPL
- Deep/Strong Bass
- Single Speaker Coverage of Some Rooms
- “Super CBT”





JBL CBT SERIES SPEAKERS

JBL FLAGSHIP COLUMN SPEAKERS



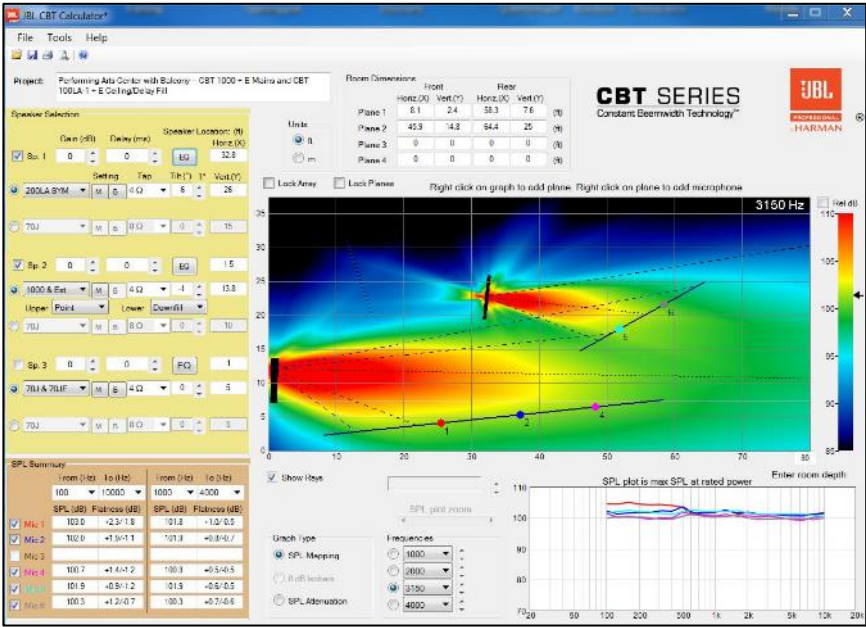
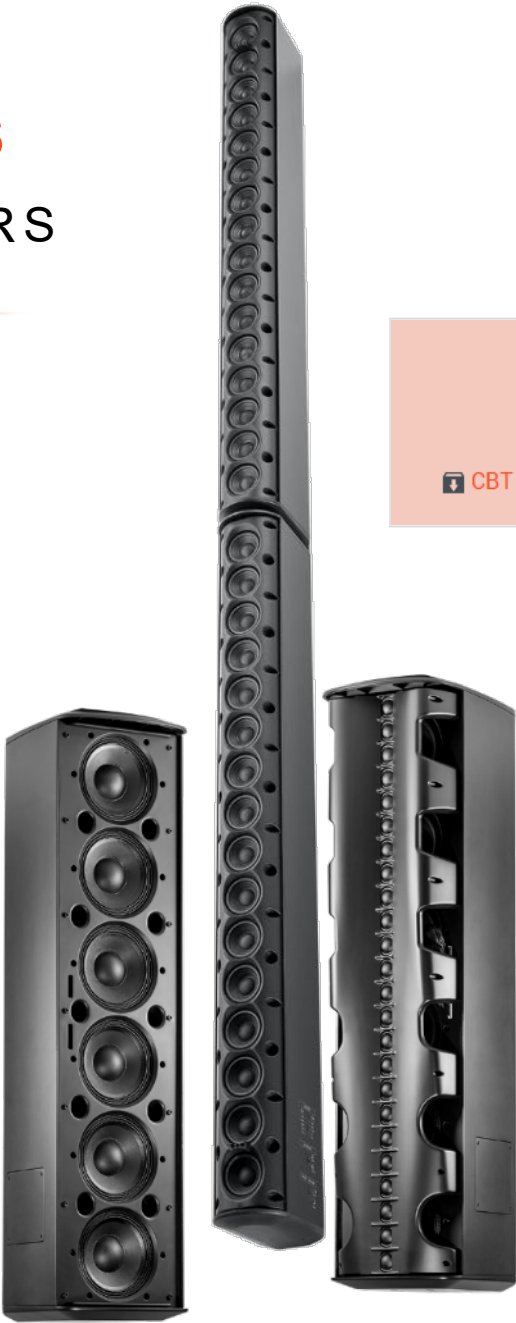
JBLPRO.COM

Download

CBT Calculator V1.3.0.1 [3.66 MB]

CBT SERIES CALCULATOR SOFTWARE

- Precision Engineering Tool For Audio Professionals
- Design JBL's CBTs into a Wide Variety of Venues
- Shows the Vertical Coverage
- Include up to 3 CBT Speakers and Virtual Adjustment of Vertical Coverage (Narrow or Broad) and Voicing (Speech or Music/flat)
- Frequency Response for up to 6 Listener Locations





SYSTEM DESIGN TOOLS

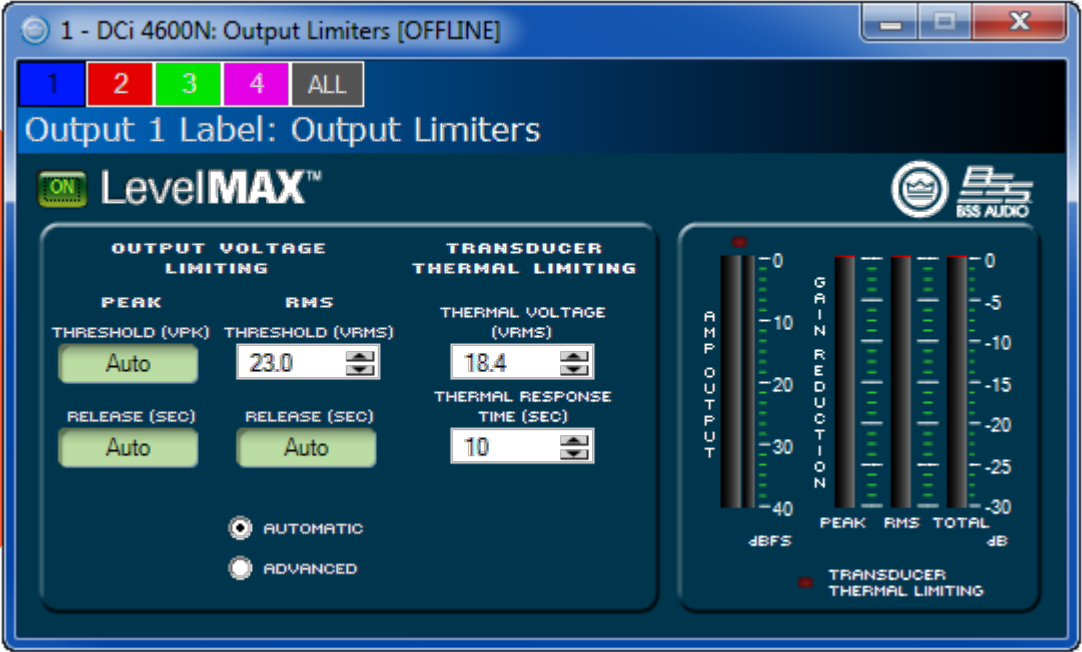


SYSTEM DESIGN TOOLS



RECOMMENDED DSP TUNINGS FOR COMMERCIAL SPEAKERS:

		Protective High-Pass Frequency (Slope 24 dB/oct)	Limiter Voltage (Ave/RMS -- not "peak")
OUTDOOR SPEAKERS			
AWC62	Low-Z (8Ω)	60 Hz	28V RMS
	120W Tap	60 Hz	Amp's 70V or 100V clipping limiter
	60W Tap	50 Hz	
	Lower Taps	40 Hz	
AWC82	Low-Z (8Ω)	65 Hz	34V RMS
	200W Tap	65 Hz	Amp's 70V or 100V clipping limiter
	100W Tap	45 Hz	
	Lower Taps	40 Hz	
AWC129	Low-Z (8Ω)	50 Hz	43 VRMS
	200W Tap	55 Hz	Amp's 70V or 100V clipping limiter
	100W Tap	45 Hz	
	Lower Taps	40 Hz	



CROWN DCI AMPLIFIERS
CROWN CDI DRIVECORE AMPLIFIERS



SYSTEM DESIGN TOOLS



Various of the Product Webpages Have:

- Data Sheets
- Manuals
- Dimensional Drawings
- Compliances
- Design Software
- Modeling Files
- Install & Bracket Guides
- Accessories
- Images
- Tunings
- More ...

