

COMMERCIAL LOUDSPEAKERS H10-G / H20-G / H30LT-G PAGING HORNS Installation and Operation Guide



H10-G



H20-G



H30LT-G

PRODUCT DESCRIPTION

- Powerful weatherproof, industrial horn loudspeakers with compression drivers offering high sound pressure.
- Suited for speech and reproduction of alarm signals.
- Ideal for long-distance and outdoor use.
- 70V/100V transformer with five power tap and 8-ohm low impedance settings.

Rigging and Electrical Safety



DANGER: The loudspeakers described in this manual are designed and intended to be suspended using a variety of rigging hardware, means, and methods. Installation of loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting design. Severe injury and/or loss of life may occur if these products are improperly installed! All electrical connections must conform to applicable city, county, state, and national (NEC) electrical codes.



DANGER: It is possible to experience severe electrical shock from a power amplifier. Always make sure that all power amplifiers are in the "OFF" position and unplugged from an AC Mains supply before performing electrical work.



IMPORTANT: All electrical installation connections for loudspeaker lines are subject to all applicable governmental building and fire codes. The selection of appropriate electrical hardware to interface with the loudspeaker lies solely with the installation professional. Biamp recommends that an appropriately licensed engineer, electrician, or other qualified professional identify and select the appropriate conduit, fittings, wire, etc. for the installation.



DANGER: The output power capabilities of audio amplifiers present a danger to installers. To minimize the risk of electric shock from loudspeaker connecting cables, confirm that the power amplifiers are turned "off" before connecting loudspeaker cable(s) to the loudspeaker or amplifier. Always follow local electrical codes and proper electrical safety procedures.



WARNING: After wiring the amplifier(s) to the loudspeaker(s), first power-up all devices that are upstream of the amplifier, such as mixers, equalizers, compressor/limiters, etc., before powering-up the amplifier. This is to avoid passing any clicks or pops that may originate in the upstream devices to the loudspeakers. The amplifier should initially be powered-up with its gain controls turned all the way down. After making sure that a continuous signal is present, such as a CD playing, slowly raise the level of the gain controls to establish that the wiring has been installed correctly. Only then should the loudspeaker be operated at normal output levels.

Wiring and Electrical Safety

All standard paging horns come with attached SJOW-rated input cables (length 1m [3.3']). The cable exits the enclosure through a weather-resistant nut. The other end of the cable is un-terminated. The designer must account and compensate for cable losses between the amplifier and the loudspeaker system. Refer to this [article](#) on Cornerstone for more information on cable loss calculations. Do not remove the rear enclosure or tamper with the cable nut, as this will compromise the weather integrity of the enclosure. Please contact the Customer Support for additional assistance (email: support@biamp.com)

Wire the loudspeaker. A typical installation method is to bring the cable into a junction box (J-box). Connections within the J-box may be made with appropriate wire connectors. Terminate per your local electrical code or requirements.

NOTE: Be sure to read the loudspeaker safety guide included in the carton with the loudspeakers.

