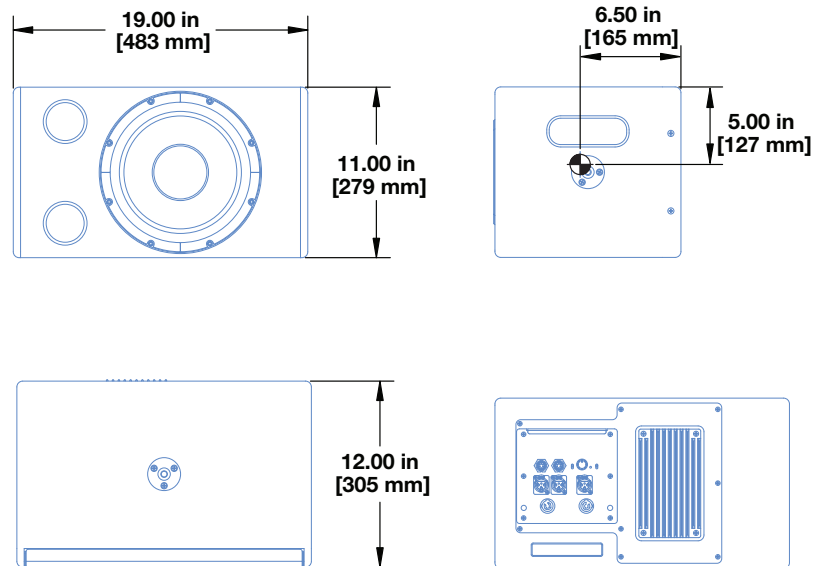


# MM-10™ Miniature Subwoofer



The MM-10 miniature subwoofer delivers expanded low frequency for applications that require excellent audio quality from a compact system. Designed primarily as a companion to Meyer Sound's MM-4XP miniature loudspeaker, the MM-10 allows designers to create full-range systems where space limitations are a concern. The MM-10 also works well with the UP-4XP and UP-4slim ultracompact loudspeakers (both use IntelligentDC technology).

The MM-10 features an operating frequency range of 33 Hz to 228 Hz. The MM-10 bass reflex cabinet houses a single 10-inch driver and a single-channel power amplifier complete with onboard processing, including crossover, driver protection, and frequency and phase correction. The built-in crossover accepts full-range signals, facilitating basic daisy-chaining for signal distribution and eliminating the need for external crossovers in small setups.

The MM-10 subwoofer is available from the factory in three models—the MM-10XP with IntelligentDC technology, the MM-10AC, and the MM-10ACX—each offering different internal configurations, audio and power connectors.

The **MM-10XP** model is powered by an external power supply, allowing for a remote power source while still preserving the advantages of self-powered loudspeaker systems. The unit's onboard amplifier and signal-processing circuits are designed to store DC power and tolerate voltage drops, thereby accommodating light-gauge cables and lengthy cable runs. The MM-10XP is available with either a Phoenix™ 5-pin male or SwitchCraft® EN3™ male connector for receiving balanced audio and DC power.

MM-10XPs require an external Meyer Sound MPS IntelligentDC power supply. These units receive balanced audio from their XLR female inputs and route the audio, along with DC power, to their channel outputs. The channel outputs—equipped with either Phoenix 5-pin male connectors or

EN3 5-pin female connectors (MPS-488HPE only) — can deliver DC power to MM-10XP subwoofers at cable lengths of up to 150 feet with just 1 dB of loss in peak SPL using 18 AWG wire. The use of composite multiconductor cables (such as Belden® 1502) allows a single cable to carry both DC power and balanced audio to the MM-10XPs. Longer cable runs are possible for moderate applications that do not drive the subwoofers to maximum output, or for installations with heavier gauge wires.

The **MM-10AC** model is ideal for fixed installations and portable applications where AC power is readily available to power the unit. The MM-10AC includes an internal power supply and locking powerCon® 20 connectors for AC input and AC loop output (for powering additional MM-10AC subwoofers). The MM-10AC receives audio from an XLR female input, and also includes an XLR male loop output for daisy-chaining audio signals.

The **MM-10ACX** model includes onboard DC power and audio routing for driving a pair of MM-4XP miniature loudspeakers, or a single UP-4XP ultracompact loudspeaker, effectively placing the MM-10ACX at the heart of an extremely capable compact, full-range loudspeaker system. Three XLR female inputs are included for receiving audio independently for the subwoofer and satellite loudspeakers. The two output connectors for the satellite loudspeakers are available with Phoenix 5-Pin male or EN3 5-pin female connectors. In addition, a two-channel signal can be patched to the satellite inputs and summed and routed to the subwoofer with the input select switch.

