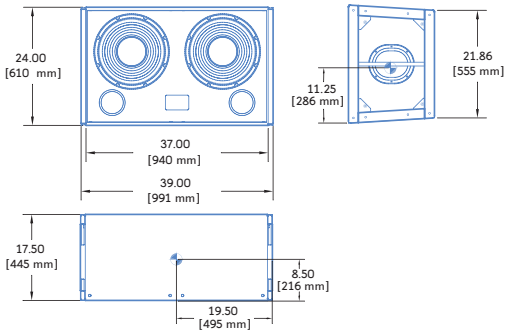
M2D™-SUB : Compact Subwoofer



Dimensions	39.00" w x 24.00" h x 17.50" d (991 mm x 610 mm x 445 mm)
Weight	173 lbs (78.47 kg); shipping: 197 (89.36 kg)
Enclosure	Multi-ply hardwood
Finish	Black textured
Protective Grille	Powder-coated hex stamped steel
Rigging	Patented QuickFly® MRF-2D-Sub rigging frame with integral CamLinks™, rear connecting bars and captive quick-release pins

The M2D-Sub compact subwoofer has an operating frequency range of 28 Hz to 160 Hz with a maximum peak SPL of 138 dB. It is primarily intended as a companion sub-bass unit for integration into an M2D compact curvilinear array system for small-to-medium sized applications. However, it is perfectly suited to general use where powerful low frequency augmentation is desired. In combination with M2Ds, M2D-Sub extends the overall system power bandwidth and frequency response to 30 Hz. External dimensions are equivalent to two M2D cabinets. QuickFly rigging allows the M2D-Sub to be flown or ground-stacked in multiples or in combination with M2Ds.

The M2D-Sub is fitted with two 15-inch, 4-inch voice coil cone drivers incorporating lightweight neodymium magnet structures. Each driver is rated at 1200 AES watts (see note 5 on back page) and is capable of a half-inch of linear excursion. TruPower® limiting technology aids driver protection, minimizes power compression, protects drivers from over-excursion under high peak power conditions and permits high constant output. The M2D-Sub is self-powered and includes an integral two-channel class AB/H complementary MOSFET power amplifier with 2250 watts total burst capability. The M2D-Sub's Intelligent AC™ power supply affords automatic voltage selection, EMI filtering, soft current turn-on and surge suppression. Phase-corrected active processing circuits help maintain excellent performance and reliability, and the high common-mode rejection of the laser-trimmed differential input permits long signal runs through a simple shielded twisted pair cable. The amplifier, control electronics and power supply are integrated into a field-replaceable module.

The trapezoidal, vented M2D-Sub enclosure is constructed of multi-ply hardwood and coated with a textured black finish. Integral metal grilles protect the drivers. A weather-protected version is available with custom rain hood to protect the electronics.

The optional QuickFly MG-2D multipurpose grid allows either flying or ground stacking various combinations of M2D and M2D-Sub. Up to 16 M2Ds (or the equivalent weight of M2D and M2D-Sub) may be flown with a 7:1 safety factor. Up to eight M2Ds, four M2D-Subs or six M2Ds and one M2D-Sub may be safely ground stacked.

Meyer Sound's RMS™ remote monitoring system is fitted as standard and provides comprehensive monitoring of system performance parameters over a Microsoft Windows® network.

FEATURES & BENEFITS

- Extremely high power-to-size ratio for flexible installation
- Exceptional fidelity and peak capability assure clean, high-impact lows
- QuickFly rigging system simplifies integration in flown or ground-stacked arrays
- Seamless integration with other M Series models

APPLICATIONS

- Concert halls, night clubs and houses of worship
- Theatrical sound reinforcement
- Portable and installed audio-visual systems

