



The Meyer Sound MSL-2A is a high-powered, wide coverage loudspeaker for professional sound reinforcement applications. Specifically designed for touring reinforcement, the accurate, rugged MSL-2A is a biamplified system consisting of a proprietary 15-inch low-frequency driver in a vented enclosure, and a 70-degree high-frequency horn with a 2-inch (throat diameter) driver.

The MSL-2A is designed to be operated as a system with the Meyer Sound S-1 Control Electronics Unit (one S-1 per channel). The S-1 comprises electronic crossover, Meyer Sound exclusive MultiSense™ driver protection circuitry with excursion protection, and amplitude and phase response alignment circuitry optimized for the loudspeaker.

Amplifier
Requirements

The MSL-2A requires a professional quality two-channel power amplifier rated at least 300 watts per channel (and not exceeding 600 watts per channel) continuous into 8 ohms. (If two MSL-2As are to be operated in parallel from the amplifier, it should be capable of driving 4 ohms.) Use of amplifiers of lower power will not allow the full power and head-

room of the MSL-2A to be realized (though this may be acceptable in applications where high pressure levels are not required.) Conversely, use of amplifiers rated at significantly more than 600 watts per channel may endanger the loudspeaker, and **is not recommended**.

Connections

The MSL-2A is a biamplified system and **must** be used with the **S-1 Control Electronics Unit**. The S-1 functions as an active crossover, dividing the input signal into high and low frequency components.

The connection terminals of the low and high frequency drivers appear on a single Cannon P-type 4-pin connector located on the rear of the MSL-2A cabinet.

The pin assignments for this connector are:

- Pin 1 — 15-inch driver, hot
 - Pin 2 — 15-inch driver, common
 - Pin 3 — horn driver, common
 - Pin 4 — horn driver, hot
- (When the cabinet is fitted with a Cannon EP-5 connector, Pin 5 is unconnected)

The minimum wire size for connections between the MSL-2A and the power amplifier is 14 gauge.

Note. If you are using standard Meyer Sound Loudspeaker cables and adapters, simply connect the female end of the loudspeaker cable to the MSL-2A, the male end of the cable to the Meyer Sound pigtail adapter, and the banana connectors of the adapter to your amplifier outputs. In making connections between the MSL-2A and the amplifier, be sure to connect the 15-inch driver to the **Lo** channel, and the horn driver to the **Hi** channel. The adapter banana plugs are color-coded as follows:

- Red** — Low frequency driver
- Black** — High frequency driver

For connections between the S-1 and the power amplifier, refer to the **S-1 Operating Instructions**.

Verifying System
Polarity

All Meyer Sound loudspeakers are thoroughly tested in all stages of manufacture and correct polarity of individual cabinets is assured. However, accidental polarity reversal is possible when there are multiple amplifier connections. A cabinet which is 180 degrees out of phase with the rest of the system will cause severe cancellation, resulting in a noticeable decrease in SPL and possible component damage.

The "phase-popper" type of polarity checkers cannot reliably be used to test for correct polarity of the low and high drivers of the MSL-2A. However, because the MSL-2A is phase-corrected through crossover, any of the portable 1st/₃rd octave spectrum analyzers can be used, with a pink noise source, to test for driver polarity as follows:

1. Single Cabinets. First, verify polarity of the woofer by connecting a 9 volt battery at the end of the loudspeaker cable.

Cannon connector

- Pin 1
- Pin 2

Battery

- + terminal
- terminal

- The woofer cone should move outward toward the listener. Connect the speaker cable to the amplifier.
- Input the pink noise source to the S-1 and advance the S-1 input **Level** control to a convenient measuring level.
- Standing in front of the loudspeaker, position the analyzer microphone directly between the horn and the 15-inch driver, at right angles to the cabinet face, and about twenty inches in front of the MSL-2A.
- If polarity of the horn driver is reversed, a trough will appear in the response curve, centered around 900 Hz. If in doubt, reverse the polarity of the **Hi** amplifier output while you watch the display.