Example: Control 28-1 Downloads Section:

Downloads

	Version	Language	Size	Uploaded
Data Sheets				
Control 28-1 Spec Sheet	B		467 KB	Mar 13, 2020
Manuals				
MTC-23UB-1, 25UB-1, 28UB-1 U Bracket Install Guide			67.7 KB	Oct 31, 2019
CAD Drawings				
Control 23-1, 25-1, 28-1 Bracket 2D & 3D CAD			5.48 MB	Apr 29, 2019
Control 28-1/L 2D Drawing			485 KB	Oct 09, 2019
Control 28-1/L 3D Drawing			3.33 MB	Oct 09, 2019
Bim Objects				
BIM (Revit) Files			12.4 MB	Oct 03, 2019
Control 28-1 BIM Object				Aug 27, 2019
Compliances				
Control Contractor Series Declaration of Conformity			131 KB	Oct 18, 2019
JBL Control Series Passive Speakers DoC			179 KB	Dec 17, 2019
Control Contractor 20-1(L) Declaration of Conformity			75.9 KB	Oct 18, 2019
Software				
Distributed System Design (DSD) v3.6.2	3.6.2		805 KB	Jan 14, 2020
Ease Data				
Control 23-1, 25-1, 28-1 EASE Data			540 KB	Apr 29, 2019

Install Guides			
Control Contractor Bracket and Adapter Handbook		774 KB	Sep 27, 2019
Invisible™ Installation Instructions		227 KB	Sep 30, 2019
Attaching Control Contractor Speakers to Stands		76.4 KB	Nov 02, 2019
Guide to Business Music		52.4 KB	Sep 30, 2019
MTC-PC2 & MTC-PC3 Installation		42.5 KB	Sep 30, 2019
Accessories			
U-Bracket Install guide		67.7 KB	Apr 29, 2019
Images			
Control 28-1 Angle		330 KB	Apr 29, 2019
Control 28-1 Front White		339 KB	Apr 29, 2019
Control 28-1 Back		209 KB	Apr 29, 2019
Control 28-1 Detail		806 KB	Apr 29, 2019
Speaker Tunings			
Commercial, CBT, and AWC Tunings 181030		557 KB	Feb 24, 2020
Clf Files			
CLF Files	03-16-20	22.5 MB	Mar 16, 2020



JBL COMMERCIAL LOUDSPEAKERS

CEILING & PENDANT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

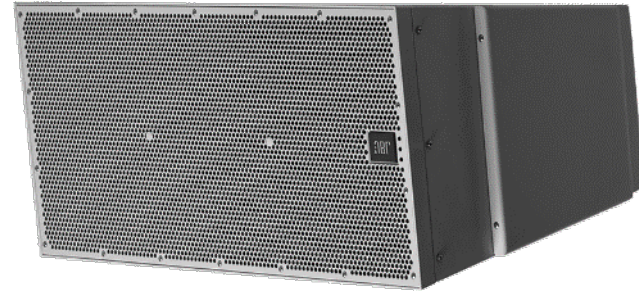
SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



PROFESSIONAL

INSTALLATION
LOUDSPEAKERS
INTRODUCTION



PART 2 – ENGINEERED-SOUND SPEAKERS





JBL ENGINEERED SOUND LOUDSPEAKERS

ENGINEERED SOUND LOU



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



AE APPLICATION ENGINEERED SERIES



JBL APPLICATION ENGINEERED FAMILY

JBL APPLICATION ENGINEERED SERIES



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

POINT SOURCE INSTALL SPEAKERS

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers

PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



JBL APPLICATION ENGINEERED FAMILY

JBL APPLICATION ENGINEERED SERIES



Over 30 Standard Models to Select

- Various **Driver Sizes**
- Various **Coverage Patterns**
- Various **Configurations**





JBL AE ORIGINAL MODELS

JBL APPLICATION ENGINEERED FULL-RANGE



AM 5 2 1 2 / 6 4 / 6 6 / 9 5 / 0 0 / 2 6

- **Medium Power 12"** Two-Way,
Full - Range
- Frequency Range (-10dB)
37 Hz – 20 kHz
- Coverage Patterns:
/95 is 90° x 50°
/64 is 60° x 40°
/66 is 60° x 60°
/00 is 100° x 100°
/26 is 120° x 60°



AM 5 2 1 5 / 6 4 / 6 6 / 9 5 / 2 6

- **Medium Power 15"** Two-Way,
Full – Range
- Frequency Range (-10dB)
35 Hz - 20 kHz
- Coverage Patterns:
/95 is 90° x 50°
/64 is 60° x 40°
/66 is 60° x 60°
/26 is 120° x 60°



AM 7 2 1 2 / 6 4 / 6 6 / 9 5 / 0 0 / 2 6

- **High Power 12"** Two-Way,
Full - Range
- Frequency Range (-10dB)
36 Hz - 20 kHz
- Coverage Patterns:
/95 is 90° x 50°
/64 is 60° x 40°
/66 is 60° x 60°
/00 is 100° x 100°
/26 is 120° x 60°



AM 7 2 1 5 / 6 4 / 6 6 / 9 5 / 2 6

- **High Power 15"** Two-Way,
Full – Range
- Frequency Range (-10dB)
34 Hz - 20 kHz
- Coverage Patterns:
/95 is 90° x 50°
/64 is 60° x 40°
/66 is 60° x 60°
/26 is 120° x 60°





JBL AE ORIGINAL MODELS

JBL APPLICATION ENGINEERED SUBWOOFERS



ASB6112

- **Compact High Power Single 12” Subwoofer**
- 35 Hz – 1 kHz
- 1000 W (4000 W peak)



ASB6115

- **High Power Single 15” Subwoofer**
- 32 Hz - 1 kHz
- 800 W (3200 W peak)



ASB6118

- **High Power Single 18” Subwoofer**
- 28 Hz – 1 kHz (-10 dB)
- 1200 W (4800 W peak)



ASB7118

- **Ultra Long Excursion High Power Single 18” Subwoofer**
- 22 Hz - 1 kHz
- 2000 W (8000 W peak)





JBL AE ORIGINAL MODELS

JBL APPLICATION ENGINEERED SUBWOOFERS



ASB 6125

- **High Power 2 x 15"**
Subwoofer
- 32 Hz - 1 kHz
- 1600 W (6400 W peak)



ASB 4128

- **Medium Power 2 x 18"**
Subwoofer
- 30 Hz – 1 kHz (-10 dB)
- 1000 W (4000 W peak)



ASB 6128

- **High Power 2 x 18"**
Subwoofer
- 28 Hz – 1 kHz (-10 dB)
- 2400 W (9600 W peak)



ASB 7128

- **Ultra-Long Excursion High Power 2 x 18"**
Subwoofer,
- 20 Hz - 1 kHz
- 4000 W (16000 W peak)





JBL AE “EXPANSION” (VALUE) MODELS

JBL APPLICATION ENGINEERED SERIES



AC 895

- 1 x 8” LF, 90° x 50°
- 70 Hz - 20 kHz
- 250 W (1000 W peak)
- 94 dB Sensitivity



