



**AH Series 3-Way
Loudspeaker Systems**



1601 Jack McKay Blvd. • Ennis, Texas 75119 U.S.A.
Telephone: 800.876.3333 • Fax: 800.765.3435



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Safety Instructions

Please Read Carefully Before Installing or Operating

- Read all instructions carefully
- Heed all warnings
- Assure that the speaker is securely mounted

Hearing Damage

CAUTION: All professional loudspeaker systems are capable of generating very high sound pressure levels. Use care with placement and operation to avoid exposure to excessive levels that can cause permanent hearing damage.

Suspension & Mounting

Suspension or “flying” speaker systems requires training and expertise. Improper rigging of a flying speaker may result in injury, death, equipment damage, and legal liability. Installation must be carried out by fully qualified installers, in accordance with all required safety codes and standards at the place of installation.

A 5:1 design factor is a generally accepted minimum standard. However, legal requirements for overhead suspension vary by municipality, please consult your local safety standards office before installing any product. We also recommend that you thoroughly check any laws and bylaws prior to installation.

Loudspeakers flown in theaters, nightclubs, conference centers, or other places of work and entertainment must be provided with an independent, correctly rated and securely attached secondary safety, in addition to the principle suspension point(s).

This secondary safety must prevent the loudspeaker from dropping more than (6") should the principle suspension device fail. If you lack the skills, training, and proper ancillary equipment to fly a speaker system, do not attempt to do so.

For additional information regarding the suspension of loudspeakers or to purchase rigging materials, please contact our friends at Adaptive Technologies Group, 1635 E. Burnett St. Signal Hills, CA 90755.

www.adapttechgroup.com

Telephone (562) 424-1100 and Fax (562) 424-3520

- Always assure power is Off to amplifiers before making any connections
- Assure that all electrical equipment is properly grounded
- Keep instructions for future reference
- Should any questions arise after reading this document, please call Atlas Sound Tech Support at 800-876-3333



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AH Series 3-Way Loudspeaker Systems

Thank you for your purchase of an Atlas Sound AH Series 3-Way loudspeaker system. We have designed this product to be a reliable and versatile solution to your needs for years to come.

All models in the series feature high output, outstanding pattern control and amazing low frequency response for indoor and outdoor applications including football stadiums, sports arenas, baseball fields, and large auditoriums.

The AH 3-Way Series models are offered in a variety of coverage patterns to ensure that almost any area needing sound reinforcement may be accommodated.

The AH 3-Way Series models incorporate a low frequency section comprised of 2 high power 12" woofers, combined with midrange compression driver, and high frequency compression driver. A highly efficient internal passive crossover network insures proper transition between the drivers.

Features

- 3-Way Design
- Bi-Amp Capability with HF/MF and LF Separation Allows for Greater System Control
- 1" Exit High Frequency Compression Driver
- 1.5" Exit Midrange Compression Driver
- Dual 12" Cast Frame Woofers
- 750 Watts RMS Power Handling (Full Range)
- Weather Resistant Connection Via a Convenient Recessed Terminal Block Located on the Bottom of the Loudspeaker
- 8 Ω Nominal Impedance
- Seven, 10mm Internally Reinforced Forged Eyebolts Included for Suspended Installation

Applications

Atlas Sound model AH Series 3-Way stadium horns are ideal for directional sound distribution where full range reproduction, maximum intelligibility, and high sound pressure levels are required.

