

# EX-S6 TWO-WAY COAXIAL 6.5-INCH SURFACE MOUNT LOUDSPEAKER



## APPLICATIONS

### DISTRIBUTED

Bars and Restaurants · Hotels · Casinos  
Shopping Malls · Health and Fitness Clubs  
Houses of Worship · Presentation Spaces  
Sports Facilities · Outdoor Entertainment  
Exhibit Halls · Amusement and Theme Parks

## DESCRIPTION

The Desono™ EX surface mount loudspeakers provide excellent acoustic performance in elegant, attractive aesthetics for a diverse range of indoor and outdoor distributed applications. EX Series includes three two-way, full-range models and one matching-enclosure subwoofer. All full-range models include 70 V/100 V transformers and low impedance inputs. They deliver high voice intelligibility, wide bandwidth and exceptional uniform coverage.

The Desono EX-S6, the smallest member of EX Series, 6.5" two-way surface mount loudspeaker provides discreet, distributed sound in applications requiring exceptional audio clarity with a small visual footprint. With its wide coverage angle at 110° wide and flat response down well below 80 Hz, EX-S6 is optimal for near-field listening.

Designed for easy and fast installation, our innovative, patented ClickMount™ brackets provide installers with two distinct mounting options. The ClickMount pan-tilt bracket provides indexed aiming control and allows for mounting EX Series quickly in either vertical or horizontal orientation without moving the bracket position. The ClickMount U-Bracket is also available for low-profile mounting or exterior use and includes the ClickPlug with an integrated gland nut for weather-resistant applications. Both brackets are theft and tamper resistant.

## FEATURES

- Exceptional audio clarity with small footprint and attractive styling
- Uniform coverage from coaxially mounted HF/LF drivers
- 6-position switch selects 70 V/100 V taps or low impedance bypass
- ETL listed to comply with UL 1480A, CE marked, and RoHS compliant
- CSA 62368-1, EN54-24 and ISO 7240-24 certification pending

## TECHNICAL SPECIFICATIONS<sup>1</sup>

Operating Mode	Passive with selectable low-impedance or 70 V/100 V operation		
Operating Environment	Indoor/Outdoor		
Operating Range <sup>2</sup>	58 Hz to 20 kHz		
Nominal Beamwidth (H x V)	110°, conical		
Transducers	LF 1 x 6.5" (165 mm) treated paper cone HF 1 x 1" (25 mm) horn-loaded treated soft dome		
Continuous Power Handling <sup>3</sup> @ Nominal Impedance	Passive	40 V	200 W @ 8 ohms (800 W peak)
Sensitivity <sup>4</sup>	Passive 1 W / 1 m	@ 1 W 89 dB	@ 2.83 V 89 dB
	1 W / 4 m		
Nominal Maximum SPL <sup>5</sup>	Passive 1 W / 1 m	Peak 118 dB	Continuous 112 dB
	1 W / 4 m		
Transformer	70 V: 80 W, 40 W, 20 W, 10 W 100 V: 80 W, 40 W, 20 W		
Declared values of SPL 1/3 Oct band CPB, 1 W / 4 m, per EN54-24 (Hz : dB)	TBD		
Coverage (-6 dB) Horiz/Vert per EN54-24	500 Hz: TBD		2 kHz: TBD
	1 kHz: TBD		4 kHz: TBD
Crossover / Protection	1600 Hz crossover, dynamic driver protection circuitry		
Required Accessories	50 Hz, 12 dB/Oct Butterworth high pass filter, DSP preset		
Recommended Amplifiers	200 W - 400 W @ 8 ohms (40 V-57 V)		