AC 195

- 1 x 10” LF, 90° x 50°
- 68 Hz - 20 kHz
- 300 W (1200 W peak)
- 95 dB Sensitivity



AC 266

- 1 x 12” LF, 60° x 60°
- 63 Hz - 20 kHz
- 350 W (1400 W peak)
- 97 dB Sensitivity



AC 299

- 1 x 12” LF, 90° x 90°
- 63 Hz - 20 kHz
- 350 W (1400 W peak)
- 97 dB Sensitivity





JBL AE “EXPANSION” (VALUE) MODELS

JBL APPLICATION ENGINEERED SERIES



AC 566

- 1 x 15" LF, 60° x 60°
- 60 Hz - 20 kHz
- 350 W (1400 W peak)
- 98 dB Sensitivity



AC 599

- 1 x 15" LF, 90° x 90°
- 60 Hz - 20 kHz
- 350 W (1400 W peak)
- 98 dB Sensitivity



AC 115 S

- 15" Subwoofer
- 32 Hz - 250 Hz
- 500 W (2000 W peak)
- 94 dB Sensitivity



AC 118 S

- 18" Subwoofer
- 32 Hz - 250 Hz
- 600 W (2400 W peak)
- 95 dB Sensitivity





JBL AC COMPACT MODELS

JBL APPLICATION ENGINEERED SERIES



AC 15

- 1 x 5-1/4" LF
- 80 Hz -20 kHz
- 150 W Cont. Pink Noise
300 W Program
600 W Peak



AC 16

- 1 x 6-1/2" LF
- 55 Hz -20
- 160 W Cont. Pink Noise
320 W Program
640 W Peak



AC 18/26 /95

- 1 x 8" LF
- 52 Hz - 20 kHz
- 250 W Cont. Pink Noise
500 W Program
1000 W Peak
- /26 = 120° x 60°
/95 = 90° x 50°



AC 25

- 2 x 5-1/4" LF
- 80 Hz -20 kHz
- 225 W Cont. Pink Noise
450 W Program
900 W Peak





JBL AC COMPACT MODELS

JBL APPLICATION ENGINEERED SERIES



AC 26

- 2 x 6-1/2" LF
- 55 Hz - 20 kHz
- 180 W Cont. Pink Noise
360 W Program
720 W Peak



AC 28/26 / 95

- 2 x 8" LF
- 53 Hz - 20 kHz
- 375W Cont. Pink Noise
750W Program
1500W Peak
- /26 = 120° x 60°
/95 = 90° x 50°





JBL CWT SERIES SPEAKERS

JBL APPLICATION ENGINEERED SERIES

CWT128

WITH CROSSFIRED WAVEGUIDE TECHNOLOGY

- **Very Wide, Seamless 160° Horizontal Coverage**
- **Narrow 60° Vertical Coverage**
- **Patented Design**
- **110 W Transformer, plus 850 W at 8Ω**
- **Available with WRC and WRX Weather Protection**





FULL-SIZE AW ALL-WEATHER SPEAKERS



JBL INSTALLATION LOUDSPEAKERS

FULL-SIZE AW ALL-WEATHER SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & **AW Series All Weather Speakers**
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers *
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers

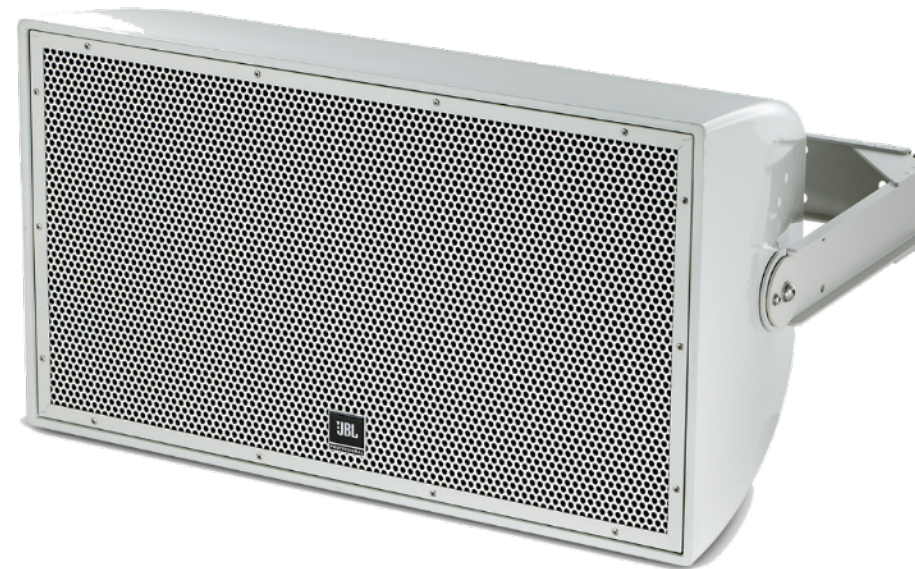


JBL APPLICATION ENGINEERED FAMILY

JBL FULL-SIZE AW ALL-WEATHER SERIES



- 5 Standard All Weather Models (12" & 15", various coverages)
- Fiberglass Cabinets
- Same (or similar) AE 7000 Series Components
- Weather-Sealed Terminal Compartment
- U-Bracket Included
- Standard Color is Light Gray, Black (-BK) optional





PD PRECISION DIRECTIVITY SERIES



JBL COMMERCIAL LOUDSPEAKERS

PD PRECISION DIRECTIVITY SERIES



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers

PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers




JBL PD500 SERIES

JBL PD PRECISION DIRECTIVITY SPEAKERS



- Co-axial
- Large Mid-Range Horn for Pattern Control
- 4 Coverage Patterns, plus Subwoofer

PD 544/564/566/595

- Co-axial
- Bi-amp or Full-Range
- Full-Range Models are 
- 50 Hz to 20 kHz
- 544 = 40° x 40°
564 = 60° x 60°
566 = 60° x 40°
595 = 90° x 50°



PD 525S

- Dual 15"
- 28 Hz to 3.8 kHz





JBL PD6000 SERIES

JBL PD PRECISION DIRECTIVITY SPEAKERS



- Large Mid-Range Horns (2' x 2') for Superb Pattern Control from "Point & Shoot" Cabinets
- Variety of Coverage Patterns
- Selection of Configurations
- Common Height Allows Arraying

MID-HIGH MODELS

- PD6200/95
- PD6200/64
- PD6200/66
- PD6200/43



1 x 12" 2-WAY MODELS

- PD6212/95
- PD6212/64
- PD6212/66
- PD6212/43



2 x 12" 3-WAY MODELS

- PD6322/95
- PD6322/64
- PD6322/66
- PD6322/43



LOW FREQUENCY

- PD5122 – 2 x 12"





JBL PD700 & 700i SERIES

JBL PD PRECISION DIRECTIVITY SPEAKERS



2-WAY MID-HIGH SYSTEMS

- 2 x 8" MF Drivers with CMCD Phase Plug
- 2 x Large-Format HF Drivers
- Passive MF/HF Crossover
- 400W (600 W peak)
- 142 dB Max SPL
- Dual Trapezoidal for Splayed Arraying
- 28 M10 Fittings for Overhead Suspension and Rigging

PD764

200 Hz to 19.5 kHz

- 60° x 40°



PD743

• 200 Hz to 19.5 kHz

- 40° x 30°





JBL PD700i SERIES

JBL PD PRECISION DIRECTIVITY SPEAKERS



3-WAY FULL-RANGE SYSTEMS

- 2 x 15" LF Drivers
- 2 x 8" MF Drivers with CMCD Phase Plug
- 2 x Large-Format HF Drivers
- Bi-amp with Passive MF/HF Crossover
- 1000 W + 400W (4000 W + 1600 W peak)
- 144 dB Max SPL
- 52 M10 Fittings for Overhead Suspension and Rigging
- Made to Order

