

TECHNICAL SPECIFICATIONS

SBL28

Product Group: Subwoofer
System Type: Front-Loaded NdFeB, Dual 18"

FEATURES AND ADVANCES

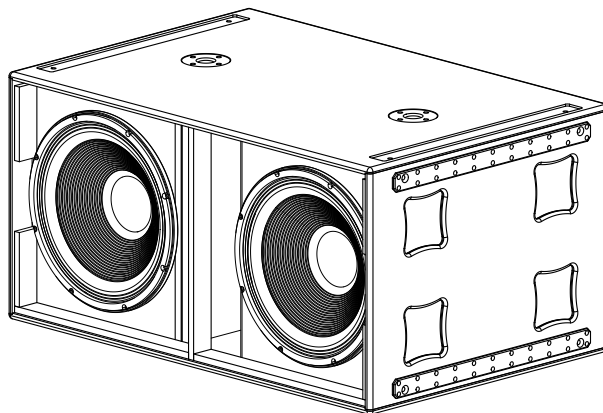
- Dual Voice Coil Neodymium Motor
- Heavy Duty Tour-Grade Construction
- Optimized for Low Frequency
- Large Low Velocity Vented Enclosure
- Flat Frequency Response

PRODUCT DESCRIPTION

The SBL28 is a high power handling sub-bass loudspeaker designed for touring and installation sound applications. The SBL28 features two McCauley 8151 18" cone drivers in a front-loaded bass-reflex cabinet optimized for low-frequency extension to below 30Hz.

The 8151 is McCauley Sound's flagship long excursion, dual voice coil, neodymium transducer, designed with a FEA optimized BI vs. displacement profile to improve linearity and reduce distortion. The 8151 motor features a 4.0" x Dual-1.5" diameter aluminum voice coil riding in a fully symmetric magnetic structure which improves linearity and reduces inductance. The die-cast aluminum basket assembly combines a lightweight epoxy reinforced cone and a large 9" diameter silicone laminated suspension to reduce moving mass and maintain long-term stability respectively. Like all McCauley transducers, the complete magnet structure and heat sink assembly is field serviceable requiring no specialty tools for alignment when replacing a damaged basket assembly.

The SBL28 enclosure is purpose-built around the 8151 transducers to provide a flat response from 30Hz to 120Hz, with good LF extension all the way down to 22Hz. The bass-reflex design has been optimized for an optimally flat tuning, while providing enough damping for a punchy response. The large tapered vent profile reduces port constriction due to air turbulence, which can negatively affect cabinet tuning at high power levels.



APPLICATIONS

- Electronic Music
- Stadiums and Arenas
- Theater Sound
- Night Clubs and Concert Halls
- Theme Parks

CONSTRUCTION

The enclosure is constructed of multi-ply void-free birch hardwood plywood and is coated with a weather and wear resistant ProCoat™ polyurea hybrid finish. All rigging components are weather protected with a heat cured epoxy powder coat finish. Components in the front of the enclosure are protected by a flat grill made from perforated steel that is coated with heat cured epoxy powder, and lined with acoustically transparent foam. Optionally, the SBL28 can be ordered with either 3 pole mount locations, bar handles, casters, locking skids and/or installation rigging to create flown arrays in a variety of configurations, both traditional and cardioid.

