

AH Series Loudspeakers

8", 12", and 15"



8" - AH99-8ST, AH94-8ST, and AH66-8ST



12" - AH99-12ST, AH94-12ST, and AH66-12ST



15" - AH5040S, AH9040S, and AH6565S

High-Performance, Constant Directivity, 8", 12", And 15",
Two-Way, Indoor/Outdoor Loudspeaker Systems

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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: These 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 Allen Products, Inc., 1635 E. Burnett St. Signal Hills, CA 90755.

www.allenproducts.com

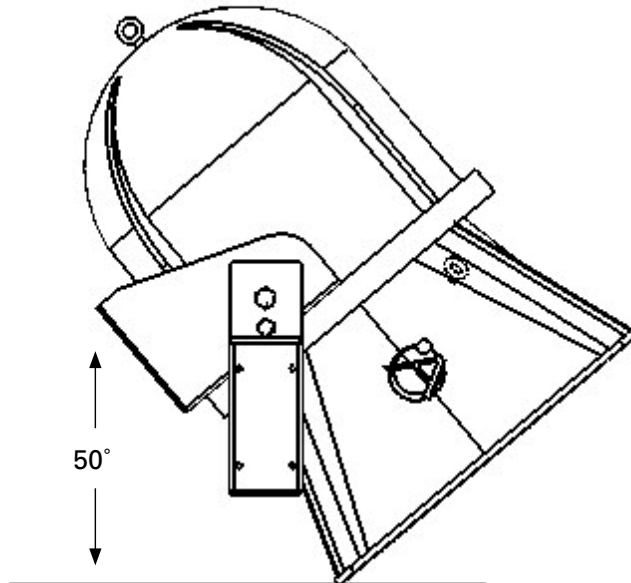
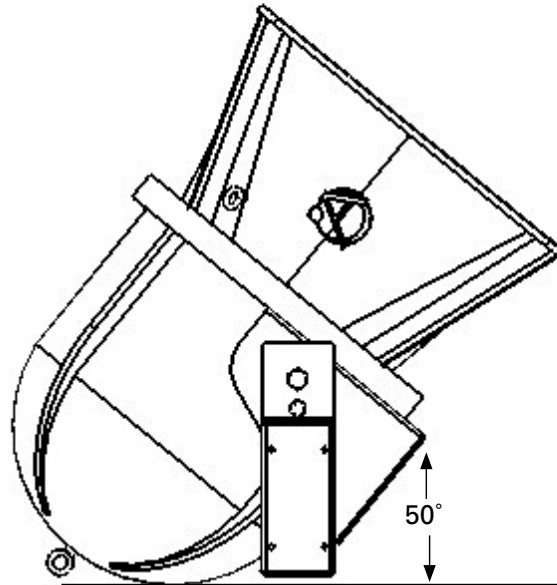
Telephone (562) 424-1100 and Fax (562) 424-3520

- 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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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. Note that the AH speaker mounting bracket allows the speaker to be tilted in excess of 50° in either direction. See illustration below.



Weep-holes (for drainage) (AH5040S, AH9040S, and AH6565S 15" models only) are located on the same side as the input connectors. If the speaker is tilted above parallel to the ground, the speaker should be installed with the weep holes down for water drainage.

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Installation Via Mounting Bracket (Included)