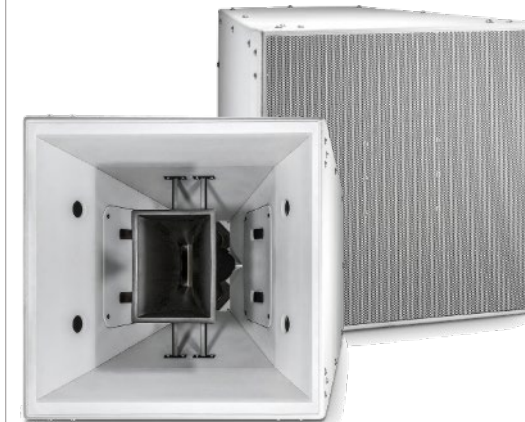
PD764i/215

- 37 Hz to 19 kHz
- 60° x 40°



PD743i/215

- 38 Hz to 19 kHz
- 40° x 30°



Shown in WRC Finish



VLAI SERIES



JBL COMMERCIAL LOUDSPEAKERS

VLA SERIES & VLA COMPACT SPEAKERS



CEILING SPEAKERS

LCT Lay-In Ceiling-Tile Speakers
CSS Commercial Series Ceiling Speakers
8100 Series Ceiling with Stylized Grille Speakers
Control 10 Blind-Mount Small-Format Ceiling Speakers
Control Contractor 20 Small-Format Ceiling Speakers
Control 40 Series Constant-Directivity Ceiling Speakers
Control 200 Series Medium-Format Ceiling Speakers
Control 300 Series Large-Format Ceiling Speakers

COLUMN SPEAKERS

CBT Series Passive Controlled-Coverage Column Speakers
Intellivox Powered Adjustable-Coverage Column Speakers
Intellivox ADC Digital Directivity Column Speakers

COMMERCIAL SOUNDBARS

PSB-1 Pro Soundbar
AMX Acendo Vibe 2100 Conferencing Soundbar
AMX Acendo Vibe 5100 Conferencing Soundbar

IN-WALL SPEAKERS

Control Contractor 100 Series In-Wall Speakers

INSTALL PORTABLE PA SPEAKERS

EON600 Series Power Compact Speaker
PRX400 Series Non-Powered Small-Format Speakers
PRX800 Series Powered Small-Format Speakers
SRX800 Series Passive Large-Format Speakers
SRX800 Series Powered Large-Format Speakers

LANDSCAPE SPEAKERS

Control 80 Series Landscape Speakers

LINE-ARRAY SPEAKERS

VRX Series Constant Curvature Line-Array Speakers
VLA Compact Series Line-Array Speakers
VLA Series Large-Format Speakers
VerTec Series Tour Speakers
VTX Series Tour Line-Array Speakers

PENDANT SPEAKERS

Control 60 Series Pendant Speakers

AE Application Engineered Original Series Speakers
AE Expansion Series Low Cost Speakers
AE Series Compact Speakers (Models 5" to 8" LF)
AWC Compact & AW Series All Weather Speakers
CWT Wide-Coverage Speakers
PD500 Series Large Format Speakers
PD6000 Series Precision Directivity Speakers
PD700i Series Precision Directivity Dual-Trap Speakers

SURFACE-MOUNT SPEAKERS

CSS Commercial Series Surface-Mount Speakers
CSS-H Paging Homs
Control Contractor 20 Series Surface-Mount Speakers
Control 50 Series Subwoofer/Satellite Speakers
Control 1 Pro Speakers
Control 2P Powered Speakers
Control 5 Speakers
Control CRV Architectural Speakers
Control HST Wide-Coverage Speakers



JBL VLAi SERIES

VERY HIGH OUTPUT 3-WAY FULL-RANGE, HORN-LOADED LINE ARRAY CABINETS

- VLA901i – 90°
- VLA901Hi – 90°, Double the MF & HF Drivers
- VLA601i – 60°
- VLA601Hi – 60°, Double the MF & HF Drivers
- VLA301i – 30°
- VLA301Hi – 30°, Double the MF & HF Drivers



Photo of Original VLA Series Models



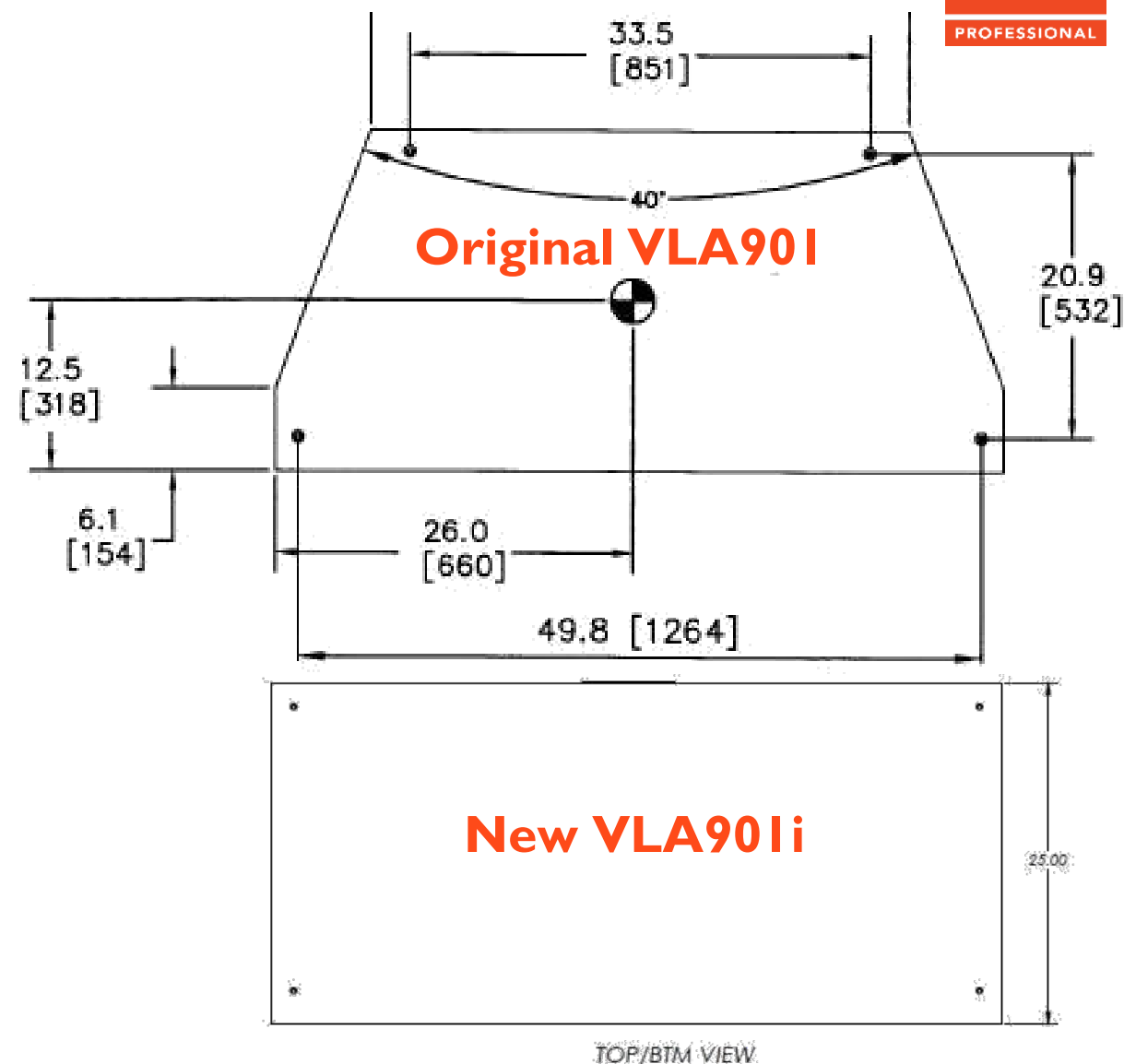
JBL VLAi SERIES

NEW SHAPE



VLAi — New Shape

- New Rectangular sides simplifies construction of arrays.
Top and Bottom trap angels are the same as before.
- More space is provided to fit higher performance low frequency drivers
- Provides more cubic volume, helps support higher performance low frequency drivers



