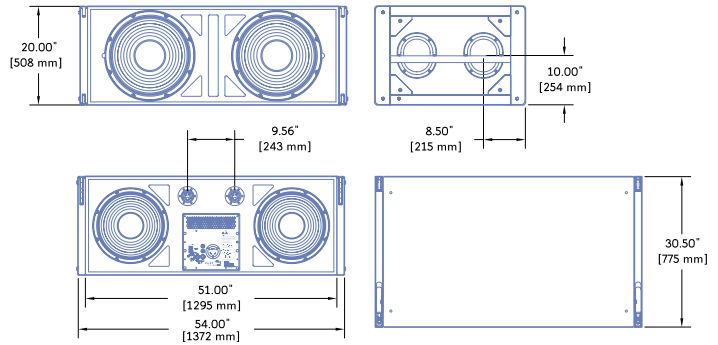




M3D-SUB : Directional Subwoofer



Dimensions	54.00" W x 20.00" H x 30.50" D (1372 mm x 508 mm x 775 mm)
Weight	395 lbs (179.17 kg); shipping: 480 lbs (217.72 kg)
Enclosure	Multi-ply hardwood
Finish	Black textured
Protective Grille	Powder-coated Hex stamped steel
Mounting	QuickFly® rigging frame with integral CamLinks™, rear connecting bars and captive quick-release pins

The M3D-Sub directional subwoofer has an operating frequency range of 29 Hz to 95 Hz with a maximum peak output of 140 dB SPL. It is primarily intended to augment the M3D™ line array and MILO™ high-power curvilinear array loudspeakers when extremely powerful, full-range sound reproduction is desired, and is suited to any low-frequency reinforcement requirement.

Incorporating the same proprietary directional control technology used in the M3D, the M3D-Sub projects powerful bass forward into the audience while dramatically reducing low-frequency bleed onto the stage and into backstage areas. Due to its exceptional linearity, the M3D-Sub's directional characteristics are maintained even at extremely high sound pressure levels. In combination with M3Ds or MILOs, the M3D-Sub extends over-all system power bandwidth and frequency response to 30 Hz. M3D-Subs can be flown with M3Ds or MILOs in the same vertical

array, in a parallel array or ground stacked. The vented enclosure houses two forward-facing 18-inch Meyer Sound cone drivers, which are back-vented and feature lightweight neodymium magnets. Two rear-facing Meyer Sound 15-inch cone drivers, responding to sophisticated phase manipulation circuits, control and reinforce the output of the front-facing drivers affording cardioid coverage to 30 Hz.

The M3D-Sub is self-powered by an integral four-channel class AB/H complementary MOSFET power amplifier with 3370 watts burst capability (two channels, 1125 watts per channel; two channels, 560 watts per channel). TruPower™ limiting aids driver protection, minimizes power compression and permits high constant output. The 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 M3D-Sub's vented, multi-ply hardwood enclosure is coated with a textured black finish, weather protected and features a folding rain hood that safeguards the electronics. Drivers are protected by metal grilles. Standard QuickFly rigging uses captive hardware; the optional MG-3D/M multipurpose grid accommodates a variety of flown or stacked configurations.

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

FEATURES & BENEFITS

- Directional technology provides improved low-frequency gain before feedback
- Prodigious output to cover even the largest venues
- Cardioid pattern control helps reduce reverberation

- Fully weather protected for long-lasting service in demanding environments
- Seamless integration with other M Series models

APPLICATIONS

- Stadiums, arenas and concert halls
- Touring sound reinforcement
- Large-scale events

