

HDX-IWS10 Inwall Subwoofer
and
SDA-120 Digital Amplifier
Owner's Manual

Home Theater Direct, Inc.
www.htd.com

Expert Support:
866-HTD-AUDIO (483-2834)
info@htd.com

Safety Instructions for the SDA-120 Digital Amplifier

Warning - To reduce the risk of fire or shock, do not expose this appliance to rain or moisture.

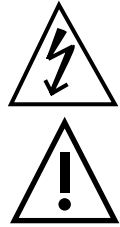
Caution - To reduce the risk of fire or shock, do not remove the cover or back. No user serviceable parts inside. Refer servicing to qualified service personnel.

Caution - To prevent electric shock, match wide blade of plug to wide slot, fully insert.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence to un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this appliance.



Read Instructions

All safety and operating instructions should be read before the appliance is operated.

Retain Instructions

The safety and operating instructions should be adhered to.

Heed Warnings

All warnings on the appliance and in the operating instructions should be adhered to.

Follow Instructions

All operating and use instructions should be followed.

Water and Moisture

The appliance should not be used near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

Ventilation

The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings: or placed in a built-in situation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

Heat

The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

Power Sources

The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

Grounding or Polarization

Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

Power Cord Protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

Cleaning

The appliance should be cleaned only as recommended by the manufacturer.

Power Lines

An outdoor antenna should be located away from power lines.

Non-Use Periods

The power cord of the appliance should be unplugged from the outlet when left unused for long periods of time.

Object and Liquid Entry

Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

Damage Requiring Service

The appliance should be serviced by qualified personnel when: a) the power supply cord or the plug has been damaged: b) objects have fallen, or liquid spilled into the appliance: c) the appliance has been exposed to rain: d) the appliance does not appear to operate normally or exhibits a marked change in performance or e) the appliance has been dropped, or the enclosure damaged.

Servicing

The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Product Servicing

If your system fails to operate properly, please contact HTD directly for further assistance, at 1-866-483-2834.

Additional information, including detailed specifications for each model, can be found on our website, www.htd.com. Thanks again for choosing Home Theater Direct!

If you have any questions, we can be reached at...
info@htd.com or toll free 1-866-HTD-AUDIO (483-2834)

Thank you for giving Home Theater Direct the chance to win your business! We are confident you will find that HTD offers an outstanding combination of performance and value in everything we make. To ensure you get the most out of your new In-Wall Subwoofer and amplifier, please take a moment to read this manual before you get started. Should you lose this manual, you can always download or print a copy from www.htd.com.

HTD In-Wall / In-Ceiling Speakers and Subwoofers are designed to accurately reproduce soundtracks from both music and video sources, including today's demanding surround sound formats. Mounted flush to the wall or ceiling, in-wall / in-ceiling speakers and subwoofers are ideal for many applications where traditional speaker or subwoofer placement would be impractical or impossible. They are well suited for both surround sound systems and distributed whole home audio systems.

Tips Before You Begin

Subwoofer Placement

Once installed, In-wall Subwoofers are not easily moved or repositioned. Take a little extra time to carefully consider the best location before you begin the installation.

In most cases, you should try to locate your In-wall Subwoofer so that it is on the front wall, facing toward the seating position. If this is not practical, you can alternately locate it on a side wall, close to the front of the room. While placing your In-Wall Subwoofer in a corner position can help to boost the perceived output level, we recommend moving it out of the corner slightly, approximately 1/4 of the total length of that wall. This will help to ensure a more even frequency response and avoid a "muddy" or "boomy" sound.

Regardless of location, please make sure the Subwoofer location will not be blocked by furniture or other objects.

Since the Subwoofer will be installed in a wall, some of the low frequency sounds may be transmitted to the room on the other side of the installation wall at higher output levels. Insertion of batted fiberglass insulation in the wall above and below the Subwoofer is recommended to help minimize sound transfer and to enhance the overall performance of the Subwoofer.