JBL VLAi SERIES

NEW DRIVERS



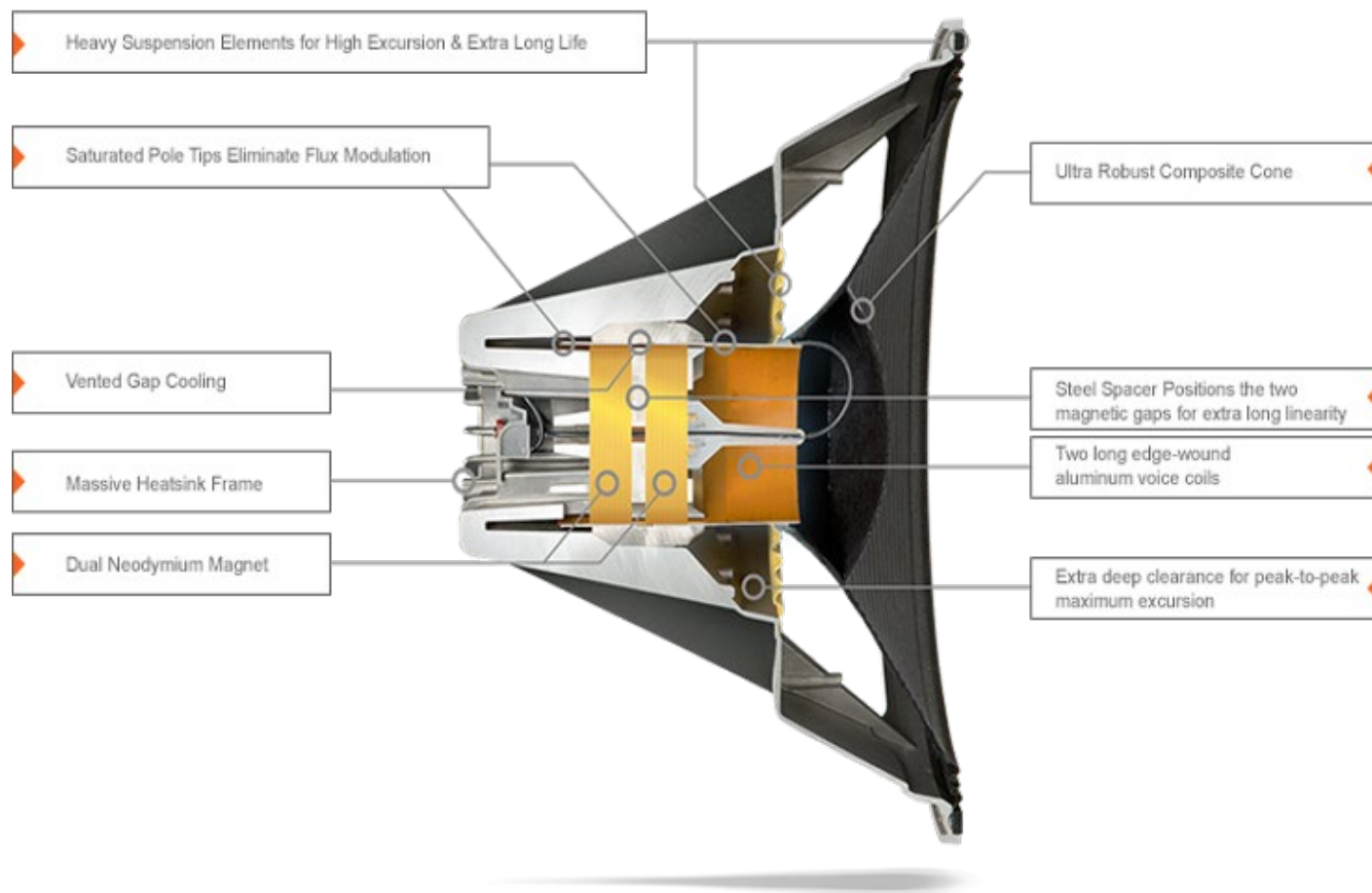
VLAi – Advanced Drivers

New 15” Low Frequency drivers (Two)

- JBL 2265H
- Dual 3” Voice Coils
- Neodymium Differential Drive

New drivers provide:

- Improved Low Frequency
- Greater LF Extension
- Higher Sensitivity
- Higher Power Handling
- Better Heat Dispersion





JBL VLAi SERIES

NEW DRIVERS



HF Driver: 2431H to 2432H

- Higher power & max voltage
- Increased max SPL (+2dB)
- Improved reliability





VLA COMPACT (VLA-C) SERIES



JBL VLA COMPACT SERIES

JBL VARIABLE LINE ARRAY SPEAKERS



2 WAY DUAL 10" ARRAY MODULES

VLA-C2100: 100° H
VLA-C265: 65° H

- Full-Range (down to 85 Hz)
- Advanced Technology Drivers & Tunings
 - Two 2261, 10", Dual 3" Voice Coil Drivers (Same as VTX-20)
 - Three D2415 Compression Drivers each with Dual 1.5" Diameter Annular Voice Coils (Same as VTX-20)
 - FIR Tunings





JBL VLA COMPACT SERIES

JBL VARIABLE LINE ARRAY SPEAKERS



2 WAY DUAL 10" ARRAY MODULES

VLA-C2100: 100" H
VLA-C265: 65" H

- Passive Crossover Network, or Bi-Amplify
- 800 Watt continuous power handling (peaks of 3200 W)
131 dB-SPL / cabinet (peak of 137 dB)
- Simplified Side Rigging Plates Included
- **Fiberglass -- IP55 Outdoor Rating out of the Box!**

No WRC or WRX Weather Treatment Required!





JBL VLA COMPACT SERIES

JBL VARIABLE LINE ARRAY SPEAKERS



2 WAY DUAL 10" ARRAY MODULES

- Highly Dense with Powerful Drivers from JBL VTX20:
 - 2 x 2261 LF Drivers, 10", each with 2 x 3" Voice Coils
(800W continuous for 2 hrs)
 - 3 x D2415K Compression Drivers, each with 2 x 1.5" Diameter
Coils (150W continuous for 2 hrs)