2. Multiple Cabinets. Each cabinet should first be tested as above.

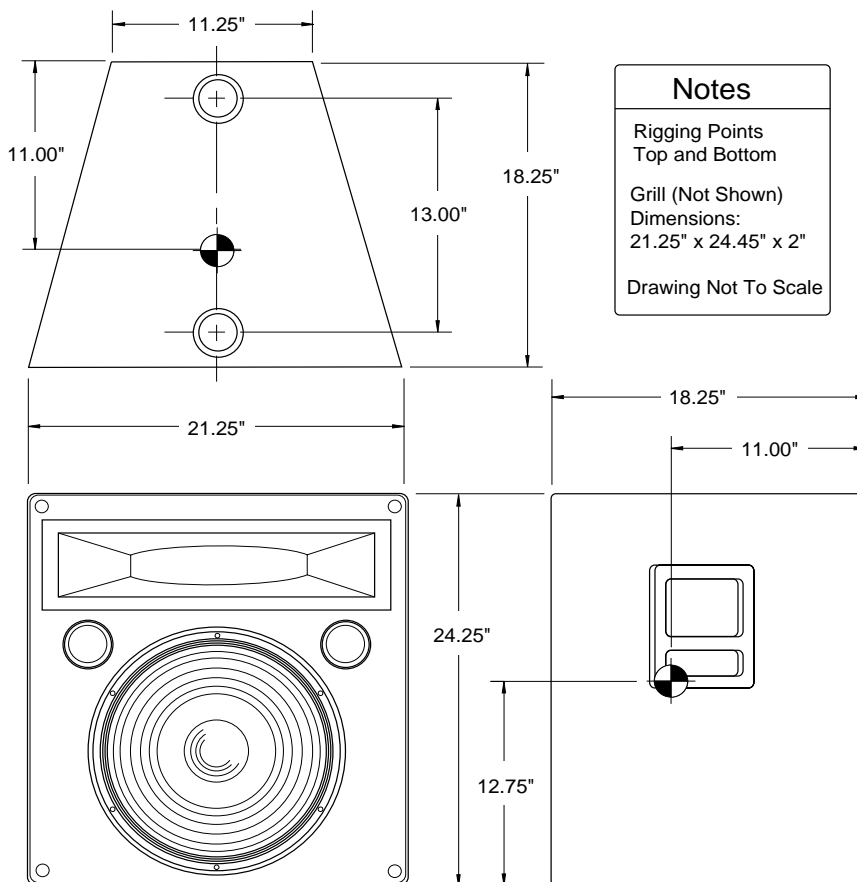
- Connect **one** loudspeaker and advance the pink noise to a convenient level. Position the measuring microphone between the two adjacent loudspeakers, and about six feet distant. Note the frequency response and overall level.

- With the first loudspeaker connected, connect the adjacent one and observe the analyzer. The entire curve should jump up in level, indicating addition between the loudspeakers. Polarity reversal between the cabinets will cause severe broadband cancellation. As the cabinets are moved apart, cancellation becomes less severe at high frequencies. For this reason, polarity should be tested with cabinets adjacent.

Rigging

The MSL-2A loudspeaker has four steel rigging brackets internally mounted as an integral part of the cabinet design and the cabinet is supplied with either aircraft pan fittings (ring and stud) or $\frac{3}{8}$ "-16 nut plates, according to user preference. A flat plate is supplied when no rigging hardware is specified. All three plate types are held in place by six Phillips-head machine screws and can be interchanged at any time. The handles on the MSL-2A cabinet are provided for moving and carrying the loudspeaker and are **not** to be used for rigging purposes.

The rigging hardware is designed so that a single point can support the normal load for the cabinet. In the case of the MSL-2A, the recommended maximum load is 420 lbs. (190 kg). Any of the individual rigging points are capable of supporting this load with an adequate safety margin. However, Meyer Sound strongly recommends that safety lines be run to the other points. If the structural integrity of any cabinet has been compromised by damage or negligence, then the safety of the rigging cannot be assured. **All rigging should be done by competent professionals.**



Acoustical - MSL-2A/S-1 System

Frequency response ¹	40-18k Hz \pm 4 dB
Maximum SPL ²	
Continuous	130 dB
Peak	139 dB
Maximum Peak (Music Signal)	144 dB
HF Distribution Pattern	
Horizontal	70 degrees
Vertical	60 degrees

MSL-2A Loudspeaker

Driver Complement	
Low Frequency Driver	MS-15
High Frequency Driver	MS 2001A
High Frequency Horn	70 degree modified radial
HF DC Protection	20 μ F Polypropylene capacitor
Enclosure	2.3 cu. ft. vented, multi-ply Finnish birch plywood Black textured
Finish	21 1/4" W x 24 1/4" H x 18 1/4" D
Physical Dimensions	82 lbs (37 kg)
Weight	
Protective Grill	Hex perforated metal, powder coated, charcoal-grey foam covering
Connector	Cannon EP-4 (male) EP-5 (male, Europe only)
Rigging	Aircraft pan fittings or 3/8"-16 nut plate

Note 1.

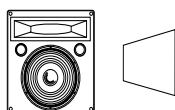
Measured 1 meter on-axis to high horn, half-space conditions, pink noise input, in 1/3 octave bands.

Note 2.

Loudspeaker driven with "A" weighted noise (peak-to-RMS ratio 312 dB), with amplifier rated at 600 W/channel at 8 ohms.

Note 3.

Coverage angle is the -6 dB average. All measurements made at 24 inches and confirmed at 6 feet (on-axis except where noted) using pink noise source and measured in 1/3 octave bands. Frequency response 40 Hz-18 kHz, half-space conditions.



Coverage Angle ³

Vertical	60 degrees
Horizontal	70 degrees

Maximum SPL @ 1meter

Continuous	130 dB
Peak	139 dB

Total Amplifier Power 600w



Narrow Horizontal Coverage Array

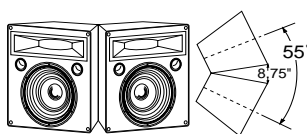
Coverage Angle ³

Vertical	60 degrees
Horizontal	95 degrees

Maximum SPL @ 1meter

Continuous	136 dB
Peak	145 dB

Total Amplifier Power 1200w



Optimal Horizontal Coverage Array

Coverage Angle ³

Vertical	60 degrees
Horizontal	120 degrees

Maximum SPL @ 1meter

Continuous	134 dB
Peak	143 dB

Total Amplifier Power 1200w