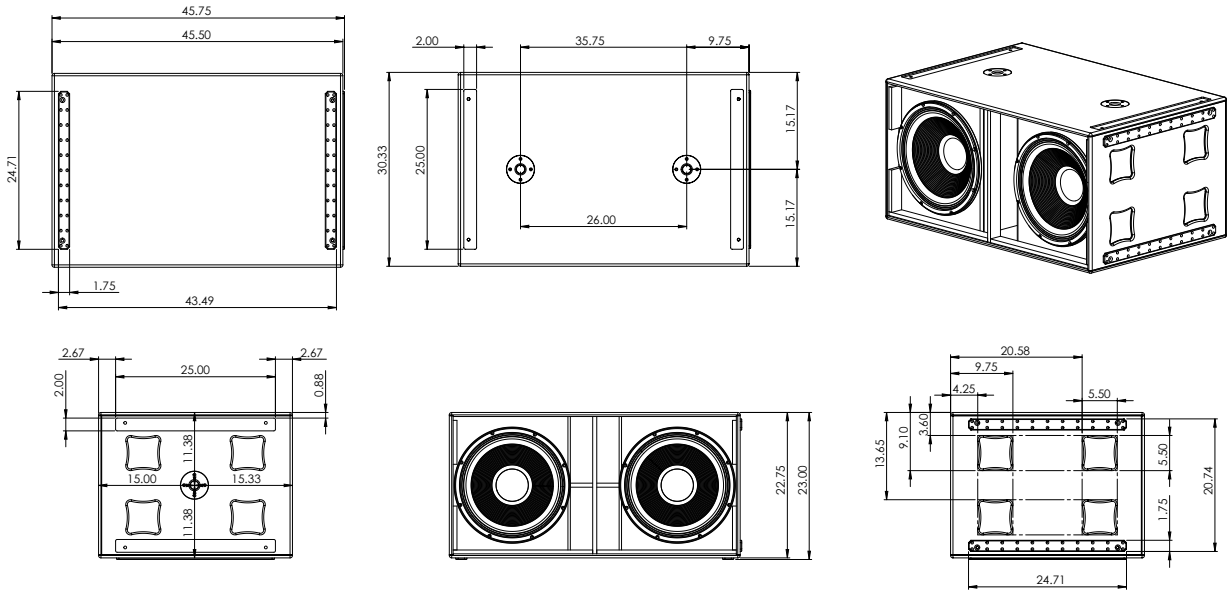
PERFORMANCE PARAMETERS

System Type	Subwoofer, Dual 18"
Transducers	(2) 8151-8 18" Cone Transducers
Frequency Response (-10dB)	22Hz
Frequency Response (±3dB)	28Hz - 125Hz
Nominal Impedance <small>(Drivers Parallel / Discrete)</small>	4.0 Ω / 8.0 Ω (Zmin=3.33 Ω)
Sensitivity <small>2.83V @ 40Hz 1m Drivers Parallel</small>	105dB SPL
Maximum SPL <small>(average / peak) measured 1m ground plane</small>	138dB SPL / 141dB SPL
Power Rating (AES/Program) <small>AES2-2013 2hr Test</small>	2400W / 4800w
Connectors	(2) Phoenix PC_4-4-ST-7.62 4-Position <small>Accepts up to 10AWG</small> or (2) Neutrik™ Speakon NL4 <small>LF1 1+/- LF2 2+/-</small>

PHYSICAL PROPERTIES

Weight <small>(Without Casters)</small>	185Lbs/84kg	
Dimensions <small>(Without Casters)</small>	INCHES	22.75 H x 45.50 W x 30.33 D
	CENTIMETERS	57.8 H x 115.6 W x 77.0 D
Enclosure Material	5/8" multi-ply birch laminate	
Hardware	(16) 3/8-16 Reinforced Hang Points Optional Locking Skids on Two Faces	
Finish	Procoat™ Polyurea-Hybrid Weatherproofing (Black is standard, White or Custom Colors Available)	
Configurations	SBL28	3/8-16 Hang Points Locking Rubber Feet Parallel Phoenix Add Pole Mounts Multigrip Handles Locking Skids Casters Neutrik NL4
	-P	
	-H	
	-T	
	-W	
	-4	
Optional Accessories	SBL28-CB	Custom Wood Dolly Board
	SBL28-FW	Custom Steel Array Strap

DIMENSIONAL ILLUSTRATIONS



ARCHITECTS AND ENGINEERS SPECIFICATIONS

The subwoofer loudspeaker system shall incorporate two (2) McCauley 8151-8, long excursion 18" (460 mm) diameter transducers, mounted in a vented bass reflex enclosure. Each transducer shall have a 4 in. (102 mm) diameter dual voice coil, high flux density NdFeB motor, Aluminum heat sink, and a linear excursion of least ± 0.6 in (15 mm). The enclosure shall be tuned for maximally flat low frequency response and have a vent area large enough such that distortion is minimized at the rated continuous power. The horizontal and vertical beam width for a single unit shall the 360°. Directional characteristics can be achieved with an array of multiple cabinets.

The unprocessed frequency response shall vary no more than ± 3 dB from the median system response over 28 Hz to 125 Hz measured on axis ground plane. The system shall produce a Sound Pressure Level (SPL) of 105 dB SPL at a distance of 1 meter with an electrical input of 2.83Vrms, and shall be capable of producing a maximum average output of 138 dB SPL on axis at 1 meter.

Each low frequency transducer shall handle 1200W of amplifier power for 2hr (per AES Standard AES2-2012), shall have a nominal impedance of 8.0 Ohms, and rated program power of 2400W.

The loudspeaker enclosure shall have a maximum weight of 185 lbs. (84 kg) and shall measure 45.5" (1156 mm) wide, 22.75" (578 mm) in height, and 30.33" (770 mm) in depth without casters. The structure of the enclosure shall be constructed of multi-ply void-free birch hardwood plywood and shall have a weather and wear resistant ProCoat(tm) polyurea hybrid finish.

The input connection shall be, one (1) 4-Position, 20A rated, Phoenix PC_4-4-ST-7.62 which accepts single bare wires up to 10AWG or dual 12AWG wires with a ferule. Optionally the input connector shall be two (2) Neutrik Speakon NL4 locking connectors wired in parallel. The loudspeakers shall be wired so that LF1 is on pins 1+/1- and LF2 is on 2+/2-.

The enclosure shall include sixteen (16) 3/8"-16 UNC threaded mounting/suspension points. Components in the front of the enclosure are to be protected by a flat grill made from perforated steel that is coated with heat cured epoxy powder and lined with acoustically transparent foam.

The high performance subwoofer loudspeaker system shall be the McCauley Sound model SBL28.