M2D-Sub Specifications

Acoustical[1]	
Operating Frequency Range[2]	28 Hz – 160 Hz
Frequency Response[3]	30 Hz – 140 Hz ±4 dB
Phase Response	40 Hz – 100 Hz ±45˚
Maximum Peak SPL[4]	138 dB
Signal to Noise Ratio	›110 dB
Coverage	
Horizontal Coverage	360˚ Horizontal
Vertical Coverage	Varies, depending on array length and configuration
Transducers	
Low Frequency	Two 15" cone drivers with neodymium magnets Nominal impedance: 4 Ω Voice coil size: 4" Power-handling capability: 1200 W (AES)[5]
Audio Input	
Type	Differential, electronically balanced
Maximum Common Mode Range	±15 V DC, clamped to earth for voltage transient protection
Connectors	Female XLR input with male XLR loop output or VEAM all-in-one connector (integrates AC, audio and network)
Input Impedance	10 kΩ differential between pins 2 and 3
Wiring	Pin 1: Chassis/earth through 220 kΩ, 1000 pF, 15 V clamp network to provide virtual ground lift at audio frequencies Pin 2: Signal + Pin 3: Signal – Case: Earth ground and chassis
DC Blocking	None on input; DC blocked through signal processing
CMRR	›50 dB, typically 80 dB (50 Hz – 500 Hz)
RF Filter	Common mode: 425 kHz; Differential mode: 142 kHz
TIM Filter	Integral to signal processing (‹80 kHz)
Nominal Input Sensitivity	0 dBV (1 V rms, 1.4 V pk) continuous is typically the onset of limiting for pink noise and music
Input Level	Audio source must be capable of producing a minimum of 20 dBV (10 V rms, 14 V pk) into 600 Ω in order to produce maximum peak SPL over the operating bandwidth of the loudspeaker
Amplifiers	
Type	Two channel complementary MOSFET output stages (class AB/H)
Output Power[6]	2250 W
THD, IM, TIM	‹.02 %
Load Capacity	4 Ω each channel
Cooling	Forced air cooling, two fans (one ultrahigh-speed reserve fan)
AC Power	
Connector	PowerCon or VEAM
Automatic Voltage Selection	Automatic, two ranges, each with high-low voltage tap (uninterrupted)
Safety Agency Rated Operating Range	95 – 125 V AC; 208 – 235 V AC; 50/60 Hz
Turn-on and Turn-off Points	85 – 134 V AC; 165 – 264 V AC; 50/60 Hz
Current Draw:	
Idle Current	0.64 A rms (115 V AC); 0.32 A rms (230 V AC); 0.85 A rms (100 V AC)
Max Long-Term Continuous Current (›10 sec)	8.8 A rms (115 V AC); 4.4 A rms (230 V AC); 10 A rms (100 V AC)
Burst Current (‹1 sec)	19 A rms (115 V AC); 9.5 A rms (230 V AC); 22 A rms (100 V AC)
Ultimate Short-Term Peak Current Draw	39 A pk (115 V AC); 20 A pk (230 V AC); 45 A pk (100 V AC)
Inrush Current	7 A pk (115 V AC and 230 V AC); 10 A pk (100 V AC)
RMS Network	
	Equipped for two conductor twisted-pair network, reporting all operating parameters of amplifiers to system operator's host computer.

Notes:

1. The low-frequency power response of the system will increase according to the length of the array.

2. Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.

3. Free field, measured with 1/3 octave frequency resolution at 4 meters.

4. Measured with music at 1 meter.

5. Power handling is measured under AES standard conditions: transducer driven continuously for two hours with a band-limited noise signal having a 6 dB peak-to-average ratio.

6. Amplifier wattage rating is based on the maximum unclipped burst sine-wave rms voltage that the amplifier will produce into the nominal load impedance. Both channels: 67 V rms (95 V pk) into 4 ohms.

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N775

3K59 COMMERCIAL AUDIO SYSTEM
US LISTED

M2D-SUB – 04.114.030.01

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Architect Specifications

The loudspeaker shall be a self-powered, sub-bass system which may be deployed as either a flown or a ground-stacked unit. The transducers shall consist of two 15-inch cone drivers (4-inch voice coil) each rated to handle 1200 AES* watts.

The loudspeaker shall incorporate internal processing electronics and a two-channel amplifier. Each amplifier channel shall be class AB/H with complementary MOSFET output stages. Burst capability shall be 2250 watts total with nominal 4-ohm resistive load. Distortion (THD, IM, TIM) shall not exceed 0.02%. Protection circuits shall include TruPower limiting. The audio input shall be electronically balanced with a 10 kOhm impedance and accept a nominal 0 dBV (1 V rms) signal (20 dBV to produce maximum SPL). Connectors shall be XLR (A-3) type male and female or VEAM all-in-one. RF filtering shall be provided, and CMRR shall be greater than 50 dB (50 – 500 Hz).

Performance specifications for a typical production unit shall be as follows, measured at 1/3 octave resolution: Operating frequency range shall be 28 Hz to 160 Hz. Phase response shall be ±45˚ from 40 Hz to 100 Hz. Maximum SPL shall be 138 dB at 1 meter.

The internal power supply shall perform automatic voltage selection, EMI filtering, soft current turn-on and surge suppression. Powering requirements shall be nominal 100 V, 110 V or 230 V AC line current at 50 Hz or 60 Hz. UL and CE operating voltage ranges shall be 95 to 125 V AC and 208 to 235 V AC. Current draw during burst shall be 19 A at 115 V AC and 9.5 A at 230 V AC. Current inrush during soft turn-on shall not exceed 7 A at 115 V AC. AC power connectors shall be PowerCon or VEAM.

The loudspeaker system shall incorporate the electronics module for Meyer Sound's RMS remote monitoring system.

All loudspeaker components shall be mounted in a multi-ply hardwood enclosure with a black textured finish. Dimensions shall be 39.00" wide x 24.00" high x 17.50" deep (991 mm x 612 mm x 445 mm). Weight shall be 173 lbs (78.47 kg).

The loudspeaker shall be the Meyer Sound M2D-Sub.

**Driven continuously for two hours with band-limited noise signal having a 6 dB peak-average ratio.*