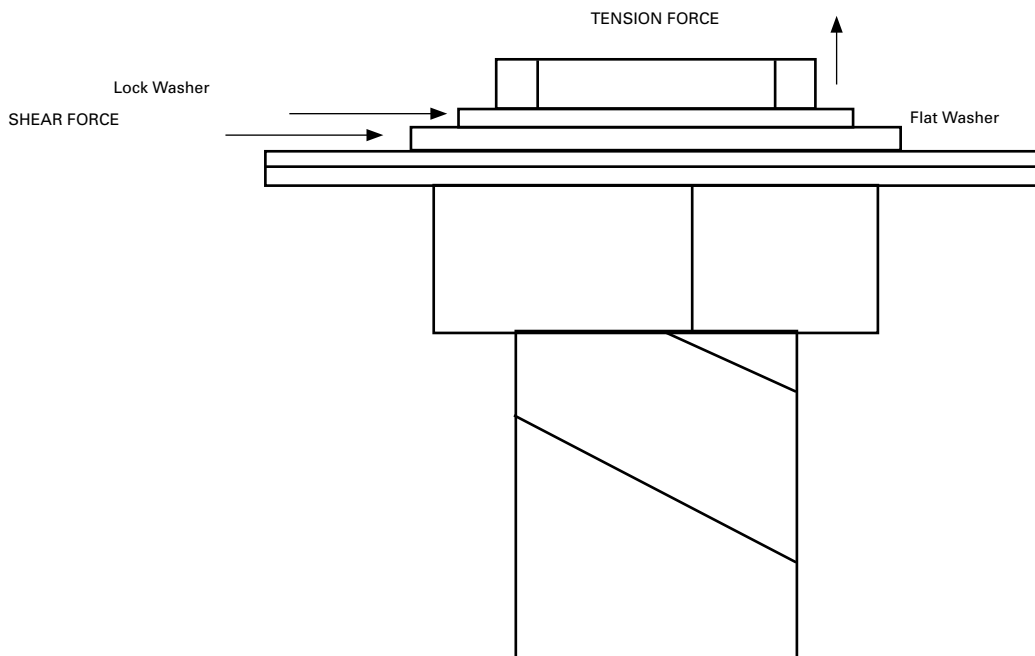
General considerations and hardware recommendations

CAUTION: AH series models weigh as much as 81 pounds (36.7kg) – model AH5040CD. 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 using the bracket, 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, using only the mounting holes. 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. If mounting to another surface, such as a beam, see the diagram on page seven for mounting hole locations. When in doubt contact a qualified structural/mechanical engineer for approval of the mounting materials and methods.

AH Series Loudspeakers

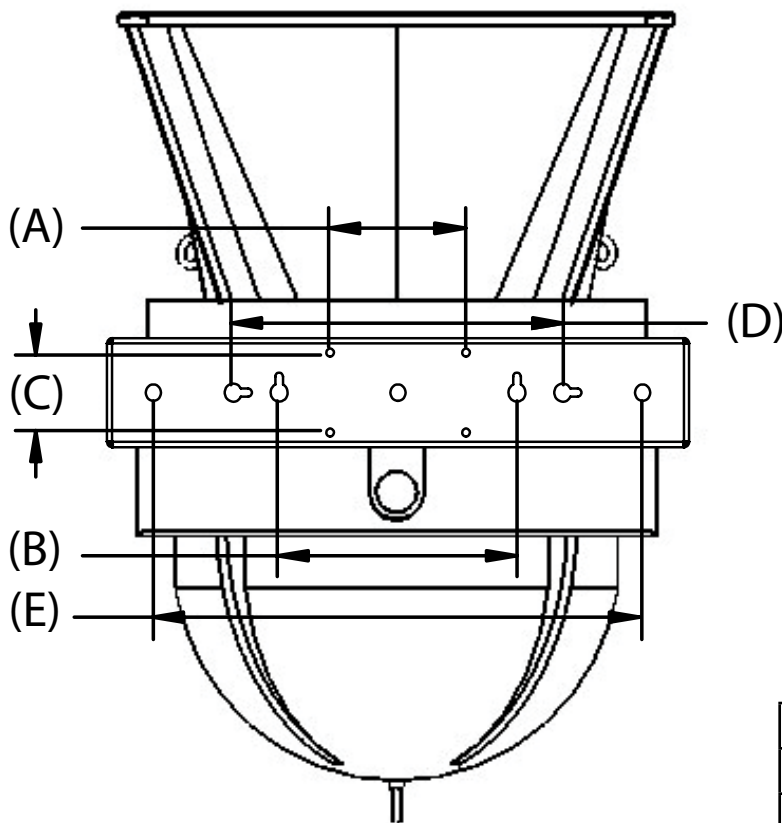
8", 12", and 15"

Mounting

CAUTION: Mounting the AH loudspeaker requires two people, unless it is possible to safely clamp the speaker in position for alignment before mounting.