## PHYSICAL

Input Connection	Lever-actuated wire clamping 4-position terminal block with pass-through
Controls	Wattage / low impedance selector switch
Mounting Provisions	ClickMount pan-tilt bracket <u>or</u> ClickMount U-Bracket
Compliance	ETL listed to comply with UL 1480A CSA STD C22.2# 62368-1, pending EN54-24, ISO 7240-24, IEC 62368-1 pending
Environmental Rating	IP54 per IEC 60529, IEC 60068-2-5 (Solar Radiation), IEC 60068-2-11 (Salt Mist), IEC 60068-2-42 (SO <sub>2</sub> ), IEC 60068-2-60 (Chlorine)
Dimensions H x W x D	13.8" x 8.5" x 8.7" (350 mm x 217 mm x 220 mm)
Weight (loudspeaker only)	14.4 lbs (6.5 kg)
Finish	Refer to the Technical Drawings (pages 3-4)
Models (Order by mounting option)	<b>EX-S6-CM [-B,-W]</b> - loudspeaker with small ClickMount pan-tilt bracket <b>EX-S6-UB [-B,-W]</b> - loudspeaker with ClickMount U-Bracket and ClickPlug

## OPTIONS

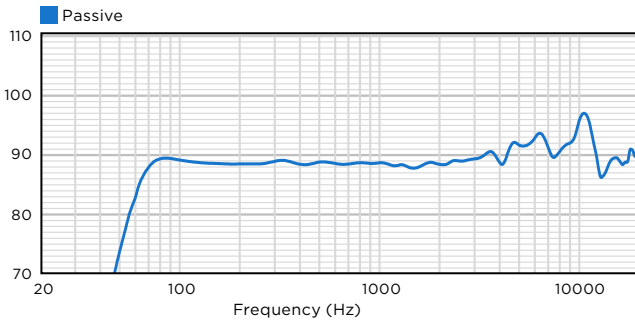
Accessories	<b>CMX-SM [-B,-W]</b> - Small ClickMount pan-tilt bracket kit <b>EXUB-S6 [-B,-W]</b> - EX-S6 ClickMount U-Bracket kit
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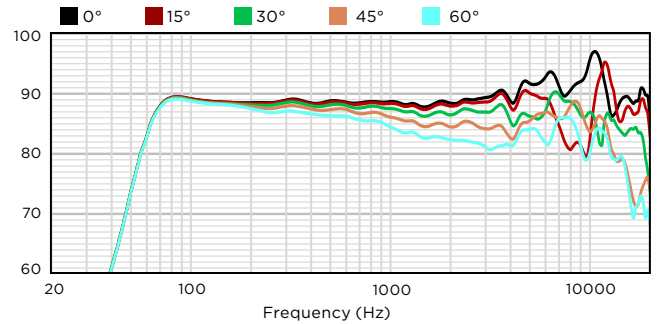
# EX-S6

TWO-WAY COAXIAL 6.5-INCH  
SURFACE MOUNT LOUDSPEAKER

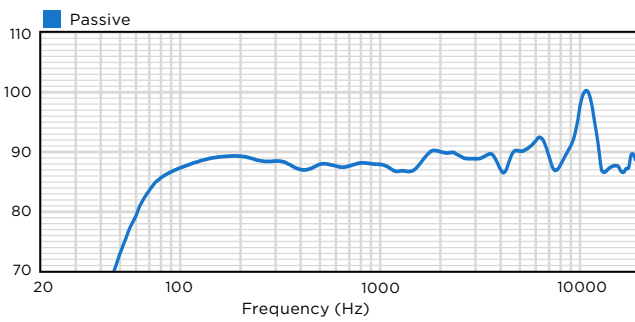
### PROCESSED AXIAL RESPONSE (dB SPL)<sup>6</sup>



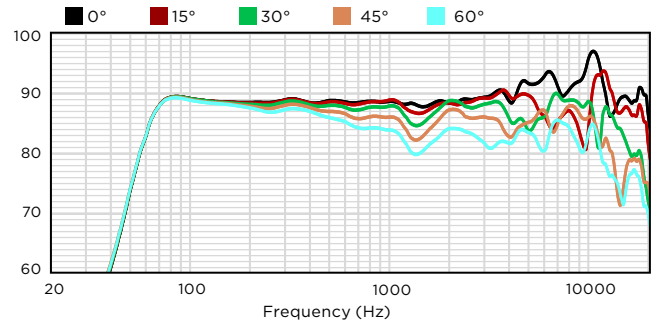
### HORIZONTAL OFF-AXIS RESPONSE (dB SPL)<sup>8</sup>



