TECHNICAL SPECIFICATIONS

SM852

Product Group: Touring Class Stage Monitor
System Type: 2-Way, 15" x 1.4", 70° x 55°

FEATURES AND ADVANCES

- **High Efficiency and High Power Handling**
- **Neodymium Motor Loudspeakers**
- **Heavy Duty Tour-Grade Construction**
- **Light Weight and Low Profile, Maintaining Sightlines**
- **Weather and Wear Resistant**
- **Low Distortion and High Damping**
- **High Gain Before Feedback**

PRODUCT DESCRIPTION

The SM852 is a two-way, full range, stage monitor designed for the most demanding touring applications. The design features a ported 15" McCauley 8244 Low-Mid driver and a 1.4" exit compression driver on a 70° x 55° horn.

The McCauley 8244 Low-Mid driver is built around a new field serviceable NdFeB motor with a 4.0" diameter, 0.7" dual voice-coil and integrated aluminum heat sink. The large heat sink allows for the fast removal of heat from the pole piece and yoke, directly into the enclosure and basket frame. The cone body is a highly damped, paper-epoxy composite, designed to reduce resonance and increase the gain before feedback. A new, computer optimized spider design, provides linear force over the full driver displacement range and better damping in the upper mid-range.

The coupling of the cone driver and high frequency waveguide has been specially engineered to produce a rich and fully balanced sound from 50 Hz to 18 kHz. The 1.4" exit high frequency compression driver features a 3" titanium diaphragm, a NdFeB motor, and a new surround design which reduces distortion at high power levels. The compression driver and horn are matched so not to have the typical wide resonance around the crossover region, which will lead to feedback on stage.

The SM852 has been designed from the ground up as a Passive product, requiring only a single channel of amplification. A manufacturer supplied 1.25ms FIR filter improves the off-axis response by linearizing the phase shift introduced by the network.

APPLICATIONS

- **Performing Arts Centers**
- **House of Worship**
- **Main Vocal Monitor**
- **High Output Monitor For Drums and Keyboards**
- **Front Fill**
- **Stage Fill**

CONSTRUCTION

The SM852 enclosure features integrated handles and is light weight for easy transportation. Although it is light, the front baffle is supported by significant bracing and the enclosure is tuned for an over damped response, to suppress any resonance even at high power levels.

The enclosure of the SM852 is constructed of multi-ply void free birch plywood and is coated with a weather and wear resistant Pro Coat™ polyurea hybrid finish.

The SM852 is triple cut to allow use from three different angles on stage. Both Neutrik NL4 connectors are located in a recessed jack panel that allows the connection of multiple monitors to a single amplifier and prevents damage if the monitor is repositioned, or the cable is stepped on.

Components in the front of the enclosure are protected by a curved grill made from perforated steel that is coated with heat cured epoxy powder, and lined with acoustically transparent foam. The grill block is reinforced to prevent typical damage.

The SM852 is available as a single unit, or in mirrored pairs, and can be ordered with an optional pole-mount.

PERFORMANCE PARAMETERS

System Type	Touring Stage Monitor
Transducers	(1) 8244-8 15" Cone Transducers (1) 77117-16 1.4" Exit, 3" Diaphram
Coverage Pattern	70° x 55°
Frequency Response (-10dB / ±3dB)	50Hz / 60Hz-18.5kHz
Processing	Lake Processing or FIR DSP
Recommended Crossover	1100Hz - LR24
Nominal Impedance - LF / HF	8.0 Ω / 16.0 Ω
Sensitivity - LF / HF	98dBSPL /109dBSPL
Power (AES2) - LF / HF	550W / 110W
Maximum SPL LF (average / peak)	131dBSPL / 137dBSPL
Maximum SPL HF (average / peak)	131dBSPL / 137dBSPL

PHYSICAL PROPERTIES

Weight (Without Casters)	56Lbs/25.5kg
Dimensions (Without Casters)	INCHES 13.7 H x 27.2 W x 18.5 D CENTIMETERS 34.8 H x 69.1 W x 47.0 D
Enclosure Material	5/8" multi-ply birch laminate
Hardware	Optional 3/8-16 reinforced hang points
Finish	Procoat™ Polyurea-Hybrid Weatherproofing (Black is standard, White or Custom Colors Available)
Connectors	Neutrik™ Speakon NL4 LF 1+/1- HF 2+/2-
Configurations	SM852 .....Standard w/ Handles, Passive Network -P .....Add Pole Mount -S .....Add Switchable Bi-Amp -B .....Bi-Amp Only -R .....Add Custom Hang Points -C .....Custom Color