The bracket may be removed from the speaker for installation convenience. When re-attaching speaker to bracket be sure to tightly secure speaker mounting bolts. Thread locking compound should also be used in this operation.

1. Choose the bracket mounting holes best suited for the surface you are mounting to. For best stability the $\frac{5}{8}$ " (16mm) diameter outer keyhole slots are recommended.
2. When using these mounting holes $\frac{1}{2}$ " (grade 5 hardware minimum) hardware should be used with proper flat and lock washers. Remember to use thread-locking compound on all parts.
3. Use the dimensions noted on the illustration to mark the points where the starting hole should be drilled.
4. Choose appropriately sized bit and drill holes.
5. Attach speaker bracket, using bolt, flat washer, and lock washer as shown and re-attach loudspeaker to bracket.
6. Secondary (safety) suspension point: Use a load rated cable or steel chain (capable of holding the speaker should it come loose from the primary mounting point). This cable or chain assembly should be attached to at least (two) of the drop forge eyebolts provided on the AH speaker and secured to the mounting surface via approved, load rated hardware.



BOTTOM VIEW

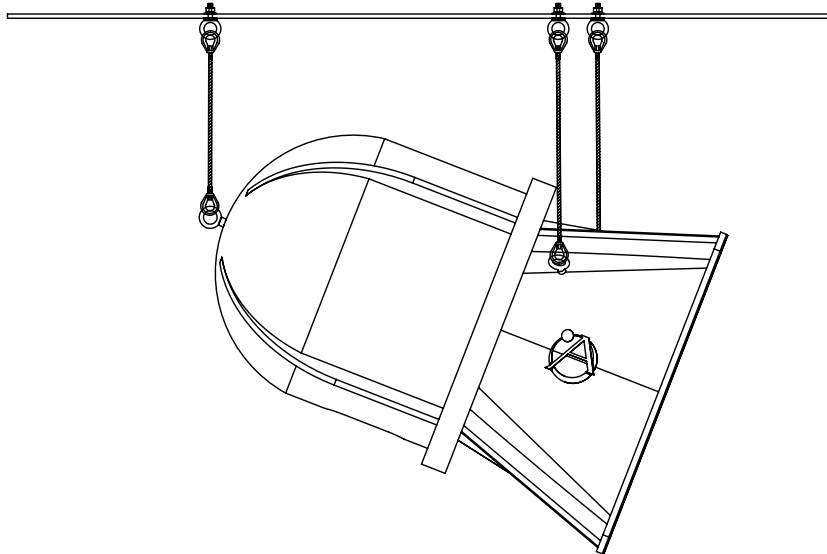
	A	B	C	D	E
8"	4.25"	8.75"	2.75"	12.13"	15"
12"	5"	8.75"	2.75"	12.13"	18"
15"	5"	8.75"	2.75"	12.13"	18"

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Suspended Installation Via Eyebolts (Included)

Using 1/4" Diameter Wire Rope



Note: Use of 1/4" load rated wire rope is suggested to provide a static working load limit of 1400 lbs (635kg) / moving load limit of 875 lbs (397kg) per fly point. 1/8" cable is not recommended as load limits are reduced to 400 lbs (181kg) static 250 lbs (113kg) moving per flying point.

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.

Eyebolt Working Load Limits

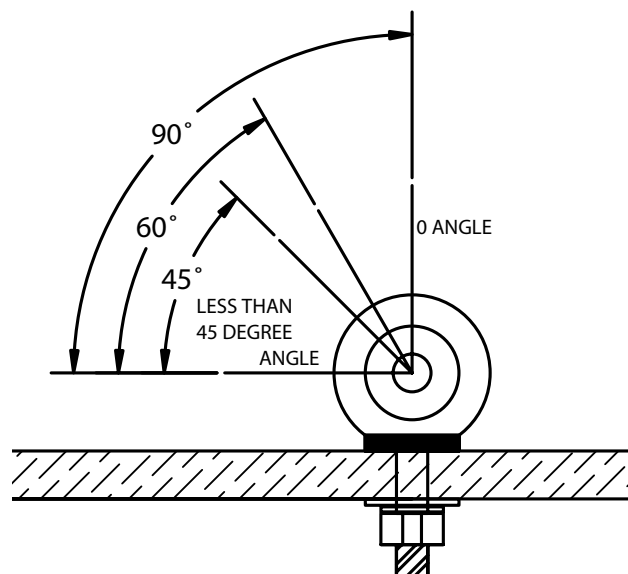
1/4" Shank (Provided with AH Series)