- Football Stadiums
- Sports Arenas
- Baseball Fields
- Convention Centers
- Auditoriums



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Installation

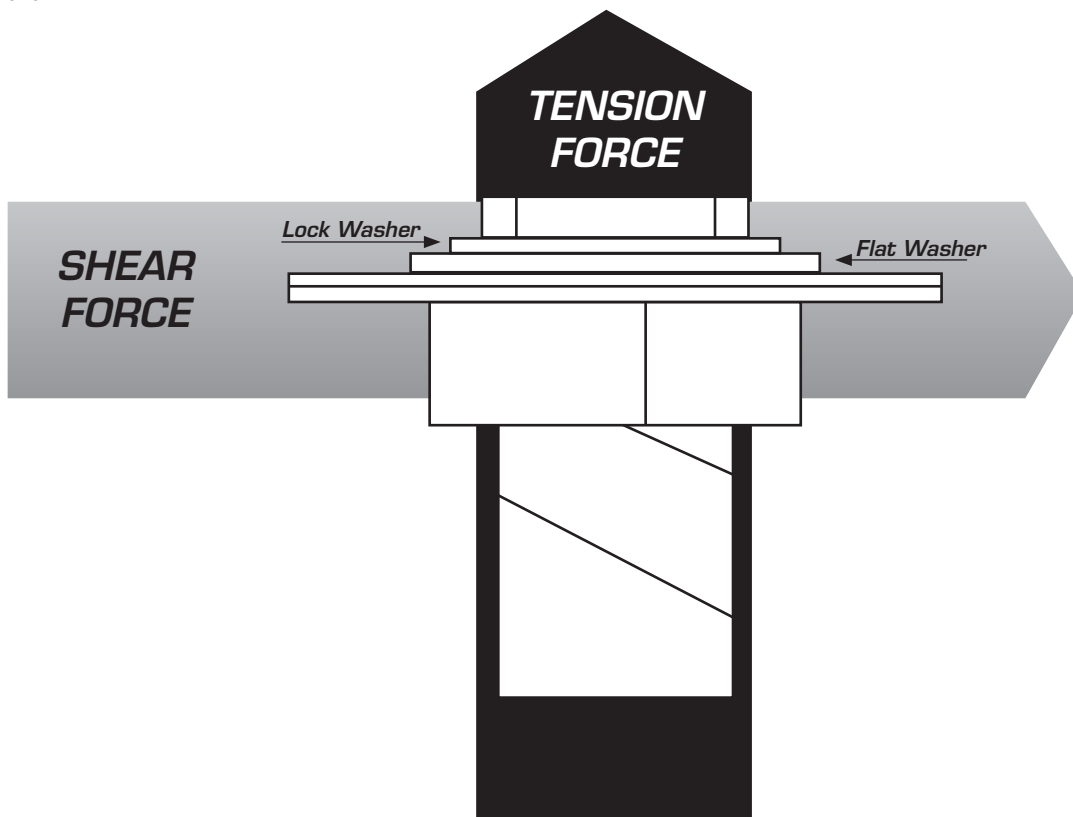
General considerations and hardware recommendations

CAUTION: AH series models weigh as much as 200 pounds (91kg). A fall from almost any height could result in serious injury or death. Assure that the speaker is firmly mounted to an object that can handle the weight of the AH speaker. Remember that wind will add considerable torque to the point of attachment. The mounting surface the AH speaker is being attached to should be able to handle five or more times the weight of the AH speaker (7x recommended for locations subject to high wind forces).

Whenever the loudspeaker is mounted to a surface, the installer must ensure that the surface is capable of safely and securely supporting the load. The hardware employed must be safely and securely attached both to the loudspeaker and the surface in question. A general rule for soft surface installations (wood beams) is to multiply the corresponding working load limit by 75%, the result will be an approximate working load strength.

Use thread locking compound for all installations.

CAUTION: Mount the speaker such that the shear force is at a right angle to the mounting bolts, and close to the connection, as shown:



When mounting the AH speaker to a solid surface use the proper bolts, washers, and lock washers (Grade 5 minimum). Do not substitute mismatched bolts and washers.

The AH speaker may be mounted to a pole or scoreboard. For such mounting, contact the light pole or scoreboard manufacturer for proper instructions.

When in doubt contact a qualified structural/mechanical engineer for approval of the mounting materials and methods.