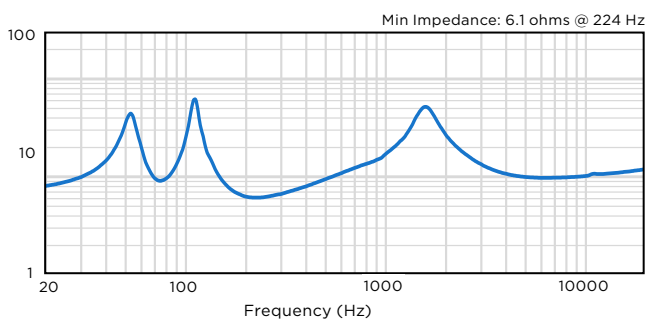
### AXIAL SENSITIVITY (dB SPL)<sup>7</sup>



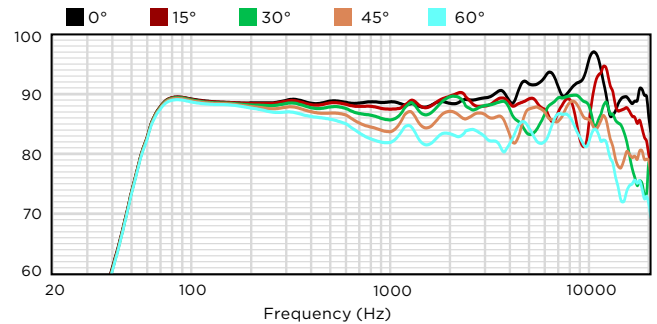
### VERTICAL OFF-AXIS UP RESPONSE (dB SPL)<sup>8</sup>



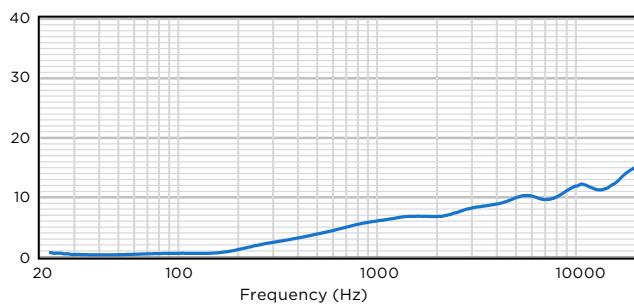
### IMPEDANCE (ohms)



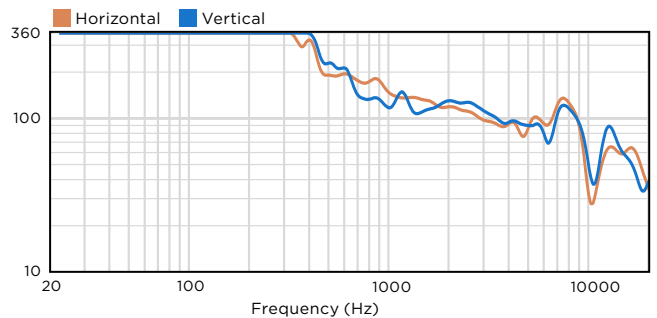
### VERTICAL OFF-AXIS DOWN RESPONSE (dB SPL)<sup>8</sup>



### DIRECTIVITY INDEX (dB SPL)<sup>9</sup>



### BEAMWIDTH (Degrees)<sup>10</sup>



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# EX-S6

TWO-WAY COAXIAL 6.5-INCH  
SURFACE MOUNT LOUDSPEAKER

**TECHNICAL DRAWING / DIMENSIONS / FINISH [EX-S6-CM]**

**H x W x D**

13.8" x 8.5" x 8.7"  
(350 mm x 217 mm x 220 mm)