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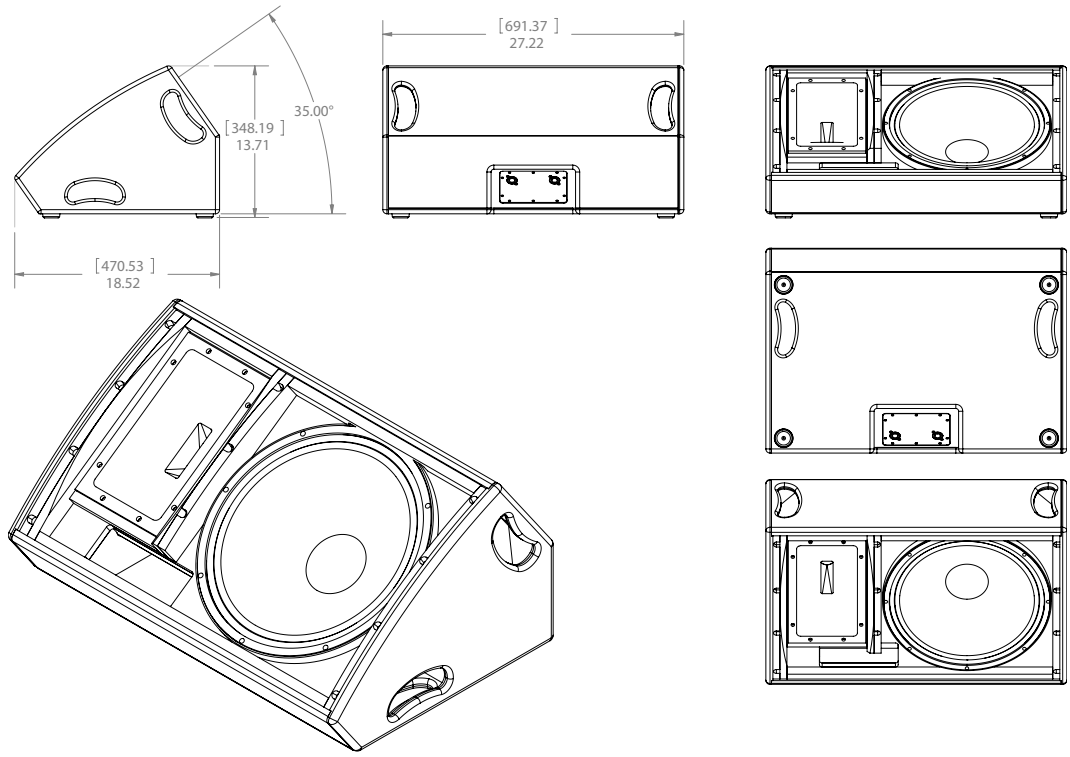
DIMENSIONAL ILLUSTRATIONS



ARCHITECTS AND ENGINEERS SPECIFICATIONS

The two-way full range loudspeaker system shall incorporate one 4" (101.6 mm) voice coil, 15" (381 mm) diameter LF transducer and one 1.4" (35.56 mm) exit, 3" (76.2 mm) diaphragm compression driver HF transducer.

The high frequency transducer shall be mounted to an acoustic horn with a nominal horizontal coverage pattern of 70° and a nominal vertical coverage pattern of 55°.

The LF driver shall be mounted in an optimally vented enclosure tuned for an overdamped low frequency response.

The system frequency response shall vary no more than ±3 dB from 60 Hz to 18 kHz measured on axis. The low frequency transducers shall produce a Sound Pressure Level (SPL) of 98 dB SPL at a distance of 1 meter with an electrical power input of 1 Watt, and shall be capable of producing a maximum peak output of 137 dB SPL on axis at 1 meter. The high frequency transducer shall produce an acoustic Sound Pressure Level (SPL) of 109 dB SPL on axis at 1 meter with an electrical power input of 1 Watt, and shall be capable of producing a peak output of 137 dB SPL on axis at 1 meter.

The low frequency transducer shall handle 550 Watts of amplifier power (per AES ref Standard AES2-1984-r2003) and shall have a nominal impedance of 8 Ohms. The high frequency transducer shall handle 110 Watts of amplifier power (per AES ref Standard AES2-1984-r2003) and shall have a nominal impedance of 16 Ohms.

The loudspeaker enclosure shall have a maximum weight of 56 lbs. (25.5 kg) and shall measure 13.7" (348 mm) high, 27.2" (691 mm) wide, and 18.5"(185 mm) in depth. The structure of the enclosure shall be constructed of 12-ply void-free birch hardwood plywood and shall have a weather and wear resistant ProCoat(tm) polyurea hybrid finish.

Input connectors shall be two locking Neutrik NL4 wired in parallel with 12 AWG wire. The connectors shall have a contact resistance of less than 3 mΩ, insulation rating of at least 250 VRMS, and rated continuous current rating of 30 A per contact. The lifetime of the connectors shall be at least 5000 mating cycles. The connectors shall meet or exceed UL 94 HB flammability standards.

Components in the front of the enclosure are to be protected by a curved grill made from perforated steel that is coated with heat cured epoxy powder, and lined with acoustically transparent foam.

The two-way, full range loudspeaker, shall be the McCauley Sound model SM852.

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