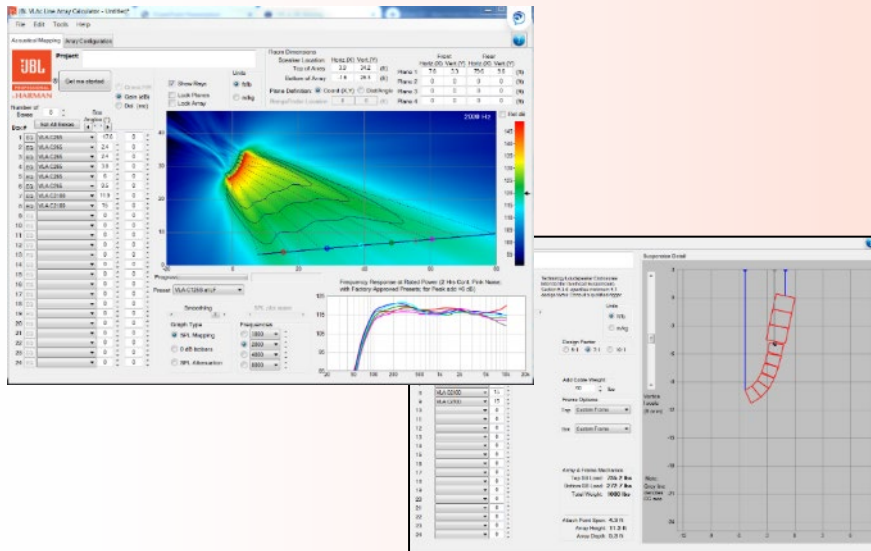
JBL VLA COMPACT SERIES

JBL VARIABLE LINE ARRAY SPEAKERS

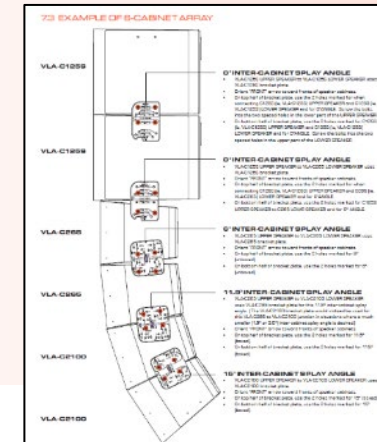
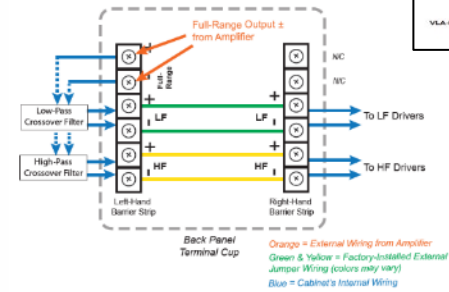
JBL

PROFESSIONAL

VLA-C CALCULATOR



VLA-C GUIDE





JBL CUSTOM SHOP



JBL CUSTOM SHOP

JBL WEATHER PROTECTION



CUSTOM SHOP CAPABILITIES

○ WRC Weather Protection

- **Two Coats of DuraFlex™**
- Stainless Steel hardware internally and externally
- Water Sealant internally
- Stainless Steel grille with backing
- 100 x 100 Stainless Steel mesh – acts as a vapor barrier
- 20' Cable on most models, 6' Cable on AE Compact models
- Covered input plate

○ WRX Extreme Weather Protection

- **Fiberglass coating**
- Stainless Steel hardware internally and externally
- Gel coat interior
- Stainless Steel grille with backing
- 100 x 100 Stainless Steel mesh – acts as a vapor barrier
- 20' Cable on most models, 6' Cable on AE Compact models
- Covered input plate

NOTE: Not all loudspeakers are available with weather protection – Check the price sheets



JBL CUSTOM SHOP

JBL LOUDSPEAKER SYSTEMS



CUSTOM SHOP EXAMPLES

- Speaker with Two or Three Baffles – Typically Used in Distributed Stadium Systems
- Mix and Match Components – Upgrade Compression Drivers and/or Woofers
- Custom Enclosures – Combine PD6322/xx with PD5122 (
 - Colors
 - Standard Color for WRC & WRX is Light Gray
 - WRC & WRX are also available in white (-WH) & black (-BK)
 - Other Colors may be possible – contact JBL for a quote
 - (RAL or Pantone number are required for quotes)
- Transformer Options – 70V & 100V High Impedance Systems
- Custom Enclosure Examples:
 - Combine PD6322/xx with PD5122 (CS-PD6342/xx) in same cabinet.
 - Custom Subwoofer in an Enclosure the Same Dimensions as a CS-PD6342/xx (CS-PD 6342-SB169 Single 2269H Driver)
 - Whatever you need.



VRX CONSTANT CURVATURE LINE ARRAY



JBL VRX SERIES

JBL INSTALL OR PORTABLE SPEAKERS



CONSTANT CURVATURE LINE ARRAY

- VRX speakers can be used for portable or for installation.





INTELLIVOX POWERED COLUMNS

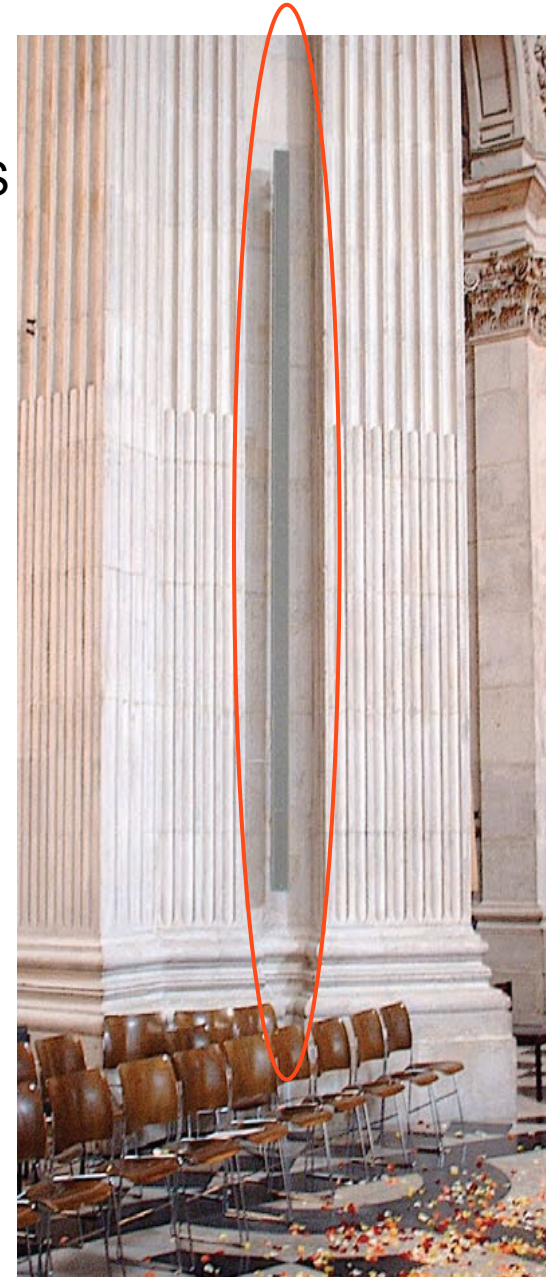


JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS

ST. PAUL'S CATHEDRAL, LONDON

- Self Powered, Loudspeaker Arrays with On-Board FIR DSP
- Used for Taming Large Reverberant Spaces





JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



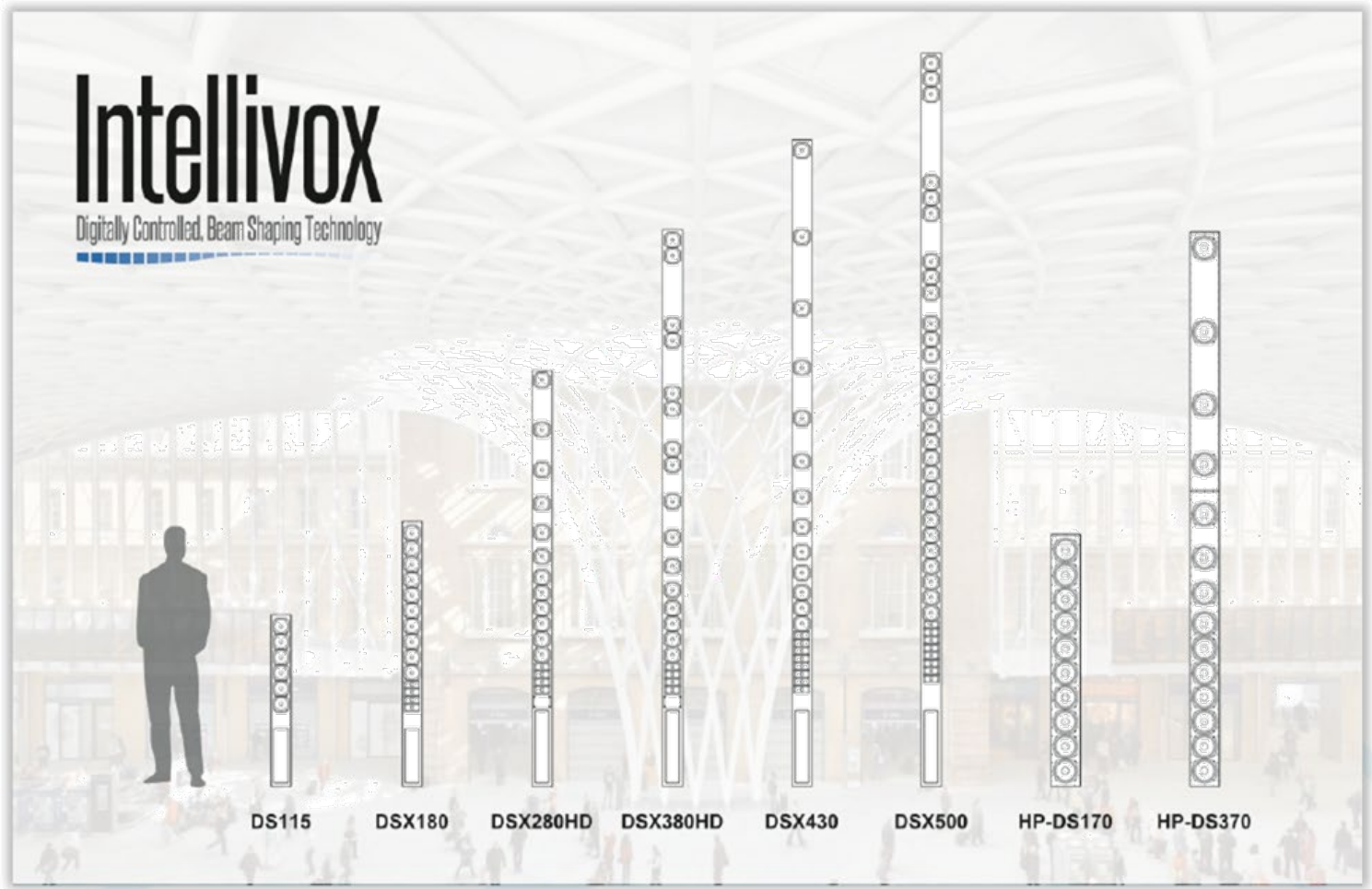
- Conventional Speakers Deliver a Combination of Direct Sound, Reflected Sound and Background Noise
- Beam-Steering Speakers Focus the Sound Directly at the Listener and Restricts Contact with Floors, Walls and Ceilings Reducing the Amount of Reflected Energy
- Array Technology Coupled with Advanced Beam Control Allow for a Constant SPL Across Very Large Audience Area, Consistently Overpowering Noise Without Overpowering the Audience





JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS





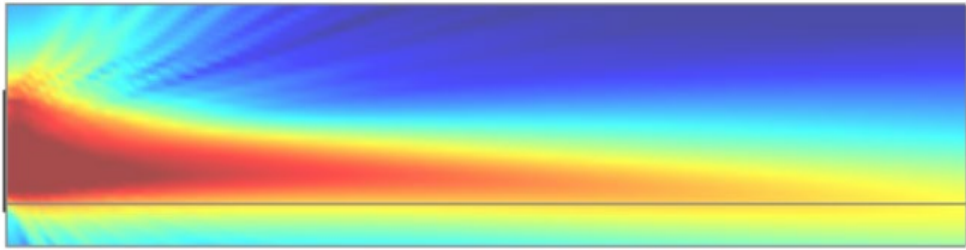
JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS

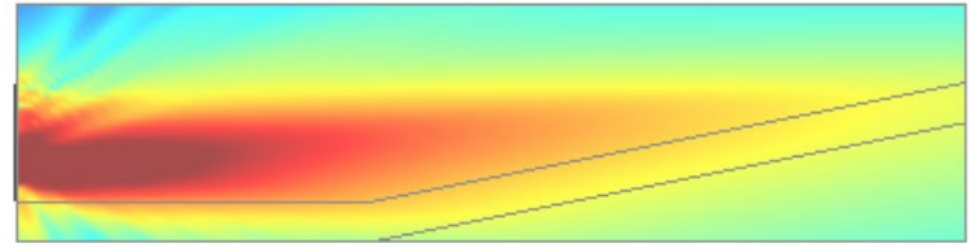


STANDARD BEAM STEERING

- Limited Controls – Aiming Angle, Vertical Opening Angle, Throw Distance
- Multiple Beams Possible
- Ideal Only for Basic Audience Planes



DDS BEAM SHAPING



- Unrivalled Beam Control
- Unrivalled Frequency Response Consistency – Algorithms Optimize for Both Frequency and SPL Across Audience Planes
- Independent Control of Near Field vs. Far Field Coverage



JBL PROFESSIONAL INTELLIVOX

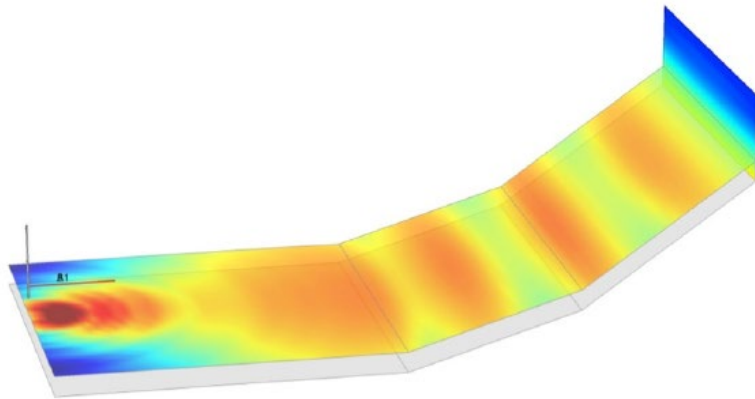
JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



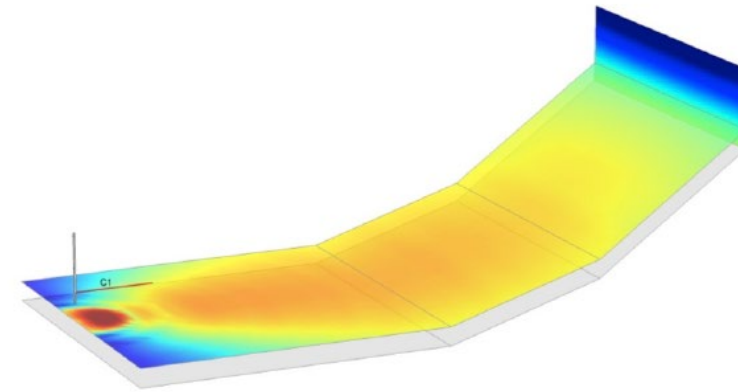
COMPLEX AUDIENCE PLANES

STANDARD BEAM STEERING

- Unavoidable Hot Spots
- Reduced Intelligibility Due to Interference of Beams
- Reduced Overall Column Performance as Multiple Beams Segment Array



DDS BEAM SHAPING



- Uniform Coverage
- Consistent Frequency Response
- Improved Intelligibility



JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



DS115

- Maximum SPL (1m)
Continuous 85 dB SPL
(A-weighted at 30 m)
- Peak 88 dB SPL
(A-weighted at 30 m)
- Drivers 6 x 4"
Full Range
- 2 x 10 mm Ferrofluid
Cooled Tweeter,
Coaxially Mounted



DSX180

- Maximum SPL (1m)
Continuous 89 dB SPL
(A-weighted at 30 m)
- Peak 92 dB SPL
(A-Weighted at 30 m)
- Drivers 10 x 4"
Full Range
- 4 x 1" Horn Loaded
Dome Tweeter