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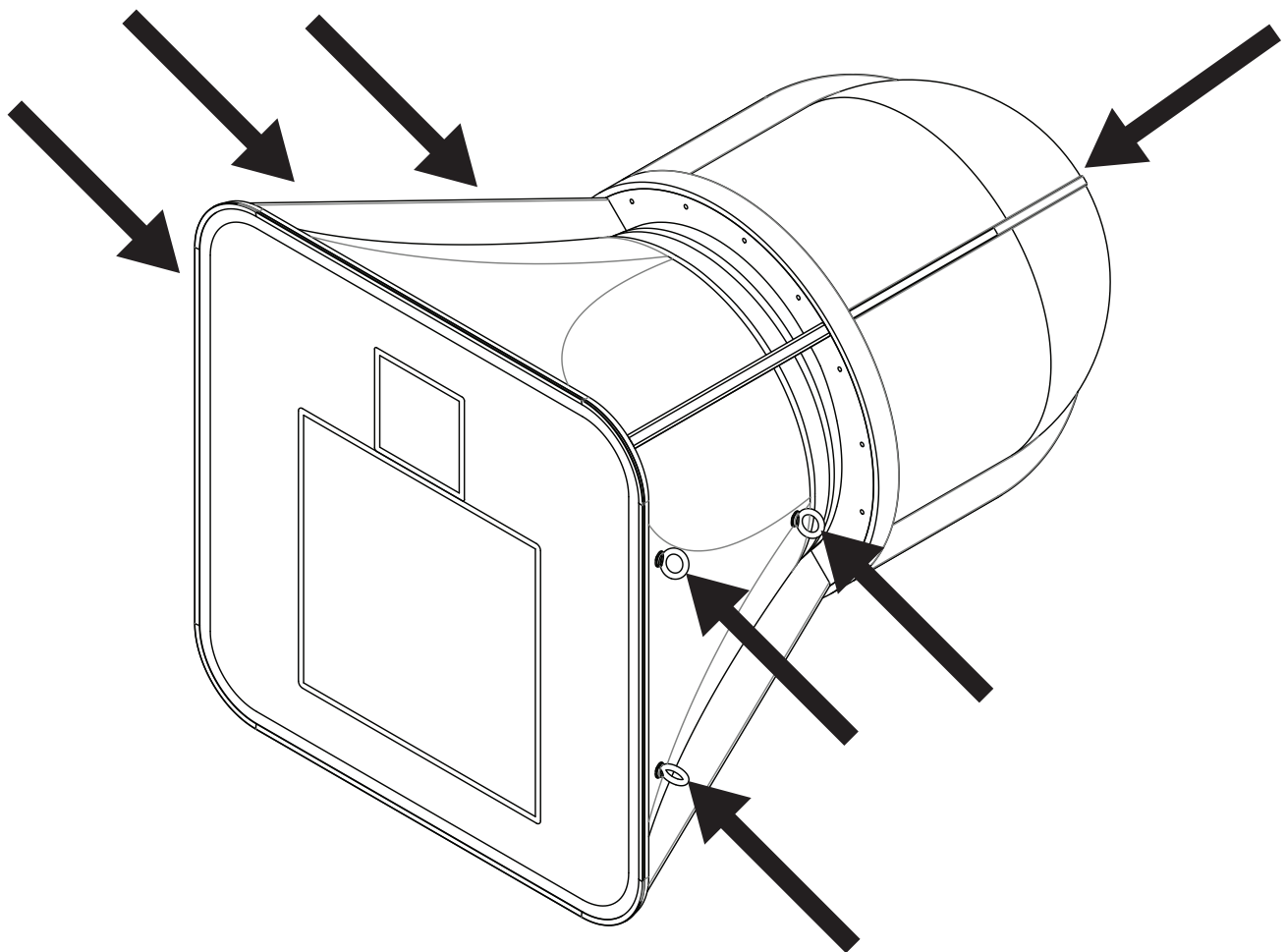


Assure that the AH speaker can be mounted in a manner that the sound pattern will be directed in the desired direction without any physical interference.