PRODUCT REPRESENTATION

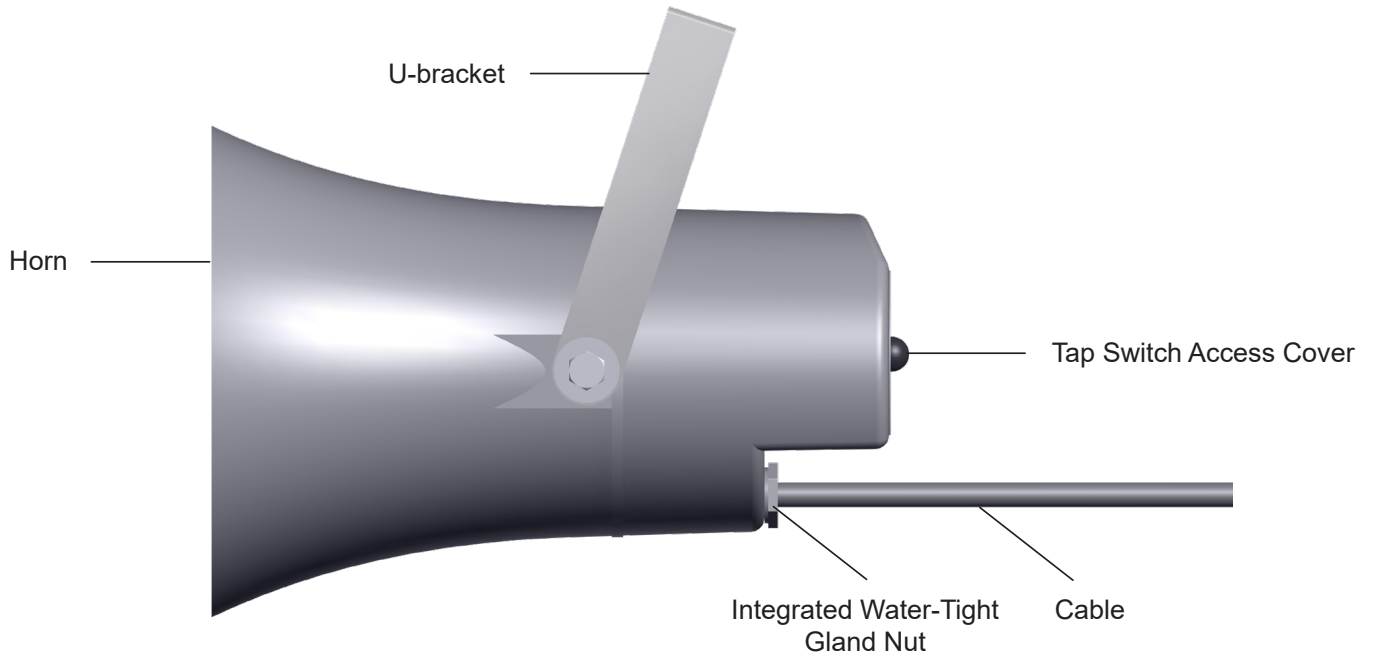


Figure 1. Typical horn (*H10-G* shown)



Figure 2. H20-G

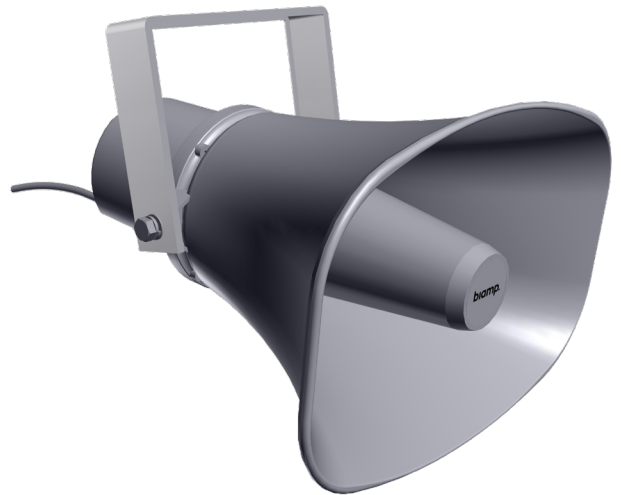


Figure 3. H30LT-G

INSTALLATION

H10-G / H20-G / H30LT-G Horn Loudspeakers

These installation instructions apply to the H10-G, H20-G, and H30LT-G. Each loudspeaker comes with an attached stainless-steel U-bracket for easy surface installation. The installer must provide the appropriate hardware for the application. The horn and cable egress are watertight and may be installed indoor or in outdoor applications.

1. Determine where the loudspeaker is to be installed.
2. Attach the loudspeaker to the structure or surface using the holes in the U-bracket (hardware not provided).

NOTE: It saves time to adjust the tap setting before installation. See page 4.

3. Attach a safety cable (not shown) to one of the unused holes in the U-bracket (refer to safety note at the bottom of this page).

NOTE: The U-bracket can be removed and pre-installed. Reserve the hardware for reattachment of the horn.

4. Aim the loudspeaker to the desired angle and tighten the bolts on either side to hold it in place.



Figure 4. Position horn

NOTE: The safety cable and associated hardware are not included. Consult all applicable codes for your application. Confer with a structural engineer for the appropriate cable / hardware for the load, application, and locale. If required, the safety cable must be secured to a suitable load-bearing point separate from the array mounting, with as little slack as possible, so as not to develop undue kinetic force if the primary mount were to fail.