**Unit Weight**

14.4 lbs (6.5 kg) loudspeaker only  
15.5 lbs (7.0 kg) loudspeaker + bracket

**Shipping Weight**

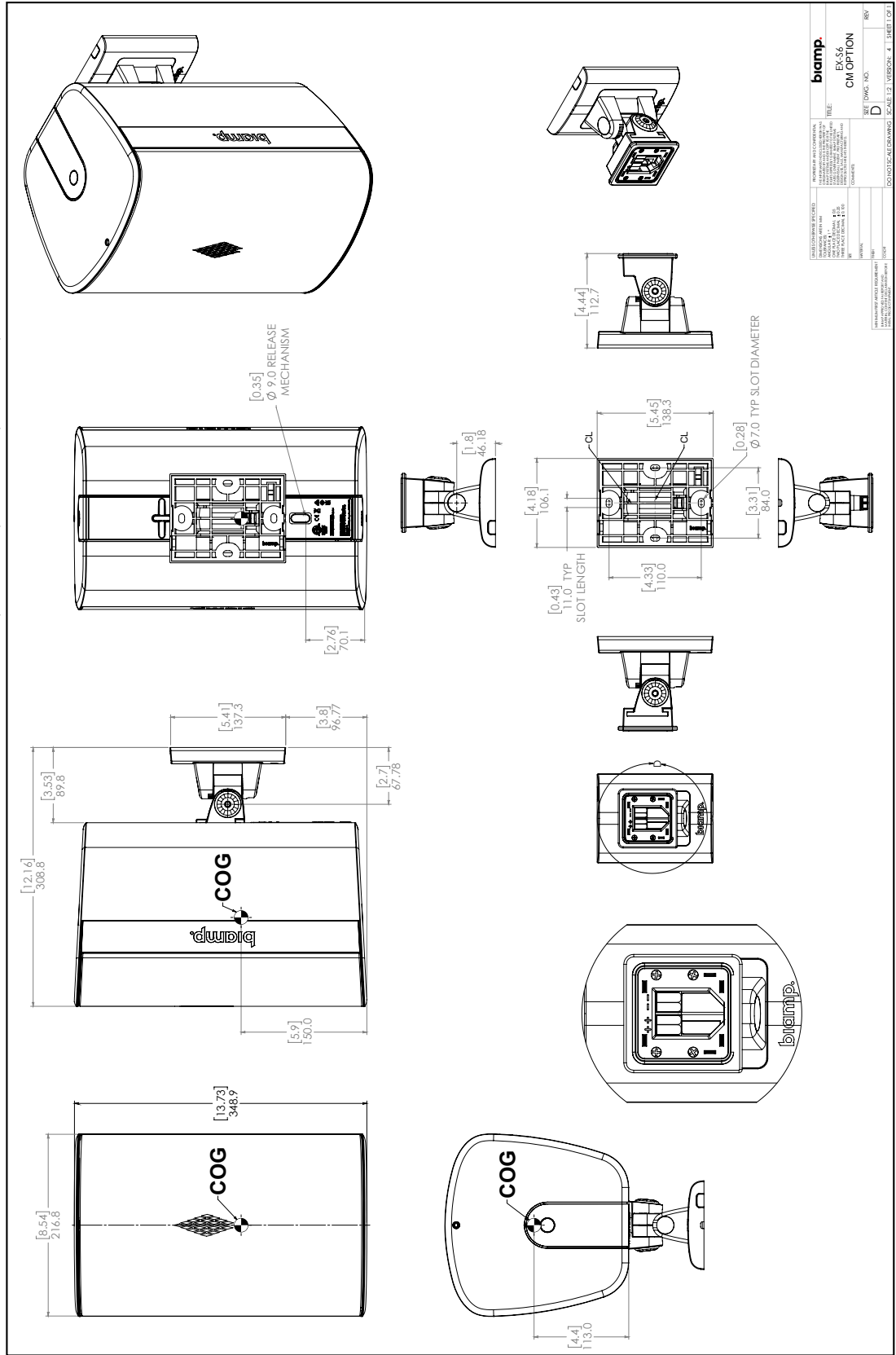
18.7 lbs (8.46 kg)

**Grille**

Powder-coated perforated Marine Grade aluminum backed with hydrophobic cloth  
Black or White

**Enclosure / Bracket / Finish**

High-impact UL94 5VB rated polycarbonate/ABS blend, painted UV resistant matte finish  
Bracket: Heavily reinforced glass-filled nylon with UV-resistant painted matte finish cover  
Color: Black (RAL 9017) or White (RAL 9016)



