



### For Installations Requiring

- Clear voice announcements
- Full-range music reproduction
- High sound pressure levels

### Description

The Model Q-12A omnidirectional loudspeaker provides a more powerful sound system where clear voice announcements and high-fidelity foreground music are required at high sound pressure levels.

Broad dispersion of all frequencies is achieved with a 12" true coaxial driver where LF and HF share a common magnetic circuit and proprietary dispersion technologies. Along with a hemispherical coverage pattern that covers a large area with fewer speakers, the Q-12A utilizes our exclusive patent-pending Poly-Exponential Incidence Reflector. It comes fully assembled and ready to mount using our hanging kit or mounting bracket.

The Q-12A is available in a weatherproof configuration (Q-12AWR) for outdoor use, featuring a protective screen over the holes and driver to prevent birds from nesting in the speaker.

### Features

- Hemispherical coverage pattern.
- Accurate, full-range voice announcements.
- Enhanced high-fidelity music reproduction.
- High sensitivity (94 dB 1 W / 1 M).
- High SPL capability (118 dB @ 1 M).
- Exclusive patent-pending Poly-Exponential Incidence Reflector.
- Hanging or surface-mount.
- Standard white (paintable) available

### Q-12A PRODUCT SPECIFICATIONS

System Type	12" (305 mm) true coaxial
Impedance (Nominal) <sup>1</sup>	8 Ω
Sensitivity dB @ 2.83 V / 1 M	97 dB
Sensitivity dB @ 1 W / 1 M <sup>2</sup>	94 dB
Frequency Response (±3 dB) <sup>3</sup>	120 Hz - 13 kHz
Frequency Response (±10 dB) <sup>3</sup>	65 Hz - 15 kHz
Max. Continuous Peak Power <sup>4</sup>	500 W
Max. Continuous Power RMS <sup>5</sup>	250 W
Max. Power SPL @ 1 M <sup>6</sup>	118 dB
Coverage Angle (±6 dB @ 2 kHz)	95°
Coverage Angle (±6 dB @ 10 kHz)	125°
Coverage Angle (Avg. 500 Hz - 10 kHz)	155°
Transformer	Optional 250 W
Transducer: Low-Frequency Driver	12" (305 mm) treated pulp fiber
Transducer: High-Frequency Driver	2.8" (72 mm) titanium compression driver
Low-Frequency Voice Coil	3"   76 mm
Crossover Frequency	1500 Hz
Network Type: Low Pass	Second order
Network Type: High Pass	Second order
Enclosure & Reflector Material	Fiberglass with gelcoat finish and rust-resistant hardware
Inputs	Hardwire leads
Colors	White (paintable) and black
Height	25"   635 mm
Diameter	Sphere: 22" (560 mm)   Reflector: 26" (660 mm)
Weight	39 lbs   17.6 kg
Shipping Weight	48 lbs   21.8 kg
Packaging	One per box
Optional Accessories	250 W Line Matching Transformer (TX250), Hanging Kit (HKL), Mounting Bracket (MBL), Universal Beam Clamp (BCL), Large Screen (SL), Large Screen with Weather Filter (SWFL)
Certifications	CE, RoHS

<sup>1</sup> Impedance listed per IEC 60268-5 with a minimum less than 80% the nominal impedance

<sup>2</sup> 1 W / 1 M sensitivity determined using nominal impedance

<sup>3</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>4</sup> Max program power is 3 dB above max continuous power

<sup>5</sup> Continuous power rating, EIA-426-B test

<sup>6</sup> Max output based on max continuous power

## Applications

Providing high-power, high-fidelity foreground music and voice, the Q-12A loudspeaker is ideal for applications such as gymnasiums, ice rinks, arenas, churches, swimming pools, transportation terminals, factories, open public areas, bars/nightclubs and anywhere that clear voice announcements and high-fidelity foreground music are required at high sound pressure levels.

## Patented Technologies

Soundsphere and the MSE Audio Group constantly develop new technologies which enhance audio product performance. Soundsphere innovations are protected by multiple U.S. and international patents, which explicitly cover Soundsphere's enclosure and dispersion technologies. The MSE Audio Group actively defends its patents in order to protect Soundsphere resellers and end-users.

