



MD Powered Series

ModularDesign™ Subwoofers

MD-SP215 | MD-SP218

Features of the MD Powered Series

- Useable output to 24 Hz
- Sixteen 3/8"-16 threaded attachment points address all suspension requirements
- Available in either black or white finishes
- Foam backed, powder coated, heavy gauge steel grille



Features of the PM1400 Power Module

- Provides 1400 watts of continuous power
- Class D switching technology
- Accepts balanced XLR input connector with pass-through connector
- Integrated active crossover and equalization electronics
- Internal limiters prevent over driving the system

The MD Powered Series subwoofers combine the superb loudspeaker performance of MD Series installation loudspeakers with the latest generation of QSC's amplification and signal processing technologies. These models are designed to complement the capabilities of MD Powered full-range loudspeakers by extending frequency response into and below the lowest octaves of the audible range.

The MD-SP215 and MD-SP218 subwoofers offer dual 15" or 18" front-loaded transducers, respectively. Large centrally located vents with radiused terminations eliminate port turbulence and noise. Transducers feature technically advanced 4" voice coils assembled with proprietary high temperature adhesives, vented ceramic magnet assemblies and highly optimized motor design to provide high linear excursion, low power compression, flat frequency response and a very low distortion figure.

Both models feature the PM1400 Power Module, which offers state-of-the-art integration of amplification and signal processing. See the rear page of this specification sheet for further details.

MD Powered Series subwoofers offer exceptional performance in a wide variety of applications, including houses of worship, performing arts facilities, hotels, casinos, night clubs, and sporting facilities. For design/build contractors and electroacoustic design consultants, MD Powered Series subwoofers offer an effective solution to the myriad of challenges encountered in the design and implementation of permanently installed sound reinforcement systems.

Specifications

	MD-SP215	MD-SP218
Configuration	Two 15" long-throw woofers with 4" voice coils, aluminum demodulating ring	Two 18" long-throw woofers with 4" voice coils, aluminum demodulating ring
Frequency Response (-6 dB)	27 Hz - 100 Hz	26 Hz - 100 Hz
Frequency Range (-10 dB)	25 Hz - 110 Hz	24 Hz - 110 Hz
Maximum Output		
Continuous ¹	129 dB	131 dB
Peak ²	135 dB	137 dB
Amplifier Module		
Power Output ³	1400 W	
Input Sensitivity	1.2 Vrms (+4 dBu)	
Input Clipping	7.5 Vrms (+19.5 dBu)	
Input Impedance (Ω)	20k	
Input Connector	Balanced XLR female (Pin 1: Ground, Pin 2: +, Pin 3: -)	
Output (loop-thru) Connector	XLR male wired in parallel with input	
Controls	Gain control, 100 Hz high-cut filter, Power on/off	
Indicators	Clip/Limit (red LED) / Signal (green LED) / AC Power (blue LED)	
Protection	Thermal limiting, on/off muting, AC inrush current limiting (< 12 A peak)	
Operating Voltage	Available in 120 V or 230 V (+15% / -40%)	
AC Power Requirements ⁴		
Pink Noise (6 dB crest factor)	Idle < 0.5 A (< 100 BTU waste heat) / 1/8 power 2.5 A (570 BTU waste heat) / 1/3 power 5.0 A (1380 BTU waste heat) / Full Power 15.0 A (4010 BTU waste heat)	
Typical Program Material at Full Power	2.5 A (570 BTU waste heat)	
Enclosure		
Suspension Points	16 load-rated attachment points that accept 3/8"-16 threaded hardware	
Finish	Wear resistant textured paint, available in black and white (handles on black only)	
Grille	Powder-coated perforated steel	
Dimensions (HWD)	26" x 40" x 23.3" (660 mm x 1016 mm x 591 mm)	28" x 48" x 24" (711 mm x 1219 mm x 610 mm)
Weight	190 lb (86.2 kg)	210 lb (95.3 kg)

All amplifiers are FCC class B (conducted and radiated emissions), UL/CE listed

1) Calculated based on sensitivity and continuous amplifier power at onset of limiting

2) Calculated based on sensitivity of transducers and peak output capability of amplifier

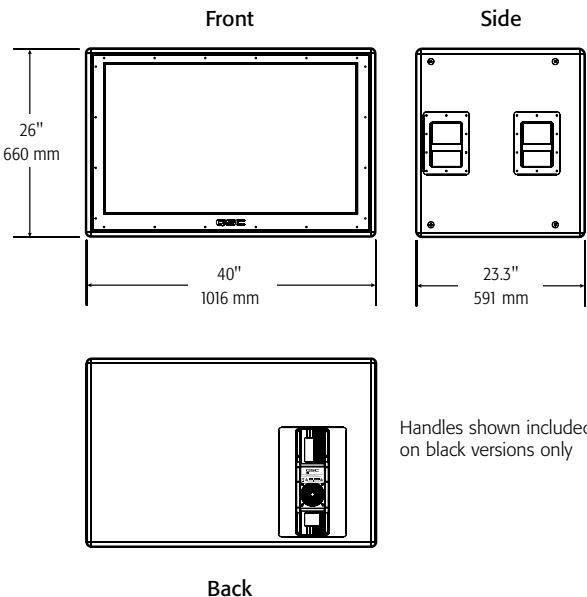
3) The maximum sustained power at less than 1% clipping, averaged over the intended frequency range

4) Current values are for 120 V, for 230 V operation divide by 2

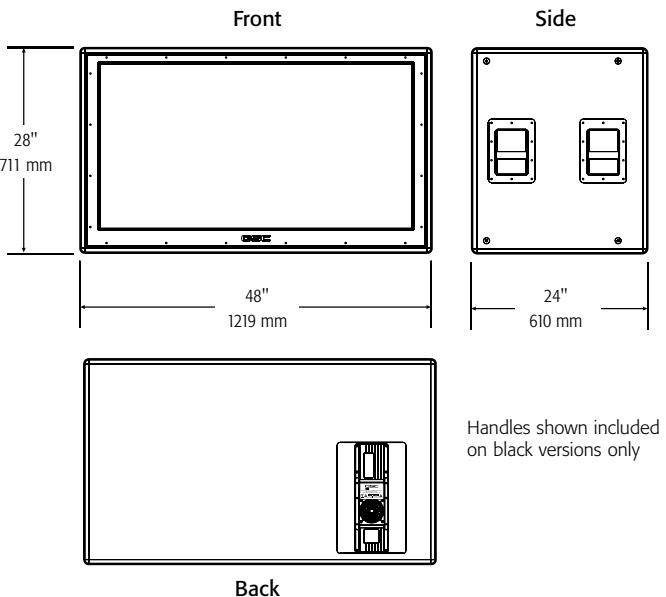
MD Powered Series Subwoofers

Dimensions

MD-SP215



MD-SP218



PM Series Power Modules



QSC's PM Series are the most compact, lightweight and efficient loudspeaker power modules currently available. They have been specifically developed to meet the headroom and voltage swing requirements of high-end professional loudspeaker systems. The PM1000 features two channels producing 800 watts (LF) and 200 watts (HF) respectively, while the PM1400 delivers 1400 watts into a single channel.

Users familiar with existing powered speaker technology expect to see a large heat sink, taking up most of the speaker's rear panel. Such products run hot at full power, and may not be capable of sustained high output operation in all positions or climate conditions due to thermal limitations.

The linear amplifier technology utilized in most current powered loudspeaker designs is capable of acceptable audio performance, but inherent inefficiencies limit the maximum power of these systems to the 300 - 500 watt range. Multi-tier linear technology can extend this to as

much as 700 watts (as in QSC's HPR speakers), but still requires a large, heavy heat sink.

Existing amplifier technologies forced compromises upon the loudspeaker designer that QSC engineers found unacceptable. The resulting specification called for an amplifier package measuring no more than 4.4" x 14.6" x 7" (112 mm x 371 mm x 178 mm) and weighing only 8 lb (3.6 kg) yet capable of continuously delivering double or triple the amount of power traditionally feasible in a package of this size. Our engineers combined the lessons QSC has learned from three generations of PowerLight™ technology power supplies with a unique, patent pending approach to Class D amplification to create the PM Series power modules.

Until now available Class D solutions have been constrained by voltage limitations, and thus remained below the 500 watt (at 8 ohms) barrier, and many designs have also suffered from imperfect audio quality. QSC has broken through these barriers, with ratings exceeding 800 watts into standard 8 ohm loads, and 1400 watts into 4 ohms. Peak voltages can reach 120 volts, at up to 30 amps of current (3600 watts of "peak power"). At the same time, advanced internal error-correction keeps audio quality

pristine across the entire frequency range. QSC has finally opened the door to combining the horsepower potential of Class D with no compromise audio performance.

For the MD Powered Series models, speaker response is fine-tuned with high order crossover slopes, signal alignment and LF rolloffs as well as multiple parametric equalizer sections. The internal processing also includes long-term power limiting, allowing higher levels of amplifier drive to the speaker without damaging overloads.

The PM Series modules are built on a solid aluminum, three-sided extrusion that functions as a chassis, heat sink and mounting flange. Because of their high conversion efficiency, PM Series modules normally dissipate only about 25 to 50 watts of input power as heat, and are basically a passively cooled design. However, in order to keep the exposed surfaces within required temperature limits, and prevent thermal overload in extremely hot environments, a temperature controlled fan is mounted to the heat sink assembly and comes on only when heat sink temperature reaches 122° F (50° C), ensuring that "the show goes on" even under extreme conditions.

Specifications subject to change without notice.

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