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# EX-S6

TWO-WAY COAXIAL 6.5-INCH  
SURFACE MOUNT LOUDSPEAKER

**TECHNICAL DRAWING / DIMENSIONS / FINISH [EX-S6-UB]**

**H x W x D (loudspeaker)**  
13.8" x 8.5" x 8.7"  
(350 mm x 217 mm x 220 mm)

**Unit Weight**

14.3 lbs (6.48 kg) loudspeaker only  
15.3 lbs (6.93 kg) loudspeaker + bracket

**Shipping Weight**

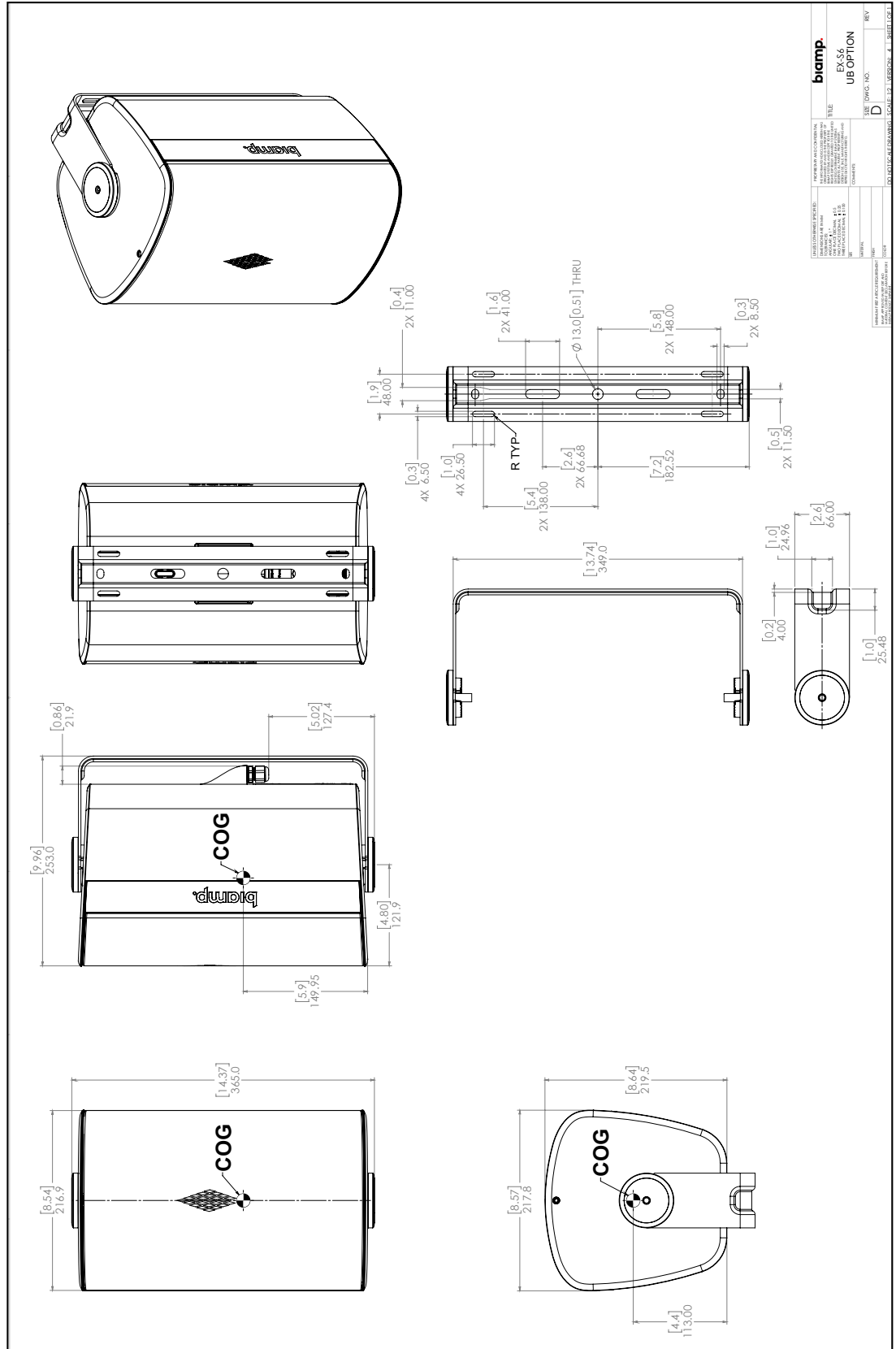
18.6 lbs (8.45 kg)