## Technical Data and Specification Tools

Soundsphere strives to provide complete and effective technical information and data to dealers, engineers and designers. All data is available from Soundsphere or at [www.soundsphere.com](http://www.soundsphere.com).

Technical data and downloads include:

- EASE™ data - 3-D polar plots
- EASE™ Address - 2-D modeling for distributed systems
- Tech Sheets - technical information and architectural specs for system engineers
- Distributed System Quick Planning Guide - online configuration tool and step-by-step guide are available to assist in the design of effective public area distributed sound systems using Soundsphere omnidirectional loudspeakers

## Independent Data Acquisition and Verification

All data for Soundsphere loudspeakers is independently collected from and verified by NWA Labs ([www.nwaalabs.com](http://www.nwaalabs.com)) using their proprietary MACH testing system. All data is collected and analyzed according to ASTM, ISO and AES standards using EASERA, TEF and MLSSA. Full balloon data including both phase and magnitude is compiled into a variety of formats including EASE 4.x, GLL and CLF.

## Architectural Specifications

The loudspeaker driver shall consist of one 12" (304.8 mm) treated pulp fiber woofer with a 2.8" (72 mm) titanium compression driver sharing a common magnetic circuit.

Performance specifications of a typical production unit shall be as follows: Usable frequency response shall extend from 65 Hz - 15 kHz. The vertical polar coverage shall be 155° ±6 dB. Measured sensitivity (1 W / 1 M) shall be at least 94 dB. The speaker shall have a rated impedance of 4 Ω. The speaker shall be available for 70 and 100 V modes and shall include 4 power tap selection leads for use with electrical wire nuts or crimp caps. Rated power capacity shall be at least 250 W continuous RMS and conform to EIA-426-B testing. Calculated maximum continuous output at 1 M and shall be 1138 dB.

The complete loudspeaker shall be no more than 25" (635 mm) in height. The driver shall be mounted in a spherical enclosure made of fiberglass with gelcoat finish that is no more than 22" (558.8 mm) in diameter. The reflector shall be no more than 26" (660 mm) in diameter. The complete loudspeaker shall weigh no more than 39 lbs (17.6 kg). Hardware shall be rust and corrosion-resistant, constructed of stainless steel, plated steel, or aluminum.

Optional accessories shall include: a 250 W Line Matching Transformer (TX250) with taps for 70 and 100 V constant voltage systems; a Mounting Bracket (MBL) to mount flat against a ceiling surface; a three-element Hanging Kit (HKL) for single-point suspension; a 24" Hanging Kit Extension (HKEXT); a Universal Beam Clamp (BCL); a Large Screen (SL) to protect the speaker from foreign objects; and a Large Screen with Weather Filter (SWFL) that additionally offers a water protection barrier.

The system Shall be the Soundsphere Model Q-12A for wide-range, wide-coverage sound dispersion at high sound pressure levels.

## Warranty

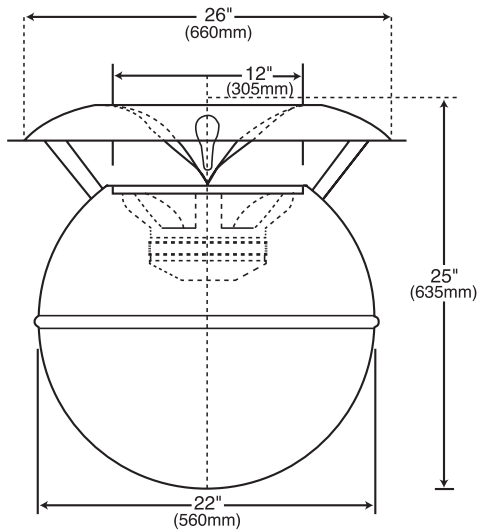
Soundsphere loudspeakers are warranted against failure or malfunction due to defects in materials or workmanship for a period of five years from date of original purchase. Speaker electronics are warranted for three years. Defective units will be repaired or replaced at our option if delivered prepaid to our factory. Repaired or replaced units will be returned at our expense. Warranty does not cover appearance or damage caused by abuse, misuse, neglect, accident, or exceeding maximum rated power. Warranty does not cover labor costs involved in removing and/or reinstalling the defective unit, nor any liability due to accidents caused by improper installation. Warranty is extended to original purchaser and is not transferable.