Mounting

CAUTION: Mounting the AH loudspeaker requires two or more people.

Mounting suspension points use a minimum of four, 1400 pound load rated stainless steel cables or chains (capable of holding the speakers should it come loose from any of the other mounting points. Each cable or chain assembly should be attached to one of the drop forge eyebolts provided on the AH Series 3-WAY speaker and secured to the mounting surface via approved, load rated hardware.



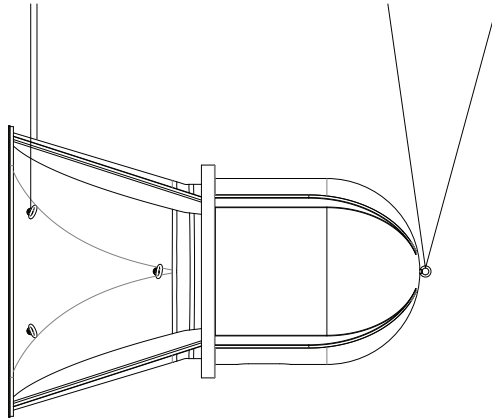
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Suspended Installation Via Eyebolts (Included)

Using ¼" Diameter Wire Rope



Note: Use of ¼" load rated wire rope is suggested to provide a static working load limit of 1400lbs (635kg) and moving load limit of 875lbs (397kg) per point. ⅜" cable is not recommended as load limits are reduced to 400lbs (181kg) static, and 250lbs (113kg) moving.

Considerations for overhead suspension using AH Series eyebolts and wire rope:

1. Always apply the load to the eye in the plane of the eye.
2. Always use shoulder eyebolts for angular lifts.
3. Always tighten eyebolts securely against the load.
4. Apply first load to test the assembly. This load should be of equal or greater weight than the loads expected in use.
5. Use wire rope compression fittings & thimbles whenever possible and prepare terminations only as instructed by the manufacturer.
6. If wire rope clips are used, check and retighten to the manufacturer's recommended torque.

Speaker Cable Recommendations & Connection Instructions

Wire Gauges (8Ω operation)

For very short distance speaker cable runs (less than 25') #16-gauge, stranded, twisted pair speaker cable may be used. For speaker cable runs between 25' and 75', #14-gauge, stranded, twisted pair speaker cable is recommended. For speaker cable runs greater than 75', #12-gauge, stranded, twisted pair speaker cable is necessary. For runs exceeding 150', please contact tech support for proper wire gauge or other installation solution using the Atlas Sound AF140 autoformer.

AH Series 3-Way input connections are provided on a convenient recessed terminal block located on the bottom of the loudspeaker. This terminal block includes a clear weather resistant cover which must be re-installed after terminating the speaker cabling to prevent corrosion in outdoor applications.

Allow an adequate service loop for this connection to allow tilt of the loudspeaker. The speaker should be installed angled slightly down for water drainage.



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Amplifier Considerations

Consult your amplifier owner's manual to confirm power output at the rated impedance.

AH Series 3-Way models used in 8Ω configuration

Each model exhibits an 8Ω (nominal) impedance.

(x2) AH models paralleled will present a 4Ω load to the amplifier.

(x3) AH models paralleled will present a 2.66Ω load to the amplifier.

(x4) AH models paralleled will present a 2Ω load to the amplifier.

ATLAS SOUND speaker system specifications list RMS power handling.

As a reference peak power = RMS x 1.414.

These ratings should be considered in selecting the best amplifier to power the speaker system.

For general use, amplifier output should match or exceed the RMS rated power of the speaker system.

For increased headroom and dynamic reproduction, the amplifier's output should match or exceed the peak power rating of the speaker system.

In situations where experienced professionals are operating the speaker system with proper limiting and frequency control devices inserted into the signal path and adjusted properly, amplifier output capacity may meet, but should not exceed 2x the RMS power rating of the speaker system (750 Watts RMS for the AH Series 3-Way models).

