

## TECHNICAL SPECIFICATIONS

# M421

Product Group: Touring Class

System Type: Subwoofer, Quad 21"



### FEATURES AND ADVANCES

- High Efficiency
- Maximum SPL
- Integrated Locking Skids
- Integrated Casters and Handles

### PRODUCT DESCRIPTION

The M421 sets a new standard for low distortion, high impact bass reproduction. The M421 has a continuous power handling in excess of 12,000W and measured continuous output of 143 dB SPL at 4m ground-plane, within its operating band. With a well-shaped response from 20 to 100Hz and a total weight under 500 lbs, the M421 delivers an unprecedented level of low frequency energy for its size. The revolutionary design features four, independently powered, 21 in. long excursion neodymium motor transducers. Specially designed 6.0 in. voice coils exhibit near linear force factor (Bl) through the entire range of cone motion. The drivers are configured in an isobaric assembly and coupled to an FEA optimized acoustic transformer. With integrated handles, casters, skids, travel dolly, and optional fly ware, the M421 is the most versatile and powerful sound reinforcement subwoofer to date.

### APPLICATIONS

- Touring Sound Reinforcement
- House of Worship
- Theatrical Sound Reinforcement
- Stadiums and Arenas
- Theme Parks
- Night Clubs and Concert Halls

### CONSTRUCTION

The enclosure is constructed of multi-ply void-free birch hardwood plywood and is coated with a weather and wear resistant ProCoat™ polyurethane hybrid finish. Components in the front of the enclosure are protected by a flat grill made from perforated 11 gauge steel that is coated with heat cured epoxy powder. All rigging and hardware is weather protected with a heat cured epoxy powder coat finish.