90° angle: 650 lb (295 kg)

60° angle: 420 lb (191kg)

45° angle: 195 lb (88kg)

Less than 45° angle: 160 lb (73kg)



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Speaker Cable Recommendations And 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.

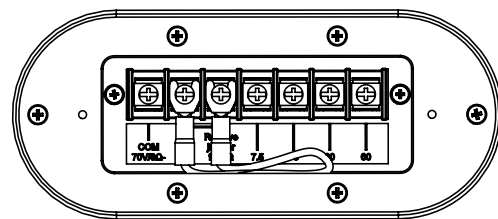
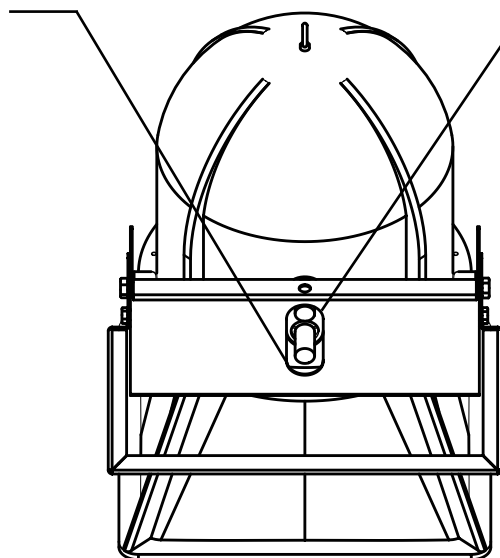
15" models AH5040S, AH9040S, and AH6565S input connections are provided on a convenient recessed terminal block located on the bottom of the loudspeaker. This terminal block includes a clear weather resistant cover which should be re-installed after terminating the speaker cabling to prevent corrosion in outdoor applications.

8" & 12" models include a built-in, high efficiency 60 Watt 70.7V transformer. 7.5, 15, 30, and 60 Watt taps are available on a convenient recessed terminal block located on the bottom of the loudspeaker. A removable jumper and additional pole on the terminal block is included for 8Ω direct coupled operation. This terminal block includes a clear weather resistant cover which should be re-installed after terminating the speaker cabling to prevent corrosion in outdoor applications.

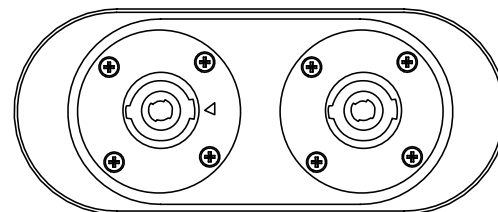
Allow an adequate service loop for this connection to allow tilt of the loudspeaker. The speaker should be installed angled slightly down for proper water drainage — in outdoor installations.

Access Holes For Speak-On
Screw Terminal Connectors

Hole For Strain Relief



8" & 12"



15"

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Amplifier Considerations

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

15" models: AH5040S, AH9040S, and AH6565S and other models used in 8 Ω configuration. Each model exhibits an 8 Ω (nominal) impedance.

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

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

(x4) AH models paralleled will present a 2 Ω 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: (250 Watts for the 15" AH models, 200 Watts for the 12" models and 100 Watts for 8" models). For increased headroom and dynamic reproduction, the amplifier's output should match or exceed the peak power rating of the speaker system (354 Watts for the 15" AH models, 283 Watts for 12" models and 141 Watts for 8" models). 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 may meet, but should not exceed 2x the RMS power rating of the speaker system (500 Watts for the 15" AH models, 400 Watts for 12" AH models, and 200 Watts for 8" AH models). Utilizing the Atlas Sound model CP700 power amplifier will allow you to easily match required power ratings for almost any installation. Visit www.AtlasSound.com for more details on this product.