M3D-SUB SPECIFICATIONS

ACOUSTICAL¹		Operating Frequency Range² 29 Hz – 95 Hz Frequency Response³ 30 Hz – 88 Hz ±4 dB Phase Response 35 Hz – 90 Hz ±45° Maximum Peak SPL⁴ 140 dB at 1 m (half-space) Signal to Noise Ratio >110 dB
COVERAGE		Horizontal Coverage Cardioid, with active pattern control Vertical Coverage Varies, depending on array length and configuration
TRANSDUCERS		Low Frequency (front) Two 18" cone drivers with neodymium magnets Nominal impedance: 4 Ω Voice coil size: 4" Power-handling capability: 1200 W (AES) ⁵ Low Frequency (rear)⁶ Two 15" cone drivers Nominal impedance: 8 Ω Voice coil size: 3" Power-handling capability: 600 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 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 Complementary power MOSFET output stages (class AB/H) Output Power 3370 W (Four channels: two x 1125 W, two x 560 W) ⁷ THD, IM, TIM <.02 % Load Capacity 4 Ω front channels, 8 Ω rear channels Cooling Forced air cooling, four fans (two ultrahigh-speed reserve fans)
AC POWER		Connector 250 V AC NEMA L6-20 (twistlock) inlet or IEC 309 male inlet, 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 1.2 A rms (115 V AC); 0.6 A rms (230 V AC); 1.3 A rms (100 V AC) Max Long-Term Continuous Current (>10 sec) 18 A rms (115 V AC); 9 A rms (230 V AC); 20 A rms (100 V AC) Burst Current (<1 sec)⁸ 32 A rms (115 V AC); 16 A rms (230 V AC); 36 A rms (100 V AC) Ultimate Short-Term Peak Current Draw 50 A pk (115 V AC); 25 A pk (230 V AC); 57 A pk (100 V AC) Inrush Current <12 A at 115 V AC
RMS NETWORK		Equipped for two conductor twisted-pair network, reporting all operating parameters of amplifiers to system operator's host computer.

NOTES

- The low-frequency power response of the system will increase according to the length of the array.
- Response depends on loading conditions and room acoustics.
- Measured with 1/3 octave frequency resolution at 4 meters.
- Measured with music at 1 meter.
- 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.
- The two rear-facing 15-inch cone drivers produce a wave front that interacts with, and is additive to, the wave-front produced by the two front-facing cone drivers, while reducing sonic energy directed from the rear of the cabinet. The resultant directional low-frequency output extends to 30 Hz, with a 25 dB average reduction in SPL behind the cabinet.
- Amplifier wattage rating is based on the maximum unclipped burst sine-wave rms voltage the amplifier will produce in to the nominal load impedance; front channels 67 V rms (95 V pk) into 4 ohms; rear channels 67 V rms (95 V pk) into 8 ohms
- AC power cabling must be of sufficient gauge so that under burst current conditions, cable transmission losses do not cause the voltage to drop below specified operating range at the loudspeaker.



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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 ground-stacked unit. The transducers shall consist of two front-facing 18-inch drivers (4-inch voice coil), and two rear-facing 15-inch drivers (3-inch voice coil). The rear-facing transducers shall be separately driven by a phase manipulation circuit so designed that the rear transducers' output reinforces forward low-frequency energy while canceling energy emanating from the rear.

The loudspeaker shall incorporate internal processing electronics and a four-channel amplifier. Each amplifier channel shall be class AB/H with complementary MOSFET output stages. Burst capability shall be 3370 watts total with nominal resistive loads of 4 ohms front channels, 8 ohms rear channels. Distortion (THD, IM, TIM) shall not exceed 0.1%. The audio input shall be electronically bal-

anced with a 10 kOhm impedance and accept a nominal 0 dBV (1 V rms) signal (20 dBV to produce maximum SPL). RF filtering shall be provided, and CMRR shall be greater than 50 dB.

Performance specifications for a typical production unit shall be as follows, measured at 1/3 octave resolution: Operating frequency range shall be 29 Hz to 95 Hz. Phase response shall be ±45° from 35 Hz to 95 Hz. Maximum peak SPL shall be 140 dB at 1 meter. Coverage shall exhibit a cardioid response pattern on both the horizontal and vertical axes.

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 V AC to 125 V AC and 208 V AC to 235 V AC. Maximum burst current draw shall be 32 A at 115 V AC and 16 A at 230 V AC. AC power connectors shall be locking NEMA connector, IEC male or VEAM all-in-one.

The loudspeaker shall incorporate the electronics module for Meyer Sound's RMS remote monitoring system. All components shall be mounted in a multi-ply hardwood enclosure with a weather resistant black textured finish. Dimensions shall be 54.00" wide x 20.00" high x 30.50" deep (1327 mm x 508 mm x 775 mm). Weight shall be 395 lbs (179.17 kg).

The loudspeaker shall be the Meyer Sound M3D-Sub.