DSX280 HD

- Maximum SPL (1m)
Continuous 90 dB SPL
(A-Weighted at 30 m)
- Peak 93 dB SPL
(A-Weighted at 30 m)
- Drivers 12 x 4"
Full Range
- 4 x 1" Horn Loaded
Dome Tweeter





JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



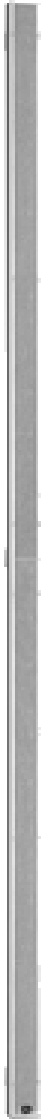
DSX380 HD

- Maximum SPL (1m)
Continuous 91 dBSPL
(A-Weighed at 30 m)
- Peak 94 dBSPL (A-
Weighed at 30 m)
- Drivers 16 x 4" Full
Range
- 4 x 1" Horn Loaded
Dome Tweeter



DSX430

- Maximum SPL (1m)
Continuous 91 dBSPL
(A-Weighed at 30 m)
- Peak 94 dBSPL (A-
Weighed at 30 m)
- Drivers 13 x 4" Full
Range
- 8 x 1" Horn Loaded
Dome Tweeter



DSX500

- Maximum SPL (1m)
Continuous 96 dBSPL
(A-Weighed at 30 m)
- Peak 99 dBSPL (A-
Weighed at 30 m)
- Drivers 28 x 4" Full
Range
- 8 x 1" Horn Loaded
Dome Tweeter



JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



HIGH POWER SERIES

HP-DS170

- Maximum SPL (1m)
Continuous 97 dBSPL
(A-weighted at 30 m)
- Peak 105 dBSPL
(A-Weighted at 30 m)
- Drivers 10 x 6.5"
Full Range
- 2 x 1" Compression
Driver, Coaxially
Mounted



HP-DS370

- Maximum SPL (1m)
Continuous 97 dBSPL
(A-Weighted at 30 m)
- Peak 105 dBSPL
(A-Weighted at 30 m)
- Drivers 14 x 6.5"
Full Range
- 2 x 1" Compression
Driver, Coaxially
Mounted





JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



INTELLIVOX

- Lengths Up to 5m
- Constant SPL Up to 70m
- Frequency Range 130-18kHz
- Horizontal Coverage 130°
- 4" Drivers and Horn Loaded Tweeters
- Low Profile 5" Wide by 3.5" Deep
- DDS Beam Shaping
- Typical Applications:
 - Houses of Worship
 - Education
 - Airports & Rail Stations
 - Theatres
 - Shopping Complexes

HIGH POWER INTELLIVOX

- Lengths Up to 3.7m
- IP55 Rated for Outdoor Use
- Max Peak SPL Up to 105dB at 30m
- Frequency Range 140-18kHz
- Horizontal Coverage 100°
- 6.5" Drivers and Horn Loaded Tweeters
- 8" Wide by 7.5" Deep
- DDS Beam Shaping
- Typical Applications:
 - Large Houses of Worship
 - Sports Complexes
 - Airport & Rail Stations
 - Live Music Venues



JBL PROFESSIONAL INTELLIVOX

JBL POWERED ADJUSTABLE-COVERAGE COLUMNS



EN-54 ADC UNPOWERED COLUMNS FOR TRANSIT

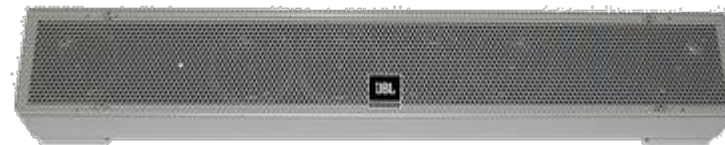


ADC-V90 MARK II

- Vertical Orientation
- Coverage – 130° H x 30°V
- Frequency Range: 120 - 12k Hz
- Sensitivity (1m): 92 dB
- Maximum SPL (1m): 112 dB
- Steering Angle Vertical -4°
- Typical Throw 15 m

ADC-H90 MARK II

- Horizontal Orientation
- Coverage – 40° H x 130°V
- Frequency Range: 150 - 12k Hz
- Sensitivity: 91 dB
- Maximum SPL (1m): 111 dB
- Steering Angle Vertical -4°
- Typical Throw 15 m





EN54 CERTIFIED SPEAKERS



EN54-24 CERTIFIED SPEAKERS

FOR VA VOICE ALARM PROJECTS IN EUROPE



Wide Selection



 AW266-LS AW266-LS	 AW295-LS AW295-LS	 AW526-LS AW526-LS	 AW566-LS AW566-LS
 AW595-LS AW595-LS	 CBT 50LA-LS CBT 50LA-LS	 CBT 100LA-LS CBT 100LA-LS	 Control 12C-VA Control 12C-VA
 Control 14C-VA Control 14C-VA	 Control 16C-VA Control 16C-VA	 Control 25AV-LS Control 25AV-LS	 CSS-15C-VA CSS-15C-VA
 Intellivox ADC-V90 Mark II ADC-V90 Mark II	 Intellivox ADC-H90 Mark II ADC-H90 Mark II	 PD500 Full-Range (in full-range mode) The PD500 Series is a line of loudspeaker systems consisting of four horn-loaded 15" 2-way systems.	



SYSTEM DESIGN & SUPPORT MATERIALS



BIM FILES

LOOK IN WWW.BIMOBJECT.COM

bimobject®

JBL

PROFESSIONAL





SYSTEM DESIGN TOOLS



Various of the Product Webpages Have:

- Data Sheets
- Manuals
- Dimensional & CAD Drawings
- Compliances
- Install & Bracket Guides
- Accessories
- Images
- Tunings
- More ...

Example: AM7212/95 Downloads Section:

Downloads

	Version	Language	Size	Uploaded
Data Sheets				
WRC & WRX Configurations			393 KB	Oct 30, 2019
AM7212/95p Spec Sheet			823 KB	Oct 21, 2019
Specifications				
AM7212/95 Spec Sheet			530 KB	Jun 17, 2019
Manuals				
AE Application Data Sheets			13.7 MB	Oct 18, 2019
AE Series U-Bracket Handbook			597 KB	Oct 18, 2019
AM7212/95P & AM7215/95p QSG			216 KB	Oct 18, 2019
AE Series Array Guide			1.12 MB	Oct 30, 2019
AE/PD Connector Pinout Guide			8.25 KB	Oct 31, 2019
Brochures				
AE Series Brochure			4.05 MB	Apr 29, 2019
AE Combined Brochure			4.09 MB	Oct 18, 2019
AM Brochure			1.54 MB	Oct 18, 2019
Full Line 2015 Catalog			11.7 MB	Jan 11, 2020
Installed Sound Full Line 2015 Catalog			2.59 MB	Oct 22, 2019

CAD Drawings				
AE Series 3D DXF			381 KB	Apr 29, 2019
AE Series 2D DXF			1.24 MB	Apr 29, 2019
AE Series 2D PDF			1020 KB	Apr 29, 2019
AE Series WRC WRX Drawings			2.18 MB	Oct 18, 2019
AE-Powered-2D-DXF.zip			4.25 MB	Oct 18, 2019
AE-Powered-3D-DXF.zip			317 KB	Oct 18, 2019
AE-Powered-pdf-DWG.zip			315 KB	Oct 18, 2019
AE Series 3D DXF file			381 KB	Oct 30, 2019
Bim Objects				
BIM (Revit) Files			12.4 MB	Oct 03, 2019
Bim Objects				
BIM (Revit) Files			12.4 MB	Oct 03, 2019
Compliances				
AE Series - AM7000 Declaration of Conformity			146 KB	Oct 18, 2019
Ease Data				
Ease SPK/DLL Files - Full JBL Pro Line			20.5 MB	Jul 08, 2019
Clf Files				
CLF Files	03-16-20		22.5 MB	Mar 16, 2020



THANK YOU!