Other options for all MM-10 models include the MUB-MM10 U-bracket for mounting the subwoofer on ceilings and walls; weather protection, complete with rain hoods, for outdoor, weather-protected use; and custom color finishes for installations and applications with specific cosmetic requirements.

## FEATURES AND BENEFITS

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- Powerful low-frequency response from a very small cabinet
- Low distortion affords exceptionally clean bass
- Adaptable to complement MM-4XP, UP-4XP and UP4-slim loudspeakers
- Versions include external IntelligentDC power supply or built-in AC power for driving satellite loudspeakers

## APPLICATIONS

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- Background music
- Small theaters
- Portable AV systems
- Compact voice reinforcement systems

## ACCESSORIES AND ASSOCIATED PRODUCTS

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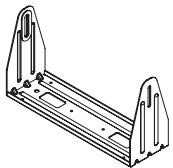
**MUB-M10 U-Bracket:** Enables mounting of the MM-10 on walls and ceilings at adjustable angles. Top and side nut plates for the MM-10 available with 3/8-inch or M10 threads.

**MPS-488HP External Power Supply:** Rack-mount unit that delivers balanced audio and high-current DC power to up to eight loudspeakers; versions available with either Phoenix or EN3 channel output connectors.

**MPS-482HP External Power Supply:** 1RU 1/2 width rack unit that delivers balanced audio and high-current DC power to up to two audio channels; rack mount or use available options to mount on ceiling, wall, pole or truss configurations.

**Galileo GALAXY Network Platform:** The Galileo GALAXY Network Platform provides state-of-the-art audio control technology for loudspeaker systems with multiple zones. With immaculate sonic performance, it provides a powerful tool set for corrective room equalization and creative fine-tuning for a full range of applications.

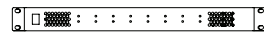
**MDM-832 Distribution Module:** MDM-832 units conveniently power MM-10 systems, routing up to eight channels of AC power, balanced audio and RMS signals to the loudspeakers.



MUB-M10 U-Bracket



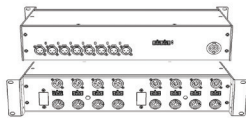
MPS-482HP External Power Supply



MPS-488HP External Power Supply



GALAXY Network Platform



MDM-832 Distribution Module

## SPECIFICATIONS (ALL MODELS)

ACOUSTICAL <sup>1</sup>	
Operating Frequency Range <sup>2</sup>	33 Hz – 228 Hz
Frequency Response <sup>3</sup>	35 Hz – 208 Hz ±4 dB
Phase Response	38 Hz – 138 Hz ±45°
Linear Peak SPL <sup>4</sup>	<b>118.5 dB with crest factor &gt; 11 dB (M-noise)</b> , 117.5 dB (Pink noise), 120.5dB (B-noise)
COVERAGE	
	360°
TRANSDUCERS	
Low Frequency	One 10 inch cone driver with 2-inch voice coil; 4 Ω nominal impedance
AUDIO INPUT	
Type	Differential, electronically balanced
Maximum Common Mode Range	±5 V DC
Input Impedance	10 kΩ electronically balanced
Nominal Input Sensitivity	-2.0 dBV (0.8 V rms) continuous is typically the onset of limiting for noise and music
Input Level	Audio source must be capable of producing +16 dBV (6.3 V rms) into 600 Ω to produce the maximum peak SPL over the operating bandwidth of the loudspeaker.
AMPLIFIER	
Type	Class-D
Total Output Power <sup>5</sup>	440 W peak
THD, IM, TIM	< 0.02%
Cooling	Convection
PHYSICAL	
Dimensions	W: 19 in (483 mm) x H: 11 in (279 mm) x D: 12 in (305 mm)
MM-10XP Weight	26.7 lb (12.11 kg)
MM-10AC Weight	28.2 lb (12.79 kg)
MM-10ACX Weight	30.8 lb (13.97 kg)
Enclosure	Premium multi-ply birch with slightly textured black finish
Protective Grille	Powder-coated, hex-stamped steel with black mesh screen
Rigging	Top and side nut plates available with 3/8-inch or M10 threads. The optional MUB-MM10 U-bracket enables mounting of the MM-10 on walls and ceilings at adjustable angles.