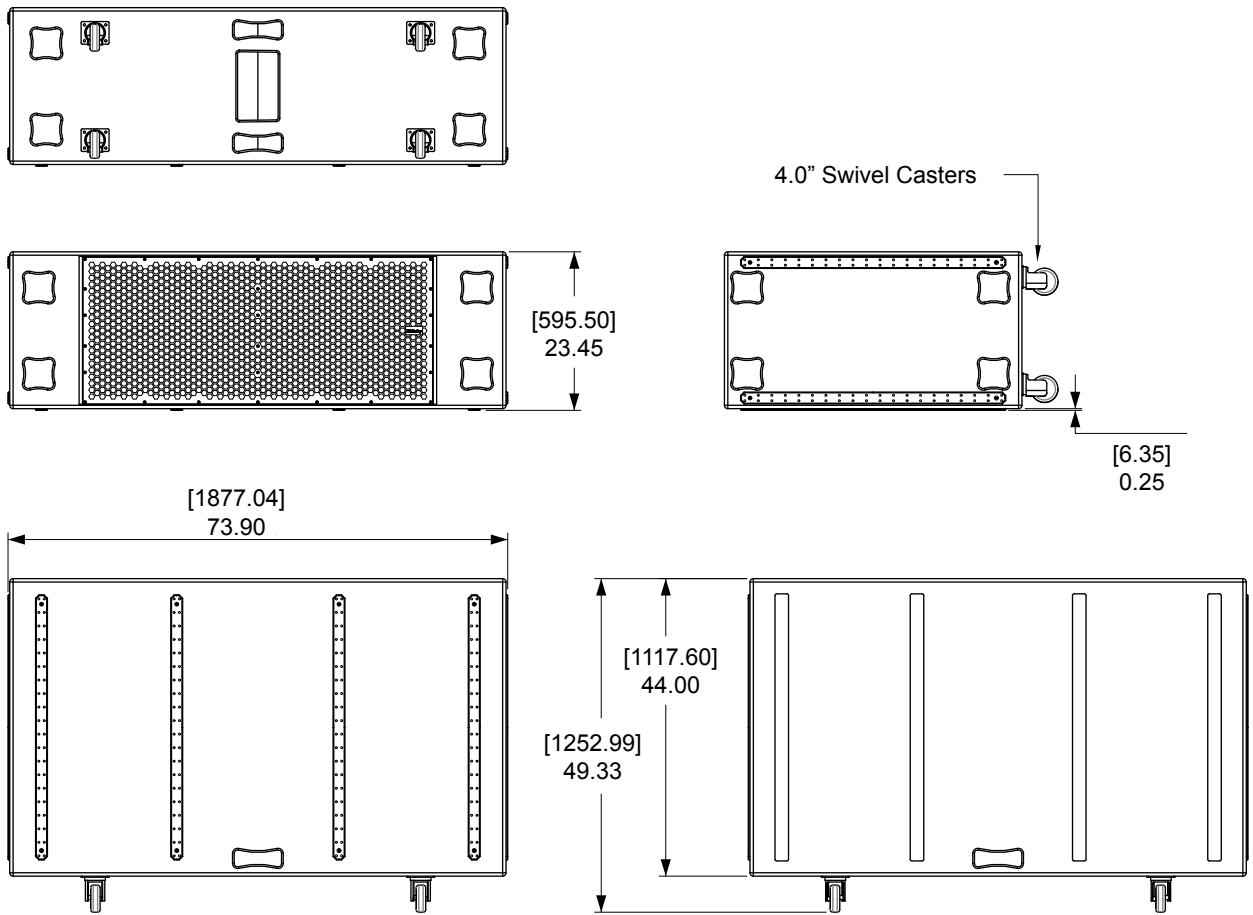
### PERFORMANCE PARAMETERS

System Type	Subwoofer, Quad 21"
Frequency Response	
-10dB	16Hz - 120Hz
+/- 3dB	20Hz - 85Hz
Sensitivity	
LF	110dB @ 2.83V 1 m
Maximum SPL	(cont. / peak)
LF	149dB / 155dB calculated 1m ground plane
	143dB measured 4m ground plane pink noise processed 20 - 85Hz
Power Ratings	(AES / Program)
LF 1	2000w / 3000w @ 8Ω
LF 2	2000w / 3000w @ 8Ω
LF 3	2000w / 3000w @ 8Ω
LF 4	2000w / 3000w @ 8Ω

### PHYSICAL PROPERTIES

Weight	498lb / 226kg
Dimensions	
inches	23.10 H x 73.40 W x 44.00 D
millimeters	586.7 H x 1864.3 W x 1117.6 D
Enclosure Material	5/8" Multi-ply Birch Laminate
Hardware	Integrated Locking Skids on Two Faces Install Version Available w/o Casters and Handles
Finish	Procoat™ Polyurea-Hybrid Weatherproofing (Black is standard, White and / or Custom Colors Available)
Transducers	
LF	(4) 21" Cone Transducers, 6" Voice Coil, Neodymium Motor, Aluminum Heatsink
Connectors	Neutrik™ NLT8*
	*required for maximum output due to connector maximum voltage rating.
Optional Accessories	M421 Dolly, M421 FlyKit, MB421 Rigging Frame

## DIMENSIONAL ILLUSTRATIONS



## ARCHITECTS AND ENGINEERS SPECIFICATIONS

The subwoofer loudspeaker system shall consist of four (4) 21 in. (534mm) transducers mounted in two (2) isobaric pair assemblies and coupled to a FEA optimized acoustic transformer. Each transducer shall have a 6 in. (153 mm) diameter voice coil, high flux density Neodymium motor, Aluminum heat sink, and an excursion of least  $\pm 0.6$  in (15 mm). The horizontal and vertical coverage for a single loudspeaker system shall be omnidirectional in the operating band. Multiple loudspeaker systems in an array shall be capable of producing a directional coverage pattern.

The typical performance specifications shall be as follows: The unprocessed system frequency response shall vary no more than  $\pm 3$  dB from 20 Hz to 85 Hz measured on axis. The measured sensitivity, (when 2.83 V is applied to each transducer powered independently as an 8 ohm load,) shall be at least 110 dB SPL at 1 m ground-plane, from 30 Hz to 80 Hz. Each transducer shall have a rated power capacity of 2000 W per AES Standard AES2-2012 (3000 W continuous program power) and a nominal impedance of 8 ohms inside the operating band.

The enclosure shall have a maximum weight of 498 lbs (220 kg) and shall measure 73.40 in (1864 mm) wide, 23.10 in (586 mm) in height, and 44 in (1117 mm) in depth. The enclosure shall be constructed of multi-ply void-free birch hardwood plywood and coated with a weather and wear resistant ProCoat™ polyurethane hybrid finish. Components in the front of the enclosure shall be protected by a flat grill made from perforated 11 gauge steel and coated with heat cured epoxy powder. All rigging and other hardware pieces shall be weather protected with a heat cured epoxy powder coat finish.

Input connectors shall be two locking Neutrik NLT8MP wired in parallel with 10 AWG wire. The connectors shall have a contact resistance of less than 2 m $\Omega$ , insulation rating of at least 250 Vrms, and rated continuous current greater than 40 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.

Optional 3/8"-18 UNC threaded mounting/suspension points can be provided upon specification.

The high performance subwoofer loudspeaker system shall be the McCauley Sound model M421.