## Soundsphere®

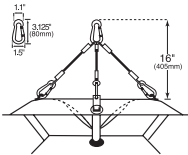
13720 W. 109th St.  
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## Mechanical Drawings

Side

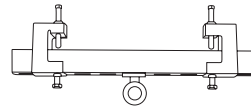


## Accessories



### Hanging Kit (HKL)

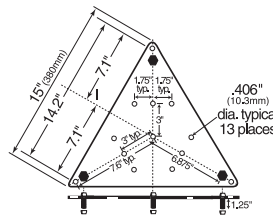
Three way cable for single-point suspension.



### Universal Beam Clamp (BCL)

### Line Matching Transformer (TX250)

The Model TX250 is a 250 W line matching transformer for the Model Q-12A with taps for 70 and 100 V constant voltage systems. The TX250 is designed for factory or field mounting in the Q-12A reflector. Connection to system wiring is via 6" color-coded flying leads. Available taps - 70 V: 250, 125, 62.5, and 31.25 W | 100 V: 250, 125, and 62.5 W.



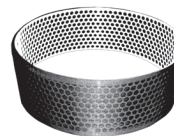
### Mounting Bracket (MBL)

For mounting speaker on a flat surface.



### Medium Screen (SM)

Protects speaker driver from foreign objects.

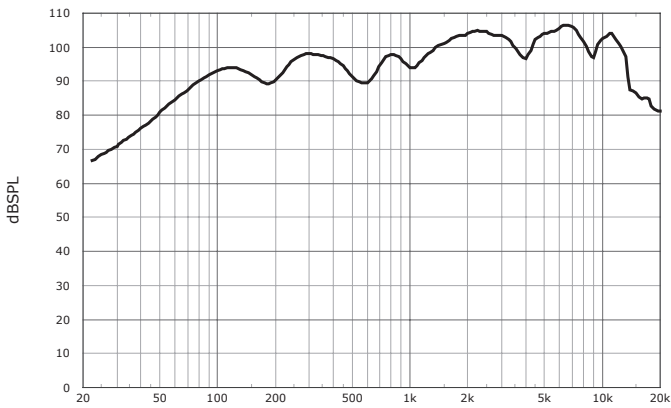


### Medium Screen with Weather Filter (SWFM)

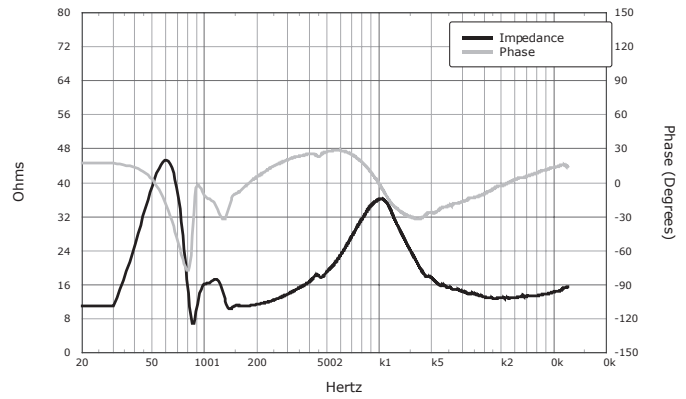
Protects from foreign objects, plus a water protection barrier.