## NOTES

- Loudspeaker system predictions for coverage and SPL are available in Meyer Sound's MAPP System Design Tool.
- Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
- Free field, measure with 1/3-octave frequency resolution at 4 meters.
- Measured in half-space with pink noise at 4 m, 1/3-octave frequency resolution.  
**Linear Peak SPL** is measured in half-space at 4 m referred to 1 m. Loudspeaker SPL compression measured with M-noise at the onset of limiting, 2-hour duration, and 50-degree C ambient temperature is <2 dB.  
**M-noise** is a full bandwidth, (10 Hz–22.5 kHz) test signal developed by Meyer Sound to better measure the loudspeaker's music performance. It has a constant instantaneous peak level in octave bands, a crest factor that increases with frequency, and a full bandwidth Peak to RMS ratio of 18 dB. The presence of a greater-than (>) symbol with regard to crest factor indicates it may be higher depending on EQ and boundary loading.  
**Pink noise** is a full bandwidth test signal with Peak to RMS ratio of 12.5 dB.  
**B-noise** is a Meyer Sound test signal used to ensure measurements reflect system behavior when reproducing the most common input spectrum, and to verify there is still headroom over pink noise. Peak power based on the maximum unclipped peak voltage the amplifier will produce into the nominal load impedance.
- Peak power based on the maximum unclipped voltage the amplifier will produce into the nominal load impedance.

## MM-10XP SPECIFICATIONS

REAR PANEL	
Audio/Power Connector	Phoenix 5-pin male or EN3 5-pin male (two pins for DC power, three pins for balanced audio)
Wiring	Pin 1: DC power negative (-) Pin 2: DC power positive (+) Pin 3: Balanced audio shield, chassis/earth Pin 4: Balanced audio (-) Pin 5: Balanced audio (+)
Input Polarity Switch	Reverses audio input polarity between pins 4 and 5
LED	Displays loudspeaker status
DC POWER	
Safety Agency Rated Operating Range <sup>6</sup>	48 V DC
CURRENT DRAW	
Idle Current	0.16 A rms
Maximum Long-Term Continuous Current (>10 sec)	0.90 A rms
Burst Current (<1 sec)	2.5 A rms
Maximum Instantaneous Peak Current	3.0 A peak
Inrush Current	< 7.0 A peak
Meyer Sound MPS IntelligentDC Power Supply Required	Visit <a href="http://meyersound.com/documents">meyersound.com/documents</a> for specifications

## MM-10AC SPECIFICATIONS

REAR PANEL	
Audio Connector <sup>7</sup>	3-pin XLR female input with XLR male loop output
Wiring	Pin 1: Chassis/earth through 220 k $\Omega$ , 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
Input Polarity Switch	Reverses audio input polarity between pins 2 and 3
AC Power Connector	powerCON 20 input with loop output
LED	Displays loudspeaker status
AC POWER	
Automatic Voltage Selection	90–265 V AC
Safety Rated Voltage Range	100–240 V AC, 50–60 Hz
Turn-on and Turn-off Points	90 V AC turn-on, no turn-off; internal fuse-protection above 265 V AC
CURRENT DRAW <sup>8</sup>	
Idle Current	0.13 A rms (115 V AC); 0.13 A rms (230 V AC); 0.14 A rms (100 V AC)
Maximum Long-Term Continuous Current (>10 sec)	0.40 A rms (115 V AC); 0.25 A rms (230 V AC); 0.46 A rms (100 V AC)
Burst Current (<1 sec)	0.9 A rms (115 V AC); 0.4 A rms (230 V AC); 1.1 A rms (100 V AC)
Maximum Instantaneous Peak Current	2.0 A peak (115 V AC); 1.4 A peak (230 V AC); 2.3 A peak (100 V AC)
Inrush Current	4.0 A peak (115 V AC); 2.4 A peak (230 V AC); 4.0 A peak (100 V AC)