Utilizing the Atlas Sound model CP700 power amplifier will allow you to easily match required power ratings for most installations. Visit www.AtlasSound.com for more details on this product.



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Specifications

Power Handling RMS (Full Range)	750 Watts
Power Handling RMS(BI-AMP)	800 Watts (Low Pass) 250 Watts (High Pass)
Sensitivity (1w/1m)	104-106dB (80Hz - 17kHz average)
Frequency Response	100Hz - 17kHz (-10 to +4dB)
Dispersion	
AH42-212	40° x 20°
AH66-212	65° x 65°
AH94-212	90° x 40°
Impedance	8Ω Nominal
Minimum Impedance	4.9Ω @ 80Hz
Drivers	
High Frequency	1" Exit Compression Driver
Midrange	1.5" Exit Compression Driver
Low Frequency	Dual 12" Woofers
Dimensions	
Height	32.53" (826.3mm)
Width	32.53" (826.3mm)
Depth	47.11" (119.7mm)
Weight	~210 lbs (95.25kg)

TROUBLESHOOTING

Problem	Possible Cause	Remedy
There Is No Sound	Power off. Equipment setting is wrong. Volume set too low.	Assure that power is applied to all equipment in system. Check that routing (input/output) controls are set correctly. Check that volume level is above minimum.
	Loose connection.	Check system from start to finish for crossed wires, loose connection, etc. On the AH location check for correct connection.
Low Sound Level	Setting/volume control is set too low. Connection is shorted or bad.	Check volume levels or amplifiers and related equipment (equalizer). Check that connections aren't partially shorted/corroded.
Sound Cuts In And Out	System overload/oscillation intermittent connection.	Check for overload condition or bad connection.
Distortion At Increased Levels	Amplifier/speaker overdriven.	Check that power to speaker isn't over limits. Check that amplifier isn't overdriven. Reduce power to amplifier slightly.
Speaker Makes "Buzzing" Noise	Hardware loose or speaker damaged.	Make sure speaker grille is tight. Check other hardware connections. Check speakers for loose parts or speaker damage.

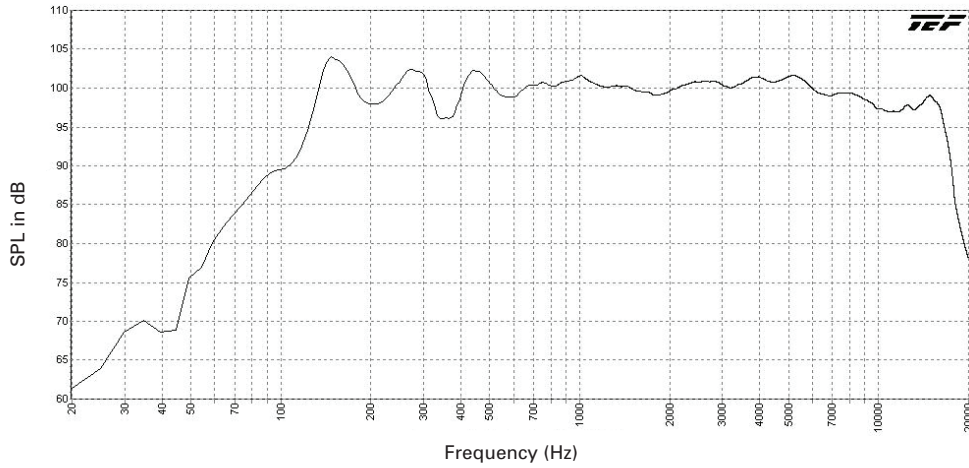
Call Atlas Sound tech support at 1-800-876-3333 with any additional questions.