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Specifications

8" Models	Power Rating	Frequency Res. $\pm 5\text{dB}$	Sound Level		Dispersion	Impedance	Xfmr Taps	Dimensions	Weight
			RP/1M	1W/1M					
AH99-8ST	100 Watts	90Hz to 10kHz	121dB	101dB	90° H 90° V	8 Ω Nominal	3.8, 7.5, 15, 30, and 60 Watts	23.86" (606mm) D 21.41" (544mm) W 21.25" (540mm) H	65 lbs (24.5 kg)
AH94-8ST	100 Watts	90Hz to 10kHz	121dB	101dB	90° H 40° V	8 Ω Nominal	3.8, 7.5, 15, 30, and 60 Watts	21.83" (554mm) D 19.66" (499mm) W 18.41" (468mm) H	63 lbs (28.6 kg)
AH66-8ST	100 Watts	90Hz to 10kHz	120dB	100dB	65° H 65° V	8 Ω Nominal	3.8, 7.5, 15, 30, and 60 Watts	20.91" (531mm) D 17.91" (455mm) W 19.66" (499mm) H	61 lbs (27.7 kg)

12" Models	Power Rating	Frequency Res. $\pm 5\text{Db}$	Sound Level		Dispersion	Impedance	Xfmr Taps	Dimensions	Weight
			RP/1M	1W/1M					
AH99-12ST	200 Watts	80Hz to 10kHz	126dB	103dB	90° H 90° V	8 Ω Nominal	3.8, 7.5, 15, 30, and 60 Watts	25.65" (652mm) D 22.06" (560mm) W 21.25" (540mm) H	87 lbs (39.5 kg)
AH94-12ST	200 Watts	80Hz to 10kHz	126dB	103dB	90° H 40° V	8 Ω Nominal	3.8, 7.5, 15, 30, and 60 Watts	25.65" (652mm) D 22.06" (560mm) W 21.25" (540mm) H	85 lbs (38.6 kg)
AH66-12ST	200 Watts	80Hz to 10kHz	125dB	102dB	65° H 65° V	8 Ω Nominal	3.8, 7.5, 15, 30, and 60 Watts	23.86" (606mm) D 21.41" (544mm) W 21.25" (540mm) H	82 lbs (37.2 kg)

15" Models	Power Rating	Frequency Res. $\pm 5\text{Db}$	Sound Level		Dispersion	Impedance	Dimensions	Weight
			RP/1M	1W/1M				
AH5040S	250 Watts	75Hz to 14.5kHz	127dB	104dB	50° H 40° V	8 Ω Nominal	20.5" (521mm) D 20.5" (521mm) W 32" (813mm) H	87 lbs (39.5 kg)
AH6565S	250 Watts	75Hz to 14.5kHz	126dB	102dB	65° H 65° V	8 Ω Nominal	20.5" (521mm) D 20.5" (521mm) W 32" (813mm) H	87 lbs (89.5 kg)
AH9040S	250 Watts	75Hz to 14.5kHz	126.5dB	102.5dB	90° H 40° V	8 Ω Nominal	22.5" (572mm) D 30" (762mm) W 31" (787mm) H	100 lbs (45.4 kg)

Troubleshooting

PROBLEM	POSSIBLE CAUSE	REMEDY
There is no sound	Power off. Equipment setting is wrong. Volume set too low. Loose connection.	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. 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.