## MM-10ACX SPECIFICATIONS

REAR PANEL	
Audio Connector	3-pin XLR female input
Wiring	Pin 1: Chassis/earth through 220 k $\Omega$ , 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
Input Polarity Switch	Reverses audio input polarity between pins 2 and 3 (subwoofer only)
Input Select Switch <sup>9</sup>	Determines whether the subwoofer receives its source signal from the subwoofer input or satellite inputs (summed)
Gain Knob <sup>10</sup>	Adjusts the subwoofer signal from completely attenuated to +10 dB
AC Power Connector	powerCON 20 input with loop output
Satellite Loudspeaker Connectors <sup>11</sup>	Two XLR female inputs; Two Phoenix 5-pin male or EN3 5-pin female outputs (two pins for DC power, three pins for balanced audio)
LED	Displays loudspeaker status
AC POWER	
Automatic Voltage Selection	90–265 V AC
Safety Rated Voltage Range	100–240 V AC, 50–60 Hz
Turn-on and Turn-off Points	90 V AC turn-on, no turn-off; internal fuse-protection above 265 V AC
CURRENT DRAW (SUBWOOFER ONLY) <sup>12</sup>	
Idle Current	0.21 A rms (115 V AC); 0.20 A rms (230 V AC); 0.23 A rms (100 V AC)
Maximum Long-Term Continuous Current (>10 sec)	0.48 A rms (115 V AC); 0.31 A rms (230 V AC); 0.55 A rms (100 V AC)
Burst Current (<1 sec)	1.1 A rms (115 V AC); 0.6 A rms (230 V AC); 1.3 A rms (100 V AC)
Maximum Instantaneous Peak Current	2.2 A peak (115 V AC); 1.6 A peak (230 V AC); 2.5 A peak (100 V AC)
Inrush Current	6.6 A peak (115 V AC); 3.7 A peak (230 V AC); 7.2 A peak (100 V AC)
CURRENT DRAW (WITH TWO MM-4XP) <sup>13</sup>	
Idle Current	0.32 A rms (115 V AC); 0.26 A rms (230 V AC); 0.36 A rms (100 V AC)
Maximum Long-Term Continuous Current (>10 sec)	0.90 A rms (115 V AC); 0.51 A rms (230 V AC); 1.02 A rms (100 V AC)
Burst Current (<1 sec)	2.5 A rms (115 V AC); 1.3 A rms (230 V AC); 3.0 A rms (100 V AC)
Maximum Instantaneous Peak Current	4.5 A peak (115 V AC); 2.8 A peak (230 V AC); 5.0 A peak (100 V AC)
Inrush Current	7.6 A peak (115 V AC); 4.4 A peak (230 V AC); 8.4 A peak (100 V AC)

## NOTES

6. Tolerates voltage drops up to 30% with long cable runs.
7. Audio loop output only included on the MM-10AC model.
8. Current draw values for a single MM-10AC. AC Loop output not used.
9. Input Select switch only included on the MM-10ACX model.
10. Gain knob only included on the MM-10ACX model.
11. Satellite loudspeaker connectors only included on the MM-10ACX model.
12. Current draw values for one MM-10ACX with no satellite loudspeakers connected. AC Loop output not used.
13. Current draw values for one MM-10ACX with two MM-4XP satellite loudspeakers connected. AC Loop output not used.

## ARCHITECTURAL SPECIFICATIONS (ALL MM-10 MODELS)

The loudspeaker shall be a self-powered, sub-bass system with one 10-inch cone driver (with a 2-inch voice coil) rated to handle 400 watts. The loudspeaker shall incorporate internal processing electronics and a single-channel class D amplifier.

Processing functions shall include equalization, phase correction, signal division, and driver protection. Amplifier output power shall be 220 W (440 W peak). Distortion (THD, IM, TIM) shall not exceed 0.02%.

Performance specifications for a typical production unit shall be as follows, measured at 1/3-octave resolution: operating frequency range, 33–228 Hz;

phase response, 38–138 Hz  $\pm 45^\circ$ ; linear peak SPL, 118.5 dB with > 11 dB crest factor, measured with M-noise, half-space at 4 meters and referred to 1 meter. Coverage shall be 360 degrees.

Loudspeaker components shall be mounted in a cabinet constructed of premium multi-ply birch with a slightly textured black finish. Its front protective grille shall be powder coated, hex-stamped steel with black mesh screen.

The loudspeakers shall be the Meyer Sound MM-10XP, MM-10AC, or MM-10ACX.

## ARCHITECTURAL SPECIFICATIONS (MM-10XP)

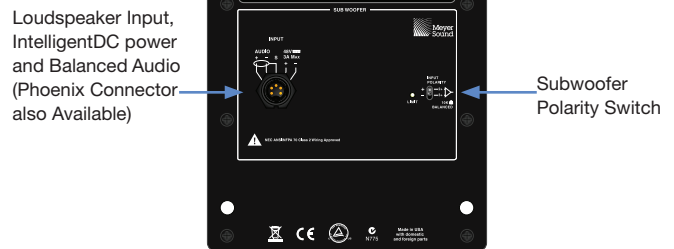
The loudspeaker shall be equipped with either a Phoenix 5-pin male or EN3 5-pin male connector (three pins for balanced audio and two pins for DC power). The audio input shall be electronically balanced with a 10 k $\Omega$  impedance and accept a nominal –2.0 dBV (0.8 V rms, 1.1 V peak) input signal.