SET LOUDSPEAKER TAPS

1. Remove the small black cap at the back of the horn to access the tap switch as shown in Figure 5.
2. Use a small flat screwdriver to turn the shaft to the appropriate setting.
3. Replace the cap and make sure that it is fully seated to ensure weather-resistance.

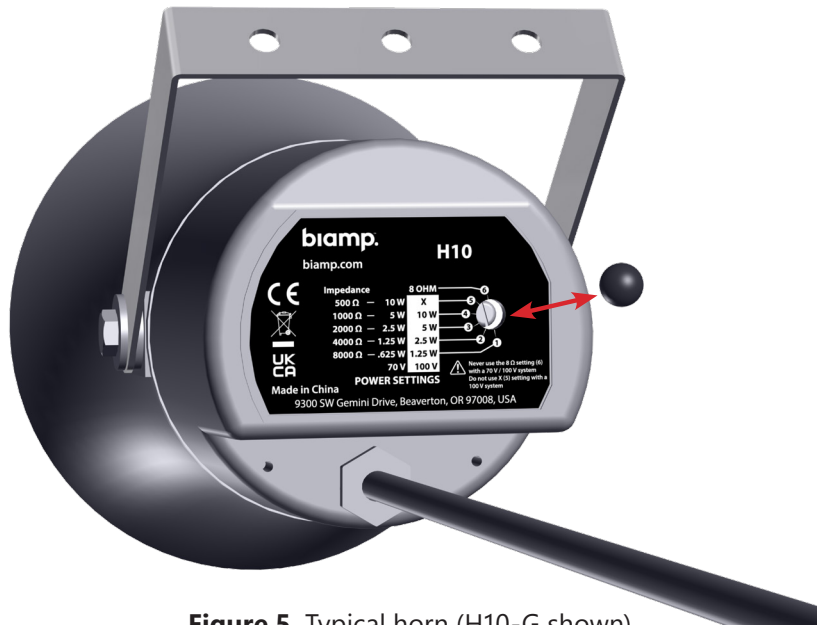


Figure 5. Typical horn (H10-G shown)

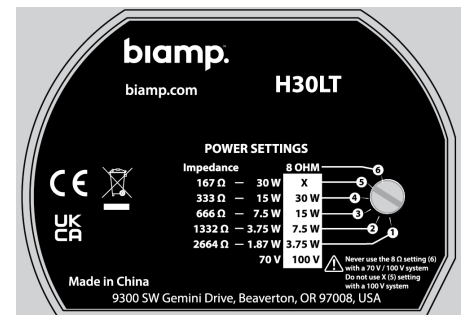
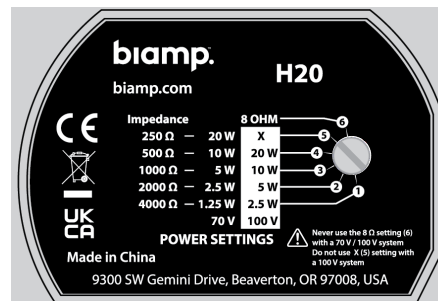
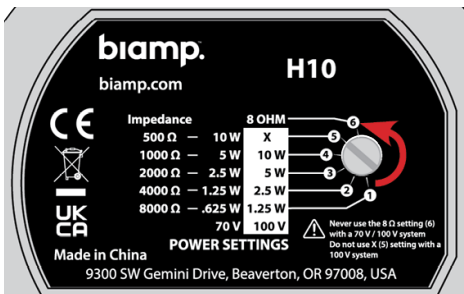


Figure 6. Tap settings for each model

WIRING

The loudspeaker comes with an attached cable with 2 conductors white (+) / black (-) as seen below in Figure 7.

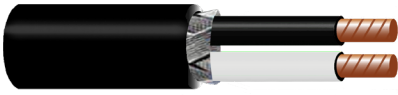


Figure 7. Wire / cable

1. Route the cable to a junction box (J-box). Outdoor installations should utilize weatherproof boxes and connectors to consistent operation.
2. Connect the cable in the J-box with barrel-type crimp connectors, wire nuts, solder and heat-shrink, or terminal strips.

NOTE: Biamp recommends using barrel-type crimp connectors that are crimped with a forged crimp or a ratcheting tool, as this method, when properly executed, results in a gas-tight connection that is easy to accomplish.