**Grille and U-Bracket**

Powder-coated Marine Grade aluminum. Grille is perforated and backed with hydrophobic cloth  
Black (RAL 9017) or White (RAL 9016)

**Enclosure / Finish**

High-impact UL94 5VB rated polycarbonate/ABS blend, painted  
UV resistant matte finish  
Black (RAL 9017) or White (RAL 9016)



<p><b>biamp</b></p> <p>EX-S6 UB OPTION</p>	
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<p>DESCRIPTION</p> <p>REVISIONS</p> <p>DATE</p> <p>BY</p> <p>CHKD</p> <p>APP'D</p>	<p>DATE</p> <p>BY</p> <p>CHKD</p> <p>APP'D</p>

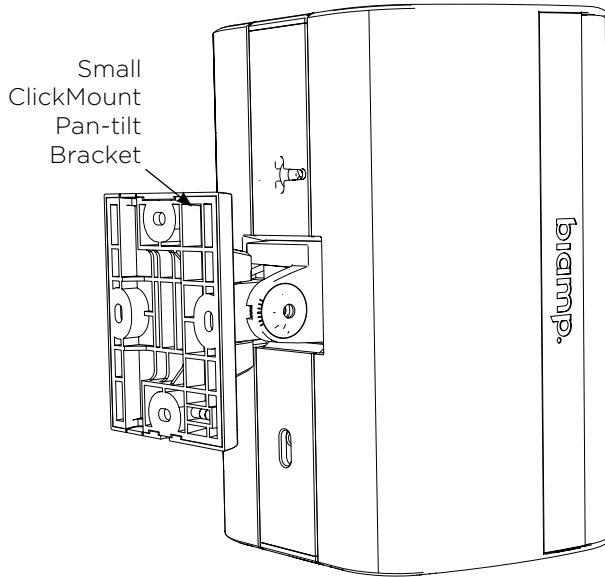
**DESONO**

# EX-S6

TWO-WAY COAXIAL 6.5-INCH  
SURFACE MOUNT LOUDSPEAKER

## EX-S6-CM

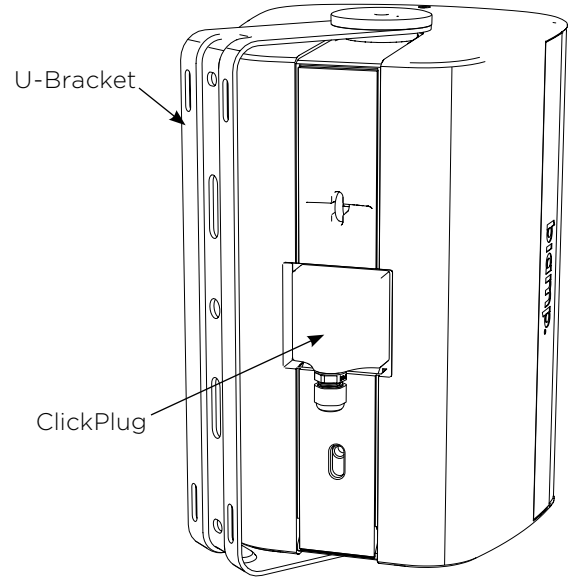
EX-S6 Loudspeaker with ClickMount pan-tilt bracket



**Pivot angle (portrait orientation)**  
Horizontal 120° in 10° increments  
Vertical 56° in 8° increments (32° down-tilt)

## EX-S6-UB

EX-S6 Loudspeaker with ClickMount U-Bracket and ClickPlug



**Pivot angle**  
200° in 10° increments

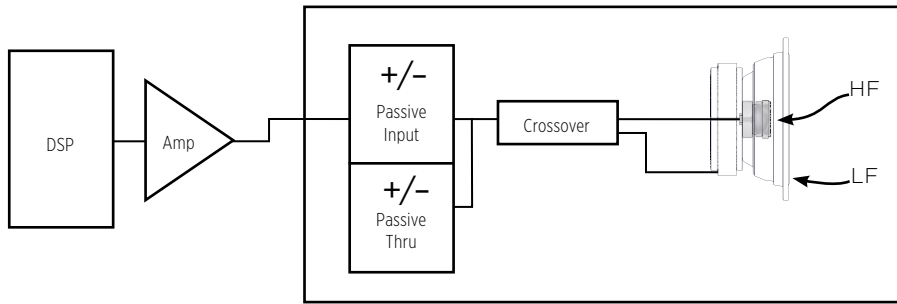
Biamp strives to improve its products on a continual basis. Specifications are therefore subject to change without notice. Data presented on this spec sheet represents the basic performance specifications for the model. For a detailed analysis of this loudspeaker's performance, please download the GLL file and/or the CLF file from our website: [biamp.com](http://biamp.com)