Power requirements for the loudspeaker shall be an external Meyer Sound MPS IntelligentDC power supply capable of delivering 48 V DC. Current draw during burst (< 1 sec) shall be 2.5 A rms at 48 V DC; current inrush during turn-on shall not exceed 7.0 A peak at 48 V DC.

Dimensions shall be W: 19 in (483 mm) x H: 11 in (279 mm) x D: 12 in (305 mm). Weight shall be 26.7 lbs (12.11 kg).

The loudspeaker shall be the Meyer Sound MM-10XP.

MM-10XP Rear Panel, EN3 Connector



## ARCHITECTURAL SPECIFICATIONS (MM-10AC)

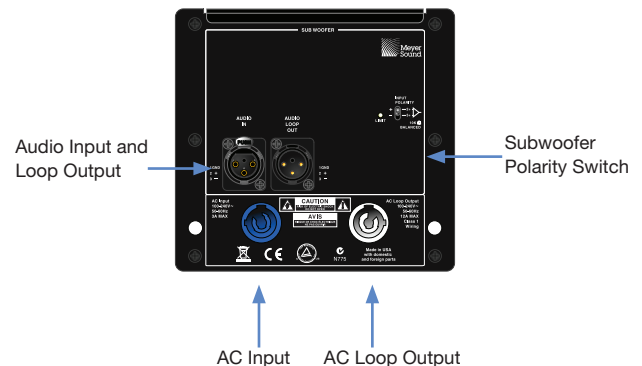
The audio input shall be electronically balanced with a 10 k $\Omega$  impedance and accept a nominal –2.0 dBV (0.8 V rms, 1.1 V peak) input signal. Connectors shall be XLR female for input and XLR male for loop output.

Power requirements shall be nominal 100 V, 115 V, or 230 V AC line current at 50–60 Hz. UL and CE operating voltage ranges shall be 100 to 240 V AC. AC power connectors shall be powerCon 20 with looping output. Current draw during burst (< 1 sec) shall be 0.9 A rms at 115 V, 0.4 A rms at 230 V AC, and 1.1 A peak at 100 V AC; current inrush during turn-on shall not exceed 4.0 A rms at 115 V AC, 2.4 A rms at 230 V AC, and 4.0 A peak at 100 V AC.

Dimensions shall be W: 19 in (483 mm) x H: 11 in (279 mm) x D: 12 in (305 mm). Weight shall be 28.2 lbs (12.79 kg).

The loudspeaker shall be the Meyer Sound MM-10AC.

MM-10AC Rear Panel



## ARCHITECTURAL SPECIFICATIONS (MM-10ACX)

The audio input shall be electronically balanced with a 10 k $\Omega$  impedance and accept a nominal –2.0 dBV (0.8 V rms, 1.1 V peak) input signal. Three 3-pin XLR female input connectors shall be provided, one for the subwoofer and two for satellite loudspeakers. Two output connectors shall be provided for routing balanced audio and 48 V of DC power to the satellite loudspeakers.

Satellite output connectors shall be either Phoenix 5-pin male or EN3 5-pin female (three pins for balanced audio, two pins for DC power). An input select switch shall determine whether the subwoofer receives its source from the subwoofer input or from the satellite inputs (summed). The subwoofer output shall be adjusted with a gain control.

Power requirements shall be nominal 100 V, 115 V, or 230 V AC line current at 50–60 Hz. UL and CE operating voltage range shall be 100 to 240 V AC. AC power connectors shall be powerCon 20 with looping output. Current draw during burst (< 1 sec) shall be 1.1 A rms at 115 V, 0.6 A rms at 230 V AC, and 1.3 A peak at 100 V AC; current inrush during turn-on shall not exceed 6.6 A rms at 115 V AC, 3.7 A rms at 230 V AC, and 7.2 A peak at 100 V AC.

Dimensions shall be W: 19 in (483 mm) x H: 11 in (279 mm) x D: 12 in (305 mm). Weight shall be 30.8 lbs (13.97 kg).

The loudspeaker shall be the Meyer Sound MM-10ACX.

MM-10ACX Rear Panel, Phoenix Connectors