3. Terminate connections per the local electrical requirements.
4. After all of the horns are installed and connected to the appropriate DSP/amplifier equipment, power and test the system.

Amplifier power per channel must be higher than total power of all speakers on that channel.

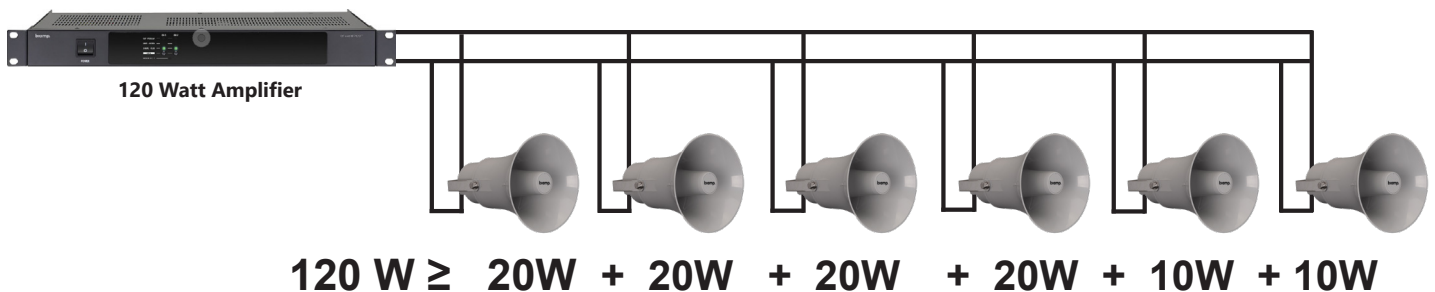


Figure 8. Typical amp & loudspeaker tap settings

OPTIONAL ACCESSORIES

Conduit Adapter Kit (SPA-HCA100)

The Conduit Adapter attaches to the rear enclosure and provides a sealed connection for 1/2" NPT conduit use.

1. Thread the cable through the adapter and attach with included hardware as shown in Figure 10.
2. Fully tighten the adapter hardware as shown in Figure 11.

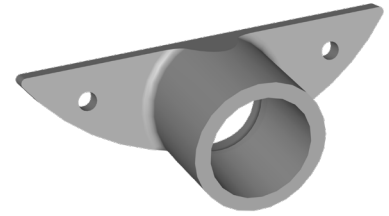


Figure 9. Adapter

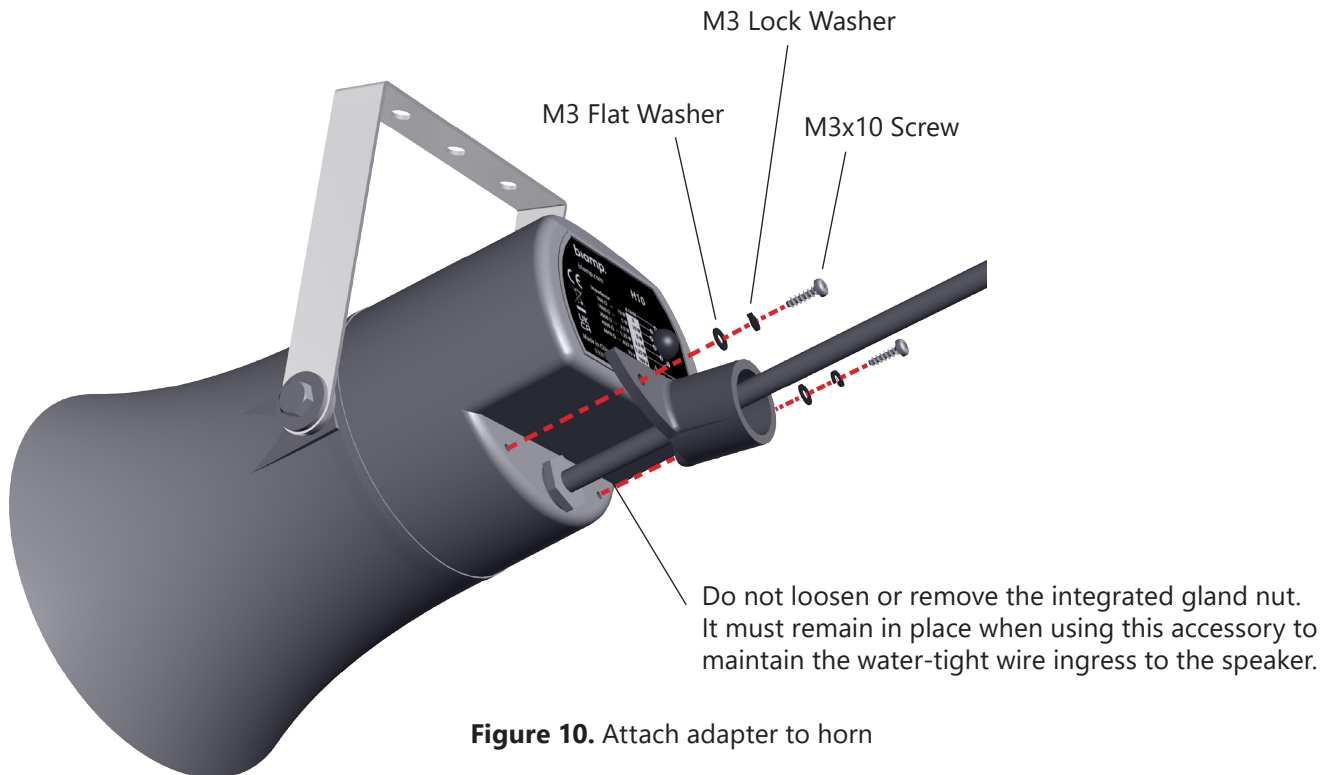


Figure 10. Attach adapter to horn



Figure 11. Adapter installed

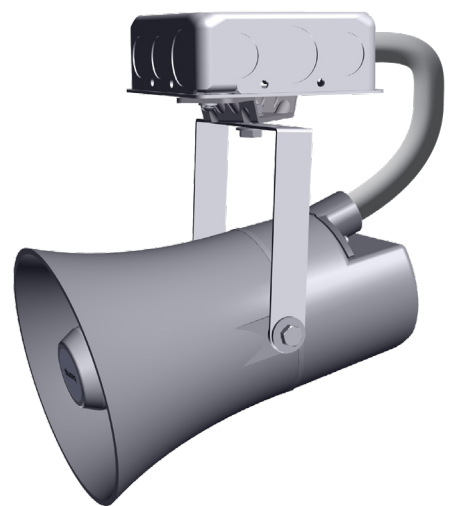


Figure 12. Typical application (with flexible conduit and the SPA-HMB100)

OPTIONAL ACCESSORIES CONTINUED

Dual Gang Box Mounting Bracket Kit (SPA-HMB100)

The bracket provides attachment from the horn's U-bracket to a standard 4-square or dual gang junction box cover (North America only).



Figure 13. Bracket

1. Attach the bracket to the horn as shown in Figure 14.
2. Keep connection loose to allow horn rotation.

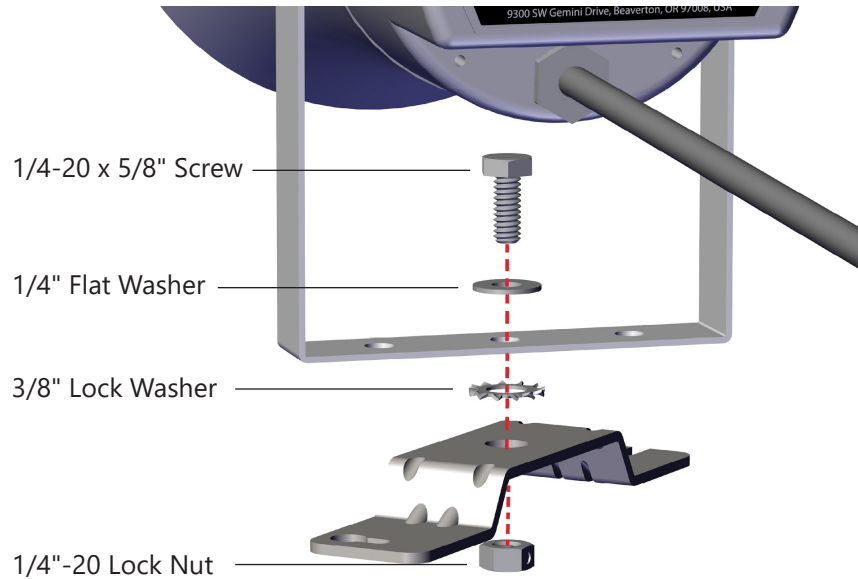


Figure 14. Bracket install



Figure 15. Secure bracket to yoke

OPTIONAL ACCESSORIES CONTINUED

Dual Gang Box Mounting Bracket Kit (SPA-HMB100)

3. Partially install screws (not included) holding the cover on the box as shown in Figure 16.
4. Slide the bracket slot onto the lower screw (a) shown in Figure 17.
5. Rotate and capture the upper bracket keyhole on the top screw (b) in Figure 17.



Figure 16. Loosen screws

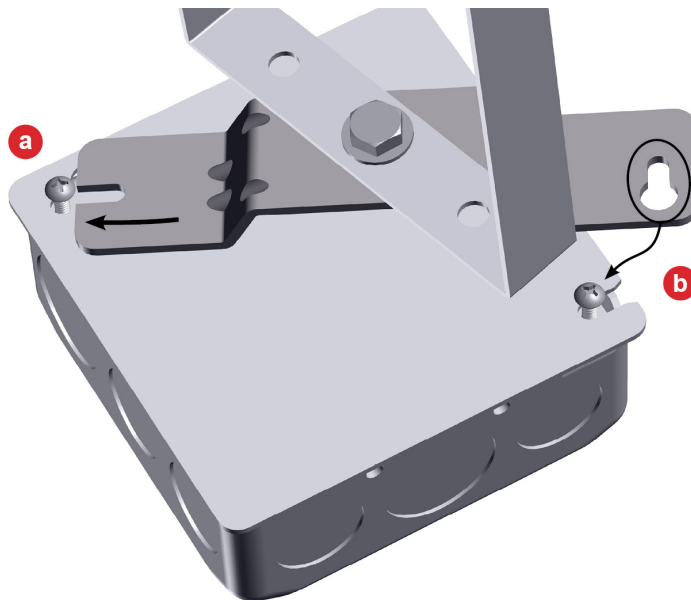


Figure 17. Securely attach bracket to the box

OPTIONAL ACCESSORIES CONTINUED

Dual Gang Box Mounting Bracket Kit (SPA-HMB100)

6. Rotate the bracket down to fully capture the screw (circled) in Figure 18.
7. Fully tighten the screws to secure the bracket to the box.

NOTE: Vertically mounted boxes must have the straight bracket slot at the bottom for security/safety.

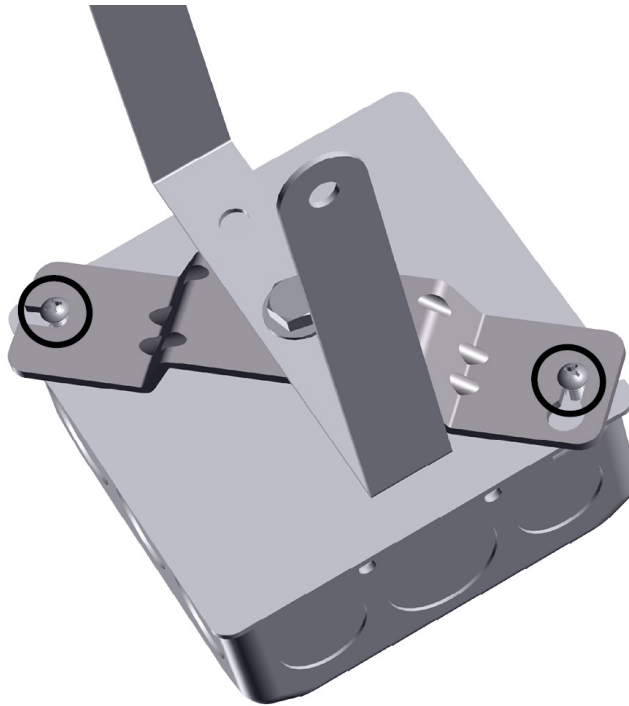


Figure 18. Bracket installed

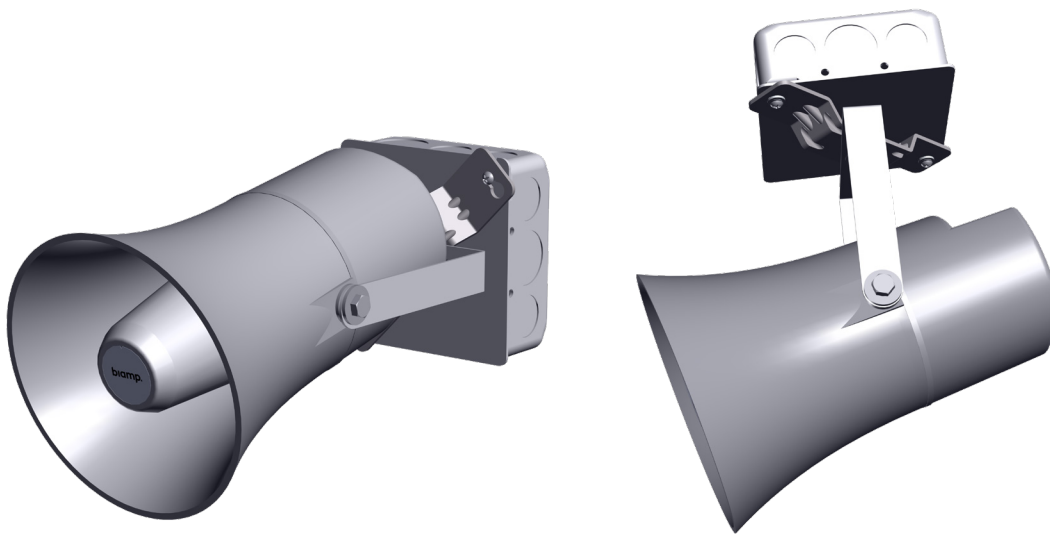


Figure 19. Typical placements

OPTIONAL ACCESSORIES CONTINUED

BEAM CLAMP KIT (SPA-HBC100)

This beam clamp has a 125 lb. (56.6 kg) load capacity.

1. Attach clamp to beam or building structure.
2. Beam clamp supports 1/4" threaded rod as shown in Figure 22. (rod and horn mounting hardware not included).
3. One or two clamps may be used to suspend the horn. One clamp in the center position is shown in Figure 22.
4. Position and secure beam clamp to the beam or support structure by tightening the bolt.
5. Secure horn bracket to the rod.
6. Aim the horn and secure the angle by tightening the side bolts.
7. Install the safety cable to a secondary mounting point.

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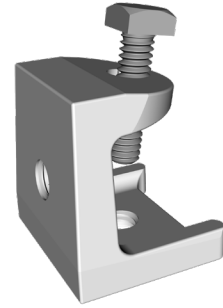


Figure 20. Beam clamp

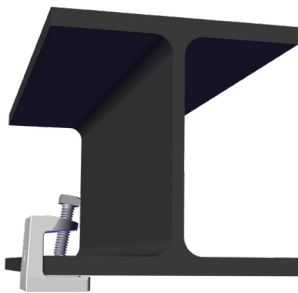


Figure 21. Beam clamp attached

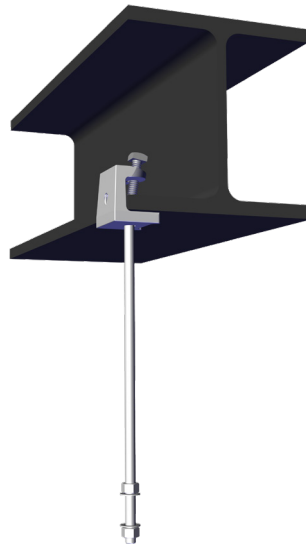


Figure 22. Rod attachment

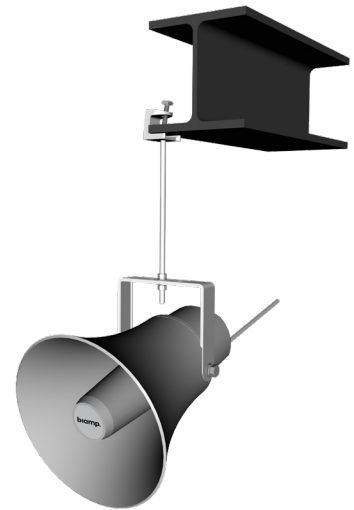


Figure 23. Typical assembly
(H20-G shown)

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