# DATA SHEET

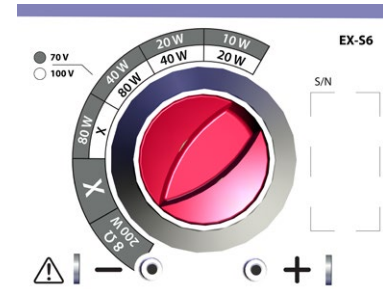
## DESONO™

# EX-S6 TWO-WAY COAXIAL 6.5-INCH SURFACE MOUNT LOUDSPEAKER

### CONNECTION DIAGRAMS



Single amp



Tap Switch / Input Panel

### NOTES

- 1. TECHNICAL SPECIFICATIONS** All measurements are performed indoor at 6 m resulting in a time-windowed impulse response minimizing room effects, approximating an anechoic environment. All acoustic specifications are rounded to the nearest whole number. An external DSP using recommended settings provided by Biamp is required to achieve the specified performance. Further performance gains can be realized using the FIR loudspeaker optimization presets available in Biamp's Community Amplified Loudspeaker Controllers (ALC SERIES).
- 2. OPERATING RANGE** The frequency range in which the on-axis, processed response remains within 10 dB of the SPL denoted as the Sensitivity.
- 3. CONTINUOUS POWER HANDLING** Maximum continuous input voltage (and the equivalent power rating, in watts, at the stated nominal impedance) that the system can withstand, without damage, for a period of 2 hours using a signal with an IEC 60268-5 defined spectrum; with recommended signal processing and protection filters applied.
- 4. SENSITIVITY** SPL of the loudspeaker with a broadband (limited to the loudspeaker's Operating Range) input voltage of 2.83 V; also listed for a voltage that would produce 1 watt into the nominal impedance. Measured in whole space with no external processing applied, except where indicated.
- 5. NOMINAL MAXIMUM SPL** Calculated SPL based on Continuous Power Handling, and Sensitivity; exclusive of power compression. A crest factor of 6 dB is assumed.
- 6. PROCESSED AXIAL RESPONSE** The on-axis variation of the acoustic output level with frequency of the complete loudspeaker system with recommended signal processing applied. The response has 1/6 octave Gaussian smoothing applied.
- 7. AXIAL SENSITIVITY** On-axis variation of the acoustic output level with frequency for a 1 Watt swept sine wave, referenced to 1 meter. No external signal processing is applied. The response has 1/6 octave Gaussian smoothing applied.
- 8. HORIZONTAL / VERTICAL OFF-AXIS RESPONSES** The variation of the acoustic output level at various off-axis angles. The recommended external signal processing is applied employing the operating mode which utilizes the largest number of individually amplified pass bands. The response has 1/6 octave Gaussian smoothing applied.
- 9. DIRECTIVITY INDEX** The variation with frequency for the ratio of the on-axis SPL to the mean SPL at the same distance for all points within the measurement sphere around the loudspeaker. The response has 1/6 octave Gaussian smoothing applied.
- 10. BEAMWIDTH** The angle between the -6 dB points in the polar response of the loudspeaker when driven in the operating mode which utilizes the largest number of individually amplified pass bands. The response has 1/6 octave Gaussian smoothing applied.

Data presented on this spec sheet represents a selection of the basic performance specifications for the model. These specifications are intended to allow the user to perform a fair, straightforward evaluation and comparison with other loudspeaker spec sheets. For a detailed analysis of this loudspeaker's performance, please download the GLL file and/or the CLF file from our website: [www.biamp.com](http://www.biamp.com)

**CAUTION:** Installation of loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting design.