Polestar™

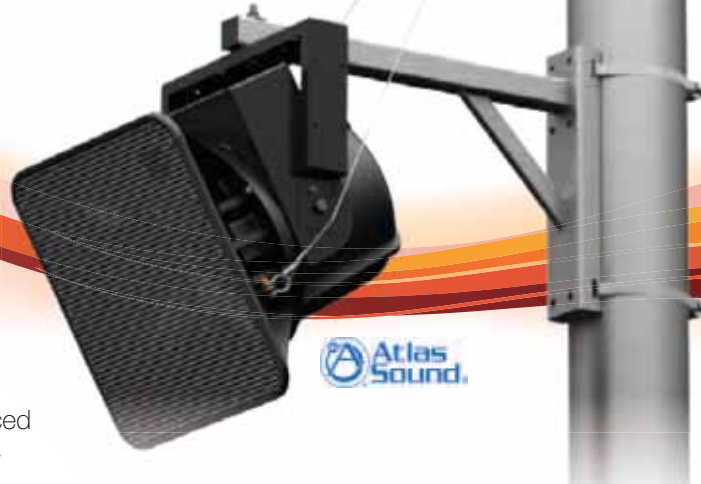
Uni-Frame - Galvanized OUTDOOR SPEAKER MOUNTING SYSTEM



The UniFrame is a complete mounting solution for outdoor loudspeakers. Its design combines the attributes of the PoleStar stainless "a-la-carte" version into just two models produced in steel and then galvanized to an outdoor weather rating.

The UniFrame reduces the amount of parts required for the job site and saves installation time by combining the support arm and the pole adapter together into one assembly. In addition, two stainless steel band kits are included, which require a socket set only.

The support arm is welded in two places for extra strength and durability. Each arm includes three attach point mounting holes



PM-24-6UP-G

*AH Series Speaker and Yoke
provided by Atlas*

at the end of the arm that allow the installer to select the desired distance between the loudspeaker and the pole.

One design accommodates pole diameters from 2" to 6" (50-152 mm) and the other from 6" (152 mm +) diameter poles and columns and larger.



2" - 6" Diameter Poles.
Supports one speaker only.
PM-24-6DOWN-G



6" and Larger Diameter Poles
Supports up to three speakers.
PM-24-6UP-G



On 6" and Larger Diameter Pole
for 3-WAY Installation
PM-24-6UPG

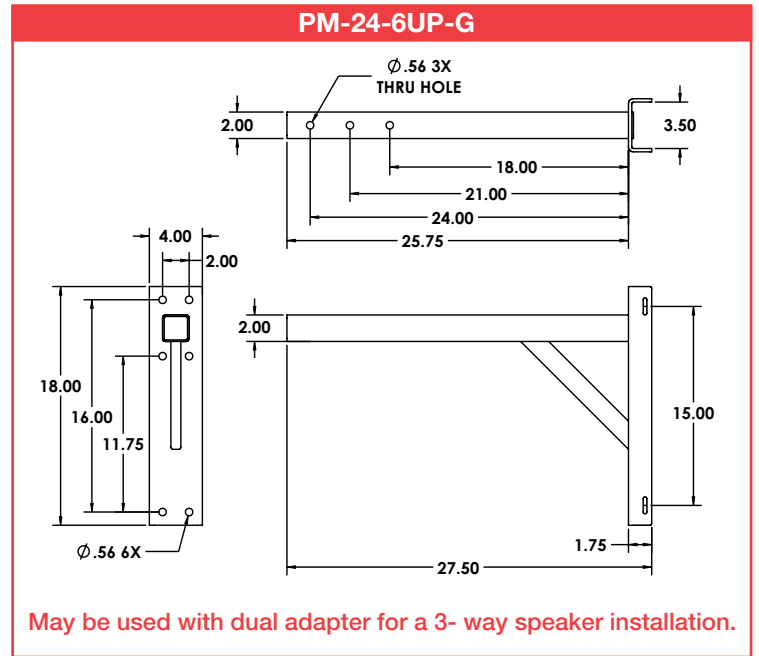
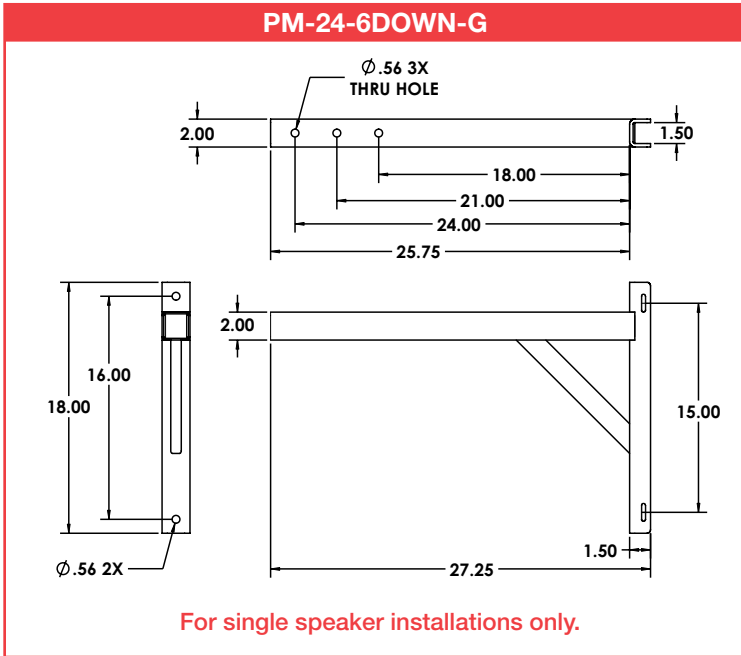


