MPS-355 Reinforcement Loudspeaker

Operating Instructions

The Meyer Sound MPS-355 is an ultra compact, high-powered loudspeaker designed for sound reinforcement applications where minimum loudspeaker size is desired. The system consists of two 5-inch low frequency cone drivers in a vented enclosure with a 2" x 5" high-frequency piezoelectric horn driver. The enclosure contains a 3-way passive crossover and is fitted with ⅜"-16 threaded mounting points at each end. An optional steel mounting bracket is available.

The MPS-355 is designed to operate as a system with the Meyer Sound P-1A or MPS-3 Control Electronics Unit. The P-1A and MPS-3 contain frequency response alignment circuitry optimized for the MPS-355, and Meyer Sound exclusive SpeakerSense™ driver protection circuitry, incorporating both peak and RMS signal limiting.

Meyer Sound

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Amplifier Requirements

The MPS-355 requires a professional quality amplifier rated at least 125 watts per channel continuously into 16 ohms. Use of amplifiers of lower power will not allow the full power and headroom of the MPS-355 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 125 watts into 16 ohms may endanger the loudspeaker, and **is not recommended**.

Connections

The connection terminals appear on two XLR-type connectors (one male, one female) or Neutrik SpeakOn™ NL4MP connectors located on the rear of the MPS-355 cabinet.

The pin configuration for the XLR connectors has been chosen so that microphone cable (two conductor and shield) can be used for short speaker runs. The connection within the cabinet is a loop-through parallel connection, and the pin assignments are:

Pin 1 common
Pin 2 hot
Pin 3 hot (in parallel with pin 2)

The pin assignments for the Neutrik SpeakOn connectors follow the Neutrik standard, as follows:

Pin 1+ hot	Pin 2+ No Connection
Pin 1- common	Pin 2- No Connection

For runs of less than 100' to a single MPS-355 the minimum recommended wire size is 18 gauge. For parallel connections, use the loop-through connections at the MPS-355's and use a larger gauge cable to the amplifier. Four MPS-355's can be run on a single amplifier channel, provided that the amplifier can drive a four ohm load.

The MPS-355 **must** be used with the **P-1A** or **MPS-3 Control Electronics Unit.** For connections between the CEU and the power amplifier, refer to its **Operating Instructions**.

Verifying System Polarity

The polarity of the MPS-355 loudspeaker is checked at the factory before shipment, so polarity within the individual cabinet need only be checked if replacement of a part becomes necessary. The colored speaker wires attached to the drivers should be connected to the corresponding terminals as designated by the silkscreen on the network board. A polarity reversal between the 5" drivers will result in severe cancellation at 250 Hz and a polarity reversal between the mid-frequency 5" driver and the tweeter will show up as a cancellation at 3600 Hz. Either of these conditions will be very noticeable in frequency response testing or A/B comparisons with other MPS-355's.

The "phase-popper" type of speaker polarity checker cannot reliably be used to test for correct polarity of multiple MPS-355 cabinets. However, many of the portable spectrum analyzers can be used, with a pink noise source, to test system polarity as follows:

- Connect one loudspeaker in the array and advance the pink noise to a convenient measuring level. Position the measuring microphone on the axis between the first loudspeaker and the cabinet adjacent to it, and about 6 feet distant. Note the frequency response and overall level.
- Leaving the first loudspeaker connected, connect the adjacent one and observe the analyzer display. The entire curve should jump up in level, indicating correct addition between the loudspeakers. A polarity reversal between the two loudspeakers will show up as a severe low-frequency cancellation.
- Similarly, connect the rest of the cabinets in the array one by one, looking for correct addition as each loudspeaker is connected. (It will be necessary to reposition the microphone.)

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Placement and Arraying

The MPS-355 is designed primarily as a supplementary loudspeaker to provide subtle reinforcement in situations where the coverage of the main loudspeaker system is compromised, such as under balconies in theaters or cabarets. When correctly installed with appropriate delay, the system can add presence and fidelity to the sound quality without diverting attention from the main source.

The MPS-355 is suitable for use as a conference-room sound system for voice reinforcement and music playback, and its compact size and high power output capability makes it appropriate for situations in which a high-output main system is undesirable, such as in houses of worship. Further applications include surround channels in cinema systems, and multi-media room main speakers.

The MPS-355 features even coverage in both the horizontal and the vertical axis, with high-frequency coverage of 80° horizontal by 60° vertical. To increase the coverage angle in under-balcony situations, place two MPS-355's end-to-end, with the tweeters apart. You may separate the angle between the cabinets to a maximum of 40° to increase the effective coverage angle to 120°. For upright (side-by-side) installation, keep the separation angle between the two cabinets to at least 20° and not more than 45°. Always keep the rear corners of adjacent cabinets touching, where possible.

When the MPS-355 is placed in a corner (¼ or ⅛ space loading), the bass response of the system is extended by up to an octave. If this additional response is not required, engage the **Lo Cut** switch of the P-1A or MPS-3 to insert a 160 Hz high-pass filter.

Note: The cabinet is shipped with $\frac{3}{8}$"–16 inserts in the three mounting points to prevent whistling at low frequencies. These inserts should be left in whenever the rigging points are not used for mounting.

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Specifications

Acoustical - MPS-355/MPS-3 or P-1A System

Frequency Response[1]	
Free Air	70-20,000 Hz +/- 4dB
Half Space	60-20,000 Hz +/- 4dB
Maximum SPL[2]	
Continuous	108 dB
Peak	118 dB
HF Coverage Pattern	
Horizontal	80 degrees
Vertical	60 degrees

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Driver Complement	
Low Frequency Driver	2 x MS-5 cone drivers, water resistant
High Frequency Driver	2" by 5" horn-loaded piezoelectric tweeter
Passive Network	
Function	3-way crossover and HF driver protection
Enclosure	0.3 cu. ft. vented
Finish	Black textured
Physical Dimensions	6 ¾" W x 18" H x 7" D
Weight	13 lbs (6 kg)
Protective Grill	Hex punched metal screen
Connector	XLR (male and female) or Neutrik SpeakOn™ NL4MP
Mounting Points	⅜"–16 nut plate

Note 1:
Measured 1 meter on axis, pink noise input, smoothed to one-third octave. Low frequency response dependent on load conditions.

Note 2:
Loudspeaker driven by 125 watt (16 ohm rating) mono amplifier with pink noise.

Meyer Sound Part Number 05.013.002.01 A

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