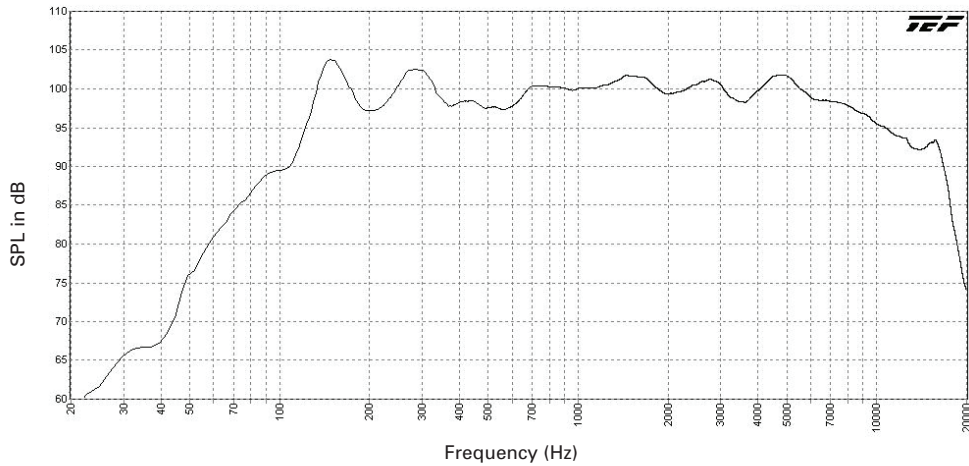
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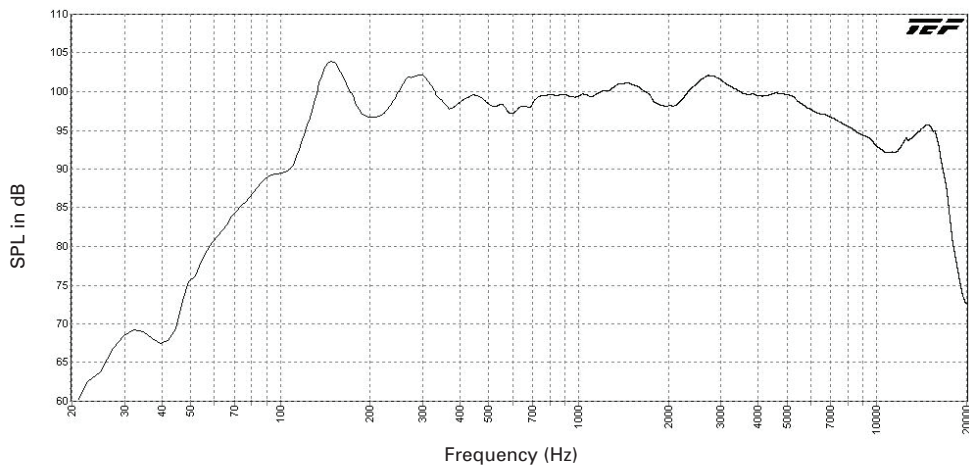
AH42-212 Frequency Response



AH66-212 Frequency Response



AH94-212 Frequency Response

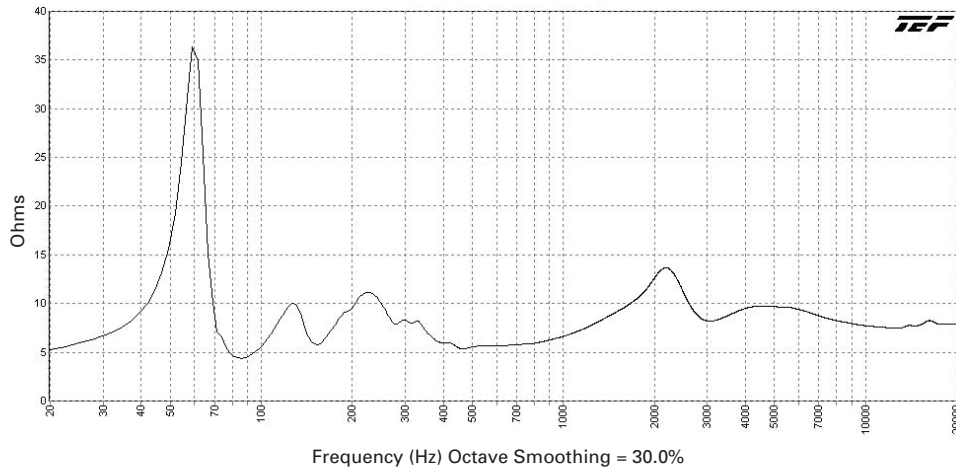


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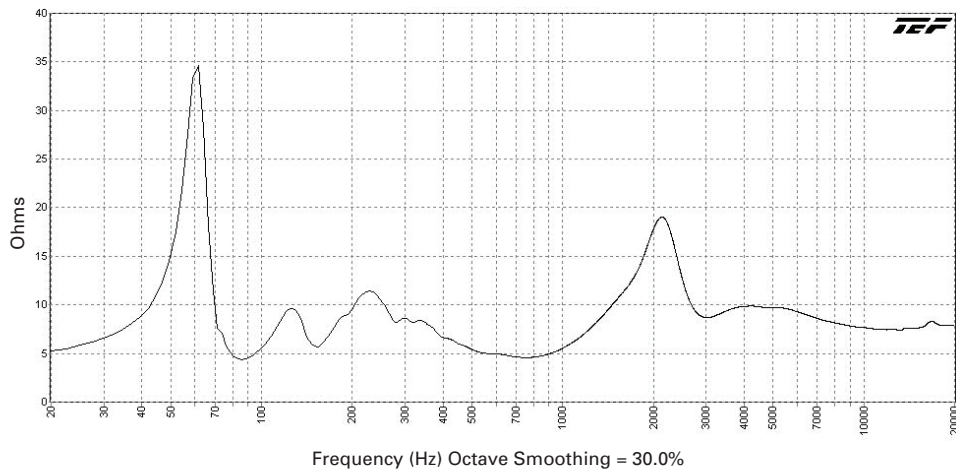
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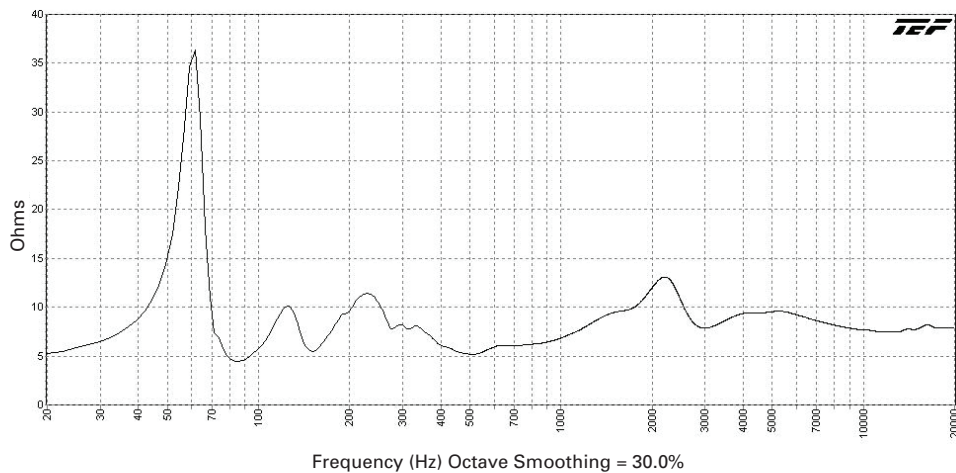
AH42-212 Impedance



AH66-212 Impedance



AH94-212 Impedance



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Limited Warranty

All products manufactured by Atlas Sound are warranted to the original dealer/installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all Atlas Sound products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. Atlas Sound will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to Atlas Sound do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLAS SOUND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Atlas Sound does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Service

Should your AH Series 3-Way Loudspeaker require service, please contact the Atlas Sound warranty department at 1-877-689-8055 to obtain an RA number.

Atlas Sound Tech Support can be reached at 1-800-876-3333.

Visit our website at www.AtlasSound.com to see other Atlas products.

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