For 3-way Installations, use one
PM-24-6UP-G and one PM-DA-48-G

STANDARD FEATURES:

- Uni-Frame assembly adds strength and reduces installation time.
- Longer pole interface increases structural capacity.
- Rugged outdoor galvanized finish to ASTM A123 and ISO1461 specifications.
- Three arm mounting points to accommodate all speaker models.
- Angled brace increases structural stability during severe weather conditions.
- Support arm may be oriented up or down for installation flexibility.
- Dual adapter may be secured to the Uni-Frame for a three-way installation.

DIMENSIONS



SPECIFICATIONS

PM-24-6DOWN-G	
Material:	Steel Alloy
Finish:	Galvanized
Color:	Silver
Band Kit Included:	For poles 2" to 6" in diameter
Working Load Limit:	100 lb. / 45.5 Kg per mount
Design Factor:	10:1
Weight:	12.3 lb. / 5.6 Kg
Shipping Weight:	14 lb. / 6.4 Kg
Pack Count:	1 kit per carton including 20" band kit

PM-24-6UP-G	
Material:	Steel Alloy
Finish:	Galvanized
Color:	Silver
Band Kit Included:	For poles up to 25" in diameter
Working Load Limit:	100 lb. / 45.5 Kg per mounting point Maximum of three speakers
Design Factor:	10:1
Weight:	16.4 lb. / 7.5 Kg
Shipping Weight:	18 lb. / 8.2 Kg
Pack Count:	1 kit per carton including 90" band kit

OPTIONAL

ACCESSORY	PART NUMBER	SHIP WEIGHT	WORKING LOAD*
Safety Anchor	PM-SAFETY-6DOWN	2.8 lb. / 1.3 Kg	500 lb. / 227.3 Kg
Dual Adapter - 48" / 1220 mm	PM-DA-48-G	13 lb. / 5.9 Kg	200 lb. / 90.9 Kg
18" Safety cable with turnbuckles	SC-188-18-SS	.55 lb. / 25 Kg	840 lb. / 381.8 Kg
24" Safety cable with turnbuckles	SC-188-24-SS	.75 lb. / 34 Kg	840 lb. / 381.8 Kg
48" Safety cable with turnbuckles	SC-188-48-SS	1.05 lb. / 48 Kg	840 lb. / 381.8 Kg
72" Safety cable with turnbuckles	SC-188-72-SS	2.00 lb. / 91 Kg	840 lb. / 381.8 Kg

* Working Load Design Factor = 5:1 (Static Loading)

SPECIFIERS TAKE NOTE:

- Custom designs are also available.
- Always secure mounted objects to the mounting structure with safety cables.
- Use stainless-steel Polestar version for seaside installations.
- Contact our design department at design@adaptechgroup.com.

WARNING: Mounting and/or suspension of audio and video equipment requires experienced professional. Improperly installed equipment can result in property damage, personal injury and/or liability to the installing contractor.