Connecting the Wires

The terminals will accommodate up to 14-gauge speaker wire, which should be used for longer connections (greater than 50 feet of cable). For shorter distances, 16-gauge wire will suffice, however we still recommend 14-gauge for best performance. For behind-the-wall installations such as this, we recommend using UL Class 3 approved cable (marked "CL3") for compliance with local building codes. Consider using HTD cable for all of your home theater and whole-house audio installations. HTD cable offers high quality and exceptional performance, while being priced significantly lower than traditional retail.

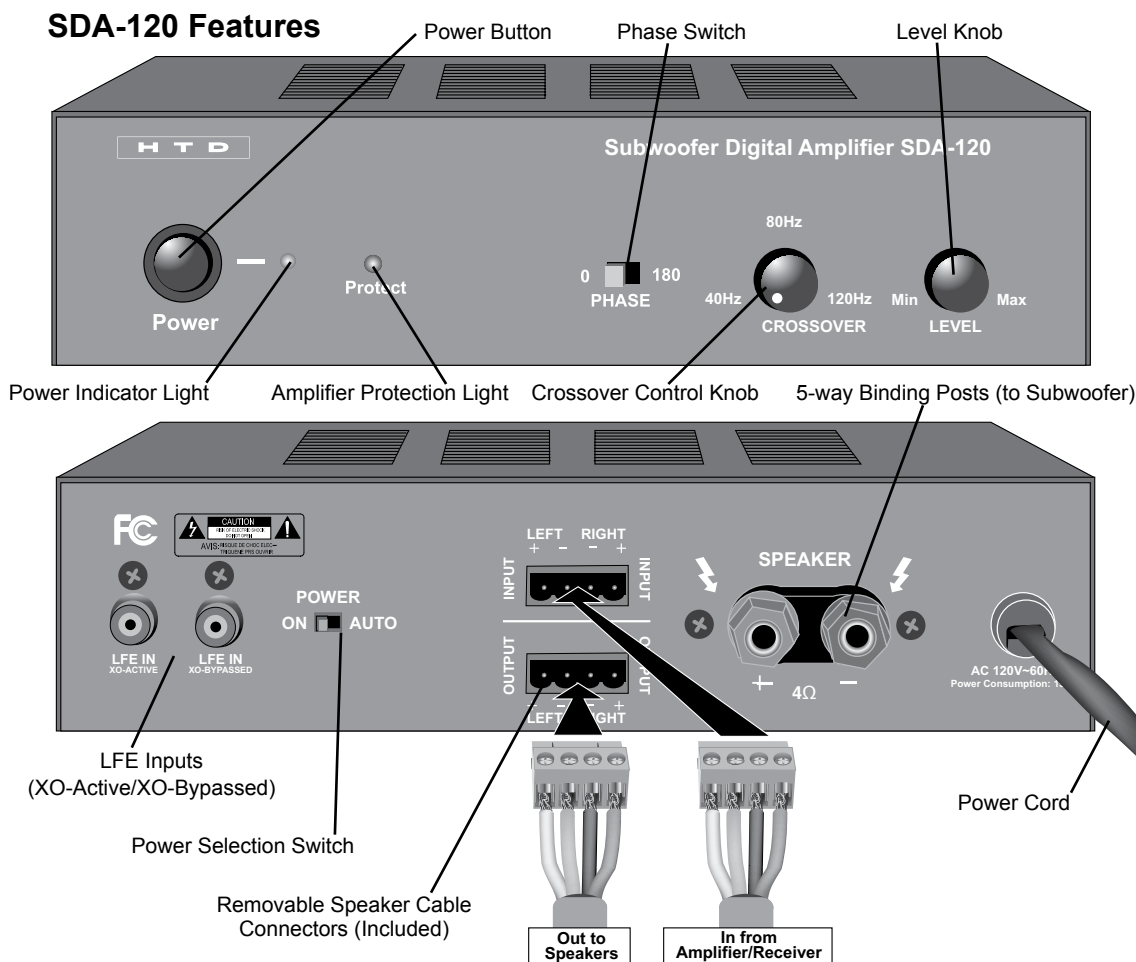
Leave approximately two feet of extra cable at the speaker location to make final installation and positioning of the Subwoofer easier. Do not use staples, nails, or other metal objects to secure the speaker cable as they may damage the cable. The resulting short could affect your system's performance, and could potentially damage components in your system, especially the amplifier. To avoid hum or noise, we recommend keeping all speaker cables at least 12-18 inches away from other electrical wires and cables. If you must place cables in close proximity, always cross speaker wires with other cable at a 90-degree angle.

When connecting the Subwoofer, it is very important to maintain the correct wiring polarity. To do this, be sure that the wire attached to the (+), red, or positive terminal on the speaker connects to the (+), red, or positive terminal on the Subwoofer amplifier. Similarly, the (-), black, or negative terminal on the speaker must connect to the (-), black, or negative terminal on the Subwoofer amplifier.

Mounting the Subwoofer (if you are unsure, consult a professional contractor)

You will be cutting a hole in the wall, but with the right tools and a little extra care and preparation, installing the In-wall Subwoofer should be both quick and easy. Follow the instructions beginning on page 6 for best installation practices.

Product Features



Power Selection Switch, Power Button, and Power Indicator Light

The Power Selection Switch is found on the back of the amplifier. It includes two settings that will affect how the amplifier turns on and off.

- **AUTO** - the amplifier will turn ON when an input signal is sensed from the connected source and will go into STAND-BY/OFF after several minutes of no signal. The Power Button on the front of the unit should be in the IN position. If the Power Button is in the OUT position, the amplifier will not turn on.
- **ON** - the amplifier remains ON, which allows the user to manually turn the amplifier ON and OFF by pushing the Power Button IN or OUT on the front panel.

The Power Indicator Light will be amber when the amplifier is in stand-by mode and bright blue when the amplifier is active. The Power Indicator Light will not be lit when the Power Button is in the OUT position.

Amplifier Protection Light

The Amplifier Protection Light will only illuminate when a problem exists that triggers the built-in protection mode, and the amplifier will shut down until the problem is resolved. The most common cause of an amplifier going into protection mode is a short condition (positive and negative wires coming into direct contact).

Phase Switch

The Phase Switch allows setting the output to be out of phase with another Subwoofer (if used) to minimize “dead spots” in the room caused by speaker wave interaction and cancellation.

Crossover Control Knob

The Crossover control knob allows control over the frequency range which your Subwoofer will produce (only used when the “XO-Active” input is used).

Product Features (Cont.)

Level Knob

This knob is used to adjust the output level to blend the Subwoofer volume with the other speakers in the room. The level is usually set just once, during initial setup and calibration.

LFE Inputs (LFE = Low Frequency Effects)

Inputs for line level Subwoofer signal coming from the LFE or Subwoofer output on your surround sound receiver.

- **XO-Active** - Use this input if you would like to use the built-in crossover on the front of the Subwoofer amplifier.
- **XO-Bypassed** - Use this input if you would rather use the bass management/crossover frequency set by your Receiver (usually the preferred method).

Removable Speaker Cable Input and Output Connectors

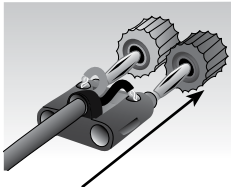
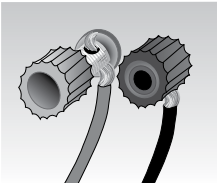
Used to obtain the audio signal from existing speaker cables in the instance that a dedicated Subwoofer output/ LFE Signal is not available from your receiver.

In the event your receiver does not have a dedicated line-level LFE or Subwoofer output connection, you can get the required signal by connecting the speaker cables from your receiver's Left & Right Front output connections to the SDA-120's rear INPUT connectors and then connecting speaker cables from the SDA-120's rear OUTPUT connectors to your Left & Right Front speakers.

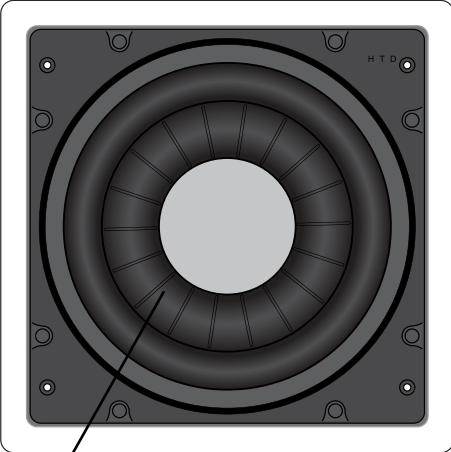
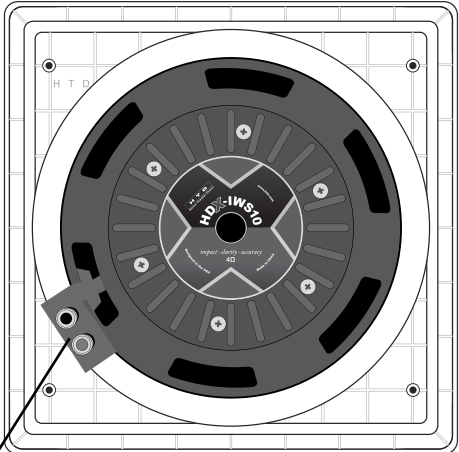
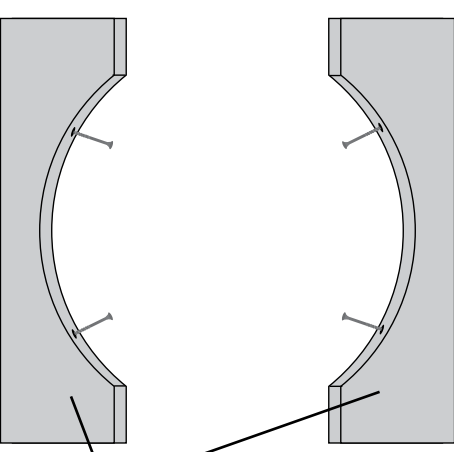
Note: This connection should not be necessary if your receiver has a dedicated LFE or Subwoofer output connector.

5-way Binding Posts

These posts are used for connecting standard 2-conductor speaker cable from the amplifier to the Subwoofer.

| | | | |
|---|--|--|---|
|  | Banana Plug Connection Make sure binding posts are tightened, then insert banana plug. |  | Bare Wire Connection Rotate binding post counter-clockwise to reveal "eye". Strip back 1/2" insulation from cable. Tightly twist copper wire and insert into "eye". Rotate binding post clockwise to tighten. |
| Be sure to maintain polarity (Subwoofer + to Amplifier +, Subwoofer - to Amplifier -) | | | |

HDX-IWS10 Features

| | | |
|---|--|--|
|  |  |  |
| 10" Reinforced Long-throw Aluminum Driver | Gold-plated Compression Terminals | Sturdy Wooden Mounting Braces (included). Braces attach to existing studs. Fits easily through hole cut for subwoofer. |

Quick Steps: Install HTD In-Wall Powered Subwoofer

You will need the following tools:

(Optional: 1/2" foam tape)



Pencil

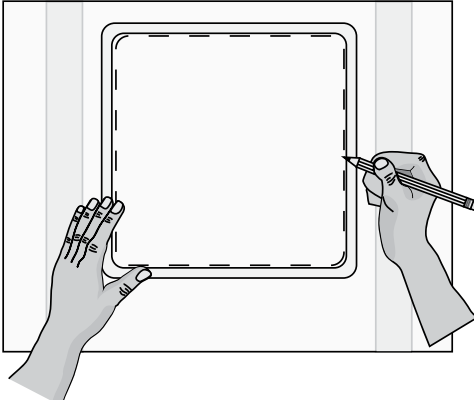


Drywall Saw

Drill
(with phillips
head bit and
1/16" or 3/32"
drill bit)



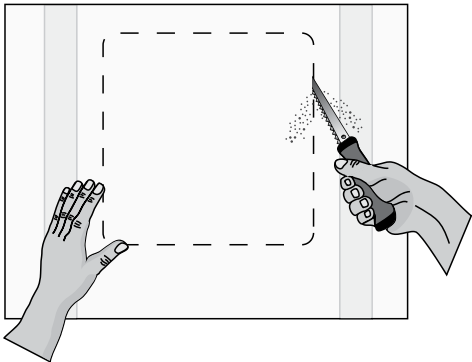
Step 1



After finding your stud locations and confirming there are no obstructions hidden behind the drywall, position the cardboard template and trace along the inside edge.

TIP: Check for obstructions before you cut the hole. Drill a small hole in the center of the area you plan to mount the Subwoofer. Cut a piece of coathanger wire and bend it to a 90 degree angle. Insert the wire into the small hole and fish around to make sure that no pipes, studs, or other objects will get in the way. If you do find something, you can easily patch the small hole you drilled. Otherwise, cut the big hole with confidence!

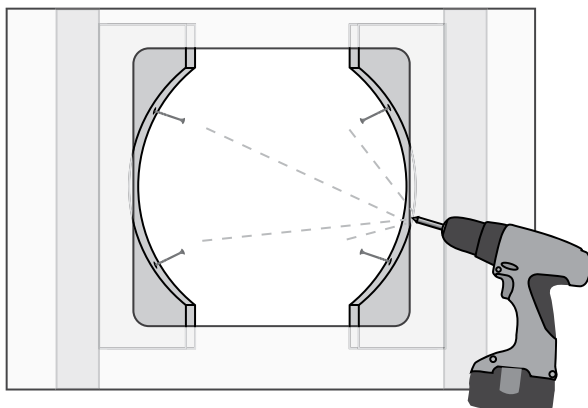
Step 2



Cut along the traced line using a drywall saw. A utility knife or rotary cutting tool will also work but may be more difficult to control for beginners.

TIP: Use a drywall saw to cut the hole. A utility knife will make the cleanest cuts in drywall, but a utility knife can be difficult to control by a non-expert. Rotary cutting tools make cutting drywall physically easy, but they can also be difficult to control. A simple, inexpensive drywall saw (around \$10 at your local hardware store) is usually the best choice. The Subwoofer's frame should cover up any rough edges.

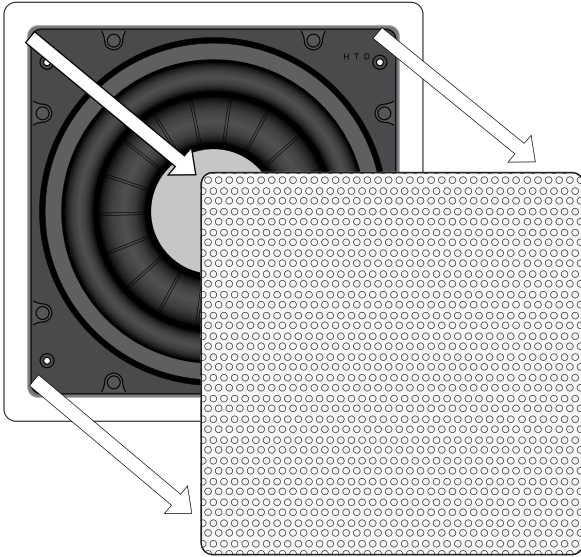
Step 3



Insert the first wood mounting bracket through the hole, with the curved portion facing toward the center of the hole. The wood bracket should sit against the back side of the drywall and against the stud. Adjust the bracket position up/down so it is centered vertically in the hole cutout. Screw the two included, **long**, pre-threaded screws into the stud. This will hold the bracket securely in place. (Repeat this process for the second bracket on opposite side of the hole.)

Step 4

Removing the press-fit grille from the in-wall powered Subwoofer is easy if you know a couple of tricks...



Brand new (un-installed) subwoofer:

* Awl Method - Using an awl, carefully insert the pointed/hook end of the awl into a hole in the grille (along the outside edge, not in the center). Pull firmly to raise the grille from the recessed channel. Repeat at multiple positions around the edge of the grille until it has been removed.

* Reverse Mounting Hole Method - Turn the Subwoofer so it is facing away from you. Find the four mounting holes located on the back of the frame. (These holes will be used to mount the Subwoofer to the wooden mounting brackets later.) Insert a straight, thin, sturdy object (such as a nail, