DAYTON AUDIO

SOUND EXCITER TRANSDUCER

Model: HDN-8 User Manual

*Congratulations on the purchase of your **Dayton Audio® HDN-8 Sound Exciter Transducer**. This rugged, all-purpose audio exciter is designed to deliver reliable, high-quality audio in a variety of structural and architectural audio applications while withstanding harsh environments. It features weather-resistant construction, high-quality components, and exclusive design by Dayton Audio for outstanding performance and value.*

- Rugged plastic housing with rubberized coating
- Coarse-threaded mounting stud for single-point mounting into a variety of materials
- Hermetically-sealed for installation in wet or humid environments

Please read these instructions completely before you begin your installation.

1. Installation Tools

The Dayton Audio speakers can be installed with the following simple tools:

- Pencil
- Wire cutters & wire stripper/crimp tool
- Drill & drill bits
- Stud finder**

** Optional tools to make the installation easier.

2. Choosing the Location

The HDN-8 transducer is designed to produce optimum results when installed into a wooden structure or panel, but it may also be installed into fiberglass or plastic objects where a pilot hole is provided. When installing the HDN-8 into a wooden structure, choose a structural member that is firmly coupled to the entire structure. If installing the HDN-8 into a wall, make sure to install its threaded point directly into a stud, or into a suitable panel bonded to the drywall; do not install its threaded point directly into drywall. The HDN-8 should not be mounted where it will be continuously exposed to moisture. Do not immerse in liquid or install where the transducer may fall into water; an electric shock may be received.

The location you choose will be guided by your application. For additional application notes, please see the HDN-8 Application Guide.

3. Installation of the HDN-8

CAUTION: Be certain that there are no electrical wires, water pipes, or heating ducts in the planned installation area before you begin drilling or cutting. If there is an electrical outlet nearby, turn off the circuit breaker to avoid possible injury.

Your Dayton Audio HDN transducer is compact, but substantial in weight. It should be mounted into solid material, not drywall. If drywall mounting is required, use high-strength anchors designed for heavy loads such as light fixtures. To avoid personal injury, please make sure the location you choose for mounting your HDN transducer can safely support its weight.

To mount the HDN transducer without splitting the wood or other material, a pilot hole for the threaded point should be marked and drilled. The pilot hole should be no larger than 1/8” diameter when installing into wood; the ideal diameter of the pilot hole may be different in different materials.

After drilling the pilot hole, install the HDN-8’s threaded point into the hole by rotating the entire transducer, and ensure a snug fit prior to connecting the wires. **To avoid damage to the HDN-8 housing, do not overtighten the threaded point.**

4. Speaker Cable

Your HDN-8 transducer is a high-power device. We recommend using a high quality oxygen free copper two-conductor speaker cable. For runs less than 50 feet we recommend 16 gauge cable minimum, and for longer runs we recommend 14 gauge or larger cable. Note that most municipalities require the use of CL2 rated speaker cable for cable runs through walls and ceilings. If drilling holes for routing the cable through studs in your wall, your local code may require you to fill the hole that the wire passes through with a fire-resistant caulking material to slow the spread of fire.

5. Connections

Remove about 4" of the outer cable jacket to expose the inner wires (for CL2 or "in-wall" speaker cable only). Strip 1/8" of insulation from each wire and install "Fast-on" spade connectors by crimping or soldering onto the bare conductors. After installing the connectors onto each wire, connect the wires to the terminals of the HDN-8. When connecting the wires to the HDN-8 transducer, be sure to observe proper polarity for the best sound. Most CL2 rated speaker cable has red and black conductors within the jacket, so connect the red wire to the red terminal on the HDN-8, and the black wire to the unmarked terminal on the HDN-8. The red (+) terminal on the HDN-8 should correspond to the red (+) terminal on the amplifier, and the unmarked terminal should correspond to the (-) terminal. Verify that the spade connectors engage firmly with the tabs.

6. Troubleshooting

Should your HDN-8 not work properly, check the following:

No sound or quiet/strange sound:

- Make certain you observed proper polarity when multiple transducers are used. Check the connections at each end of the cable for proper polarity.
- Amplifier mute feature or protection mode is activated. Check for short circuits in speaker wiring.
- Loose connection at either the amplifier or the transducer. Double check connections.
- Bad speaker cable. Replace suspect speaker cable.

Amplifier cuts on and off:

- This could be caused by a short circuit between the positive and negative leads. Check the connections at the amplifier, and then at the transducer; make sure that no strands of wire from one connector are touching the other connector.
- The impedance load for the amplifier is too low. This may be caused by connecting too many HDN-8 drivers to one channel of the amplifier. Some amplifiers provide automatic protection against damage from low-impedance loads by disconnecting the amplifier. Use series-parallel wiring if necessary to maintain the necessary minimum impedance load.

7. Caring For Your HDN-8 Transducer

Use appropriate amplification for the HDN-8's power rating and your application. If the sound becomes distorted, reduce the volume.

HDN-8 transducers are designed to withstand outdoor environments, including incidental exposure to water. They are not designed to be washed using a pressure washer or hose nozzle. If debris accumulates on the housing of the transducer, use a damp sponge or cloth to remove it.

Specifications

Model number	HDN-8
Description	Sealed Audio Transducer
Frequency Response	40-15,000 Hz (typical)
Impedance	8 Ohms
Power Handling (RMS/Peak)	50W / 100W
SPL 1W/1m	Varies by application
Dimensions HxWxD	4" x 1.75"
Color	Black (rubberized)
Weight	2.2 lb / 1.0 kg

WARRANTY COVERAGE

Dayton Audio products are warranted to be free of all defects in material and workmanship for 5 YEARS from the date of purchase from an authorized Dayton Audio dealer. This warranty and all rights provided are limited to the original owner and are non-transferable. Dayton Audio's responsibility is limited to replacement or repair as set forth in this warranty statement.

Should a product require warranty service during this period, Dayton Audio will repair or replace without charge, any part or product proving defective in material or workmanship. All warranty repairs and service must be performed by an authorized Dayton Audio technician or service facility. The use of non-authorized repair services renders this warranty null and void, and any charges relating to non-authorized repair are the responsibility of the product owner.

All expenses related to replacing or repairing a defective part or product under this warranty shall be assumed by Dayton Audio. Dayton Audio reserves the right to replace defective product with a new or factory reconditioned unit.

WARRANTY EXCLUSIONS

1. This warranty does not cover product failure or damage resulting from misuse, abuse, neglect, accidents, alterations, standard environmental deterioration, natural disasters, or improper use and/or installation.
2. This warranty does not cover cosmetic damage due to misuse or neglect. This includes paint damage, scratches, cracks or other superficial marks related to improper use.
3. Failures arising from attempted servicing of a non-authorized Dayton Audio repair facility or technician are excluded from this warranty.

LIMITATION OF DAMAGES

In no event shall Dayton Audio be liable for consequential damages for breach of this warranty including installation charges, excessive shipping expenses, property loss or other incidental loss. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to the buyer.

HOW TO OBTAIN WARRANTY SERVICE

To obtain services under this warranty, the buyer shall contact Dayton Audio's authorized service provider, Parts Express, at 1-800-338-0531 x 780 to obtain a return authorization number (RA#).

The buyer must carefully pack the warranted product along with a copy of the original purchase receipt, the return authorization number (RA#), and a description to the repair facility listed below. Shipping for warranty service is the responsibility of the buyer.

Parts Express
Attn: Dayton Audio Warranty Repairs RA# (please write your RA# here)
705 Pleasant Valley Drive
Springboro, Ohio 45066

NOTICE TO BUYER

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

DAYTONAUDIO

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USA

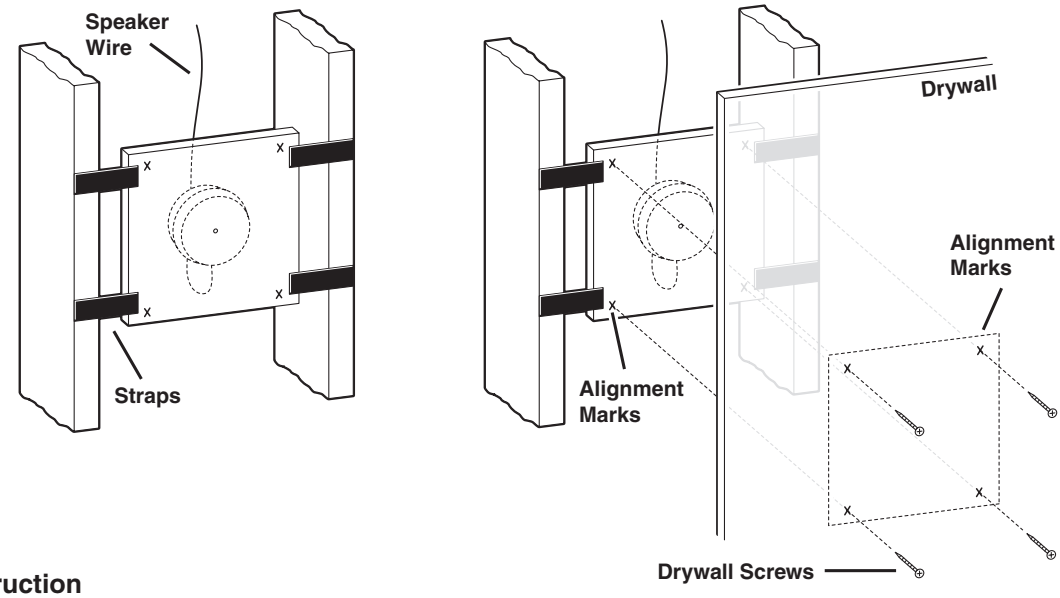
Hidden Weatherproof Full Range Sound Exciter Transducer Applications Guide

Below are some recommended applications for the versatile Dayton Audio HDN-8 transducer.

NOTE!	
When mounting, tighten only to a snug fit. Overtightening may result in damage to your transducer.	**If at any time you feel uncomfortable with the installation or use of this product please consult a professional installer.**

New Construction

When installing the HDN-8 into new construction, use a 10" square piece of hardwood 1/4" to 1/2" thick and suspend it from the adjacent studs as shown using woven Nylon or flexible plastic straps attached using drywall screws. Install the HDN-8 into the rear of the hardwood panel. When drywall is installed, install four drywall screws thru the drywall into the hardwood panel. This creates a high quality "hidden speaker" within the wall itself. A low frequency panel may be created by using a larger or thicker piece of hardwood and multiple HDN-8 transducers with electrical low-pass filtering. Hardwood provides the best audio quality, but plywood may also be used; be sure to use consistent thicknesses and sizes of wooden material for all "hidden speakers" to ensure matched output.

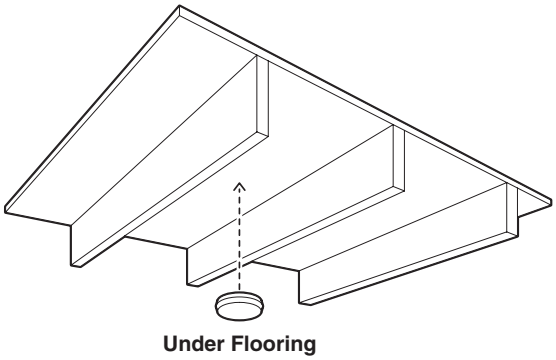


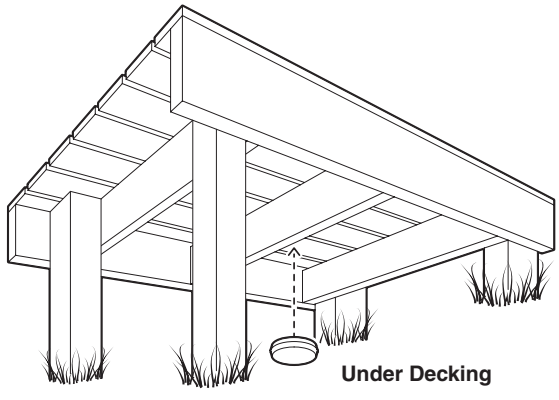
Existing Construction

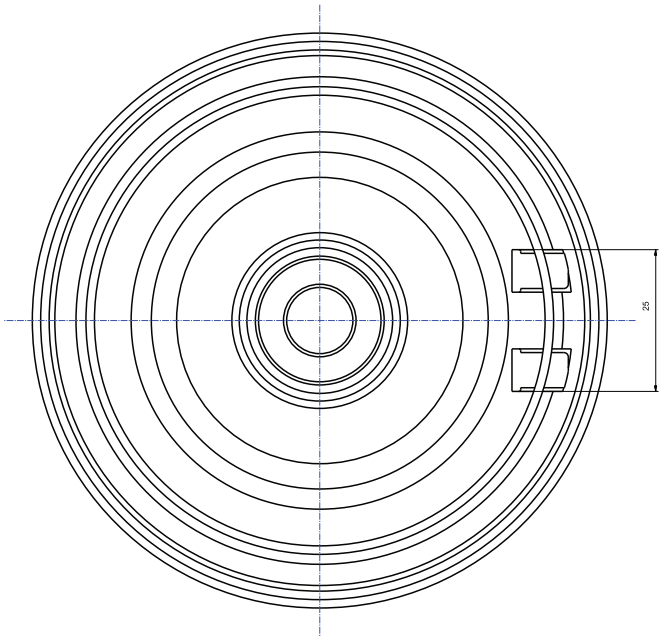
The HDN-8 is also easy to retrofit into an existing space. Install the HDN-8 into a 5" by 10" rectangular piece of hardwood or plywood. Cut a 5" x 5" hole in the drywall below the location where the "hidden speaker" will be installed, and pull the speaker cable through the hole to attach to the transducer as prescribed. Apply a construction adhesive to the side of the panel opposite where the HDN-8 transducer is installed, and insert it into the wall void. Hold the panel in a vertical orientation at the desired height and install two drywall screws through the drywall and into the panel, in order to hold the panel in place while the adhesive cures.

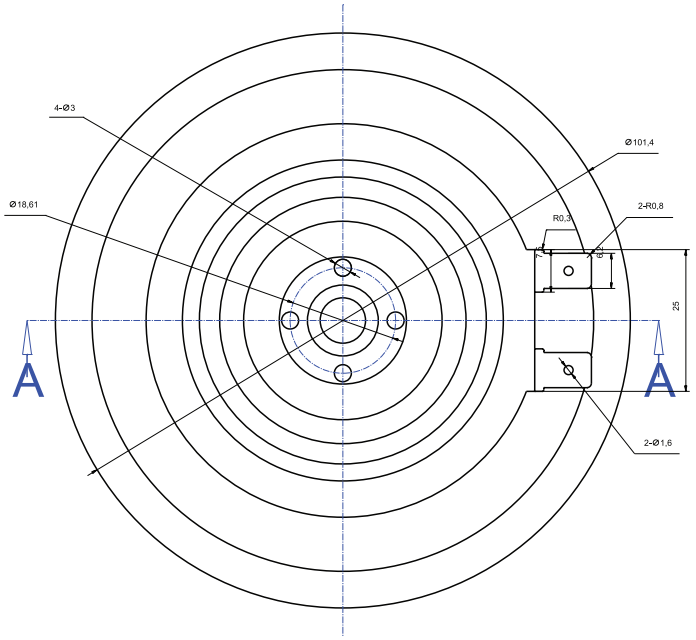
Other Applications

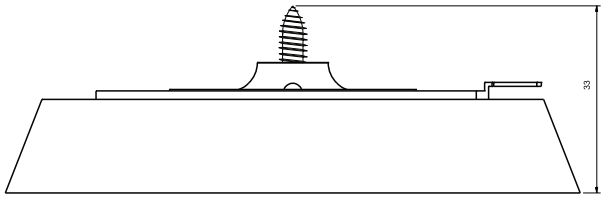
The HDN-8 is extremely versatile, and can be used in any application where sound is required, but exposed or visible speakers are undesirable. This includes multimedia exhibits, electronic casino gaming equipment, and arcade games. Additionally, the HDN-8 can add sound to furnishings, bathroom fixtures, cabinets, and under flooring. When using the HDN-8 in these applications, observe all precautions outlined in the User Manual. It is recommended that the HDN-8 be installed into a wooden structural component coupled to the surface, or into a wooden plate bonded to the surface that will produce sound. When multiple HDN-8 transducers are used, series-parallel wiring may be employed to ensure the proper impedance load for the amplifier.

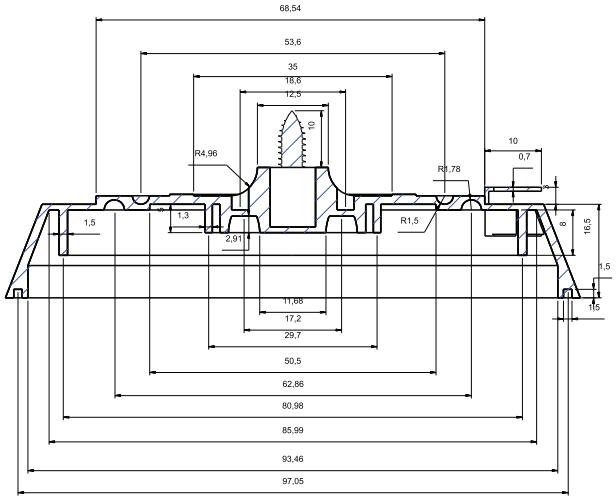












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RevNo	Revision note	Date	Signature	Checked	Approved
1:					
2:					
3:					
4:					

Designed by	Checked by	Approved by	Date	Scale	Edition
AH	RT	KK	6/2012	None	A

Model: HDN Audio Transducer

Unit: mm

Name: Upper Portion

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