## Graphs

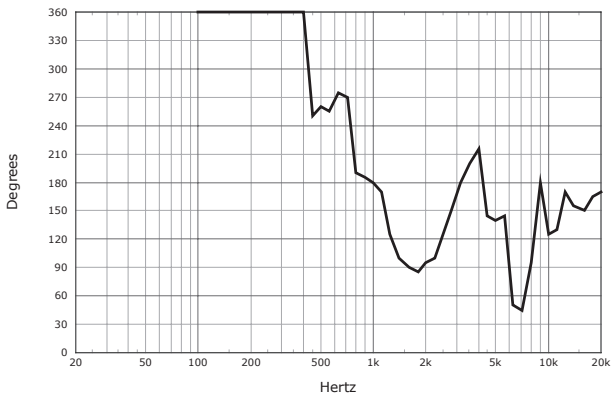
Hemispherical Frequency Response



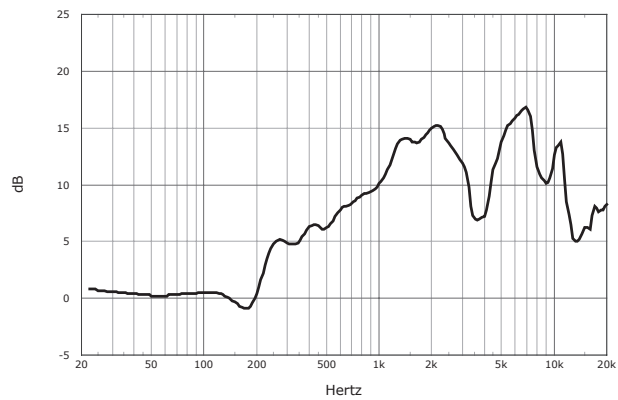
Phase/Impedance Response



Vertical Beamwidth ( $\pm 6$  dB)

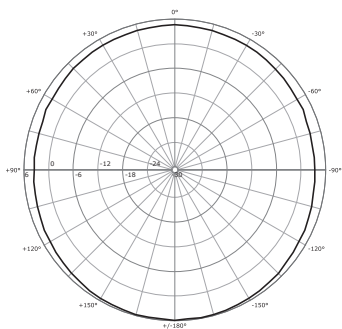


Directivity Index (DI)

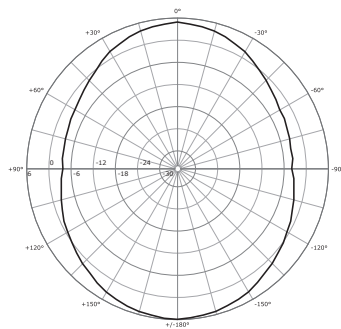


## Plots ( $\pm 6$ dB)

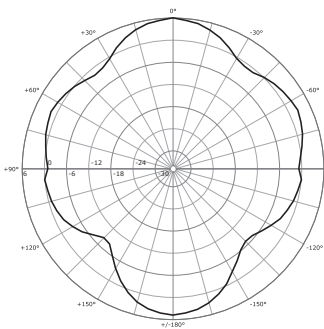
125 Hz



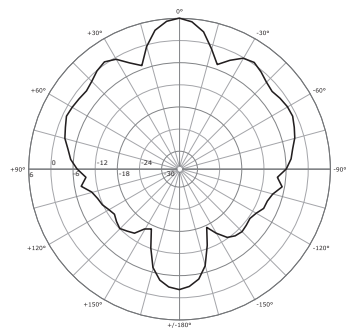
250 Hz



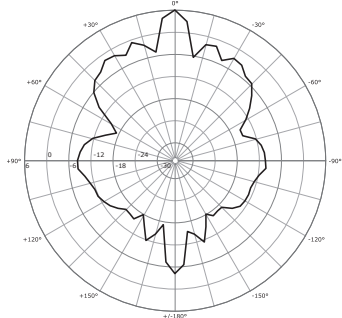
500 Hz



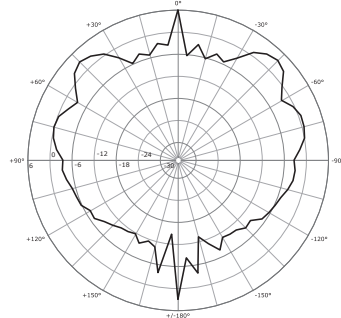
1,000 Hz



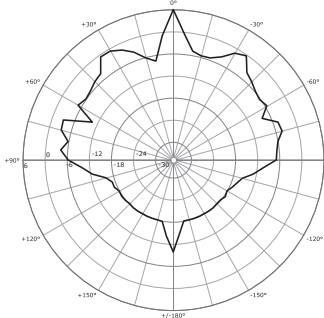
2,000 Hz



4,000 Hz



8,000 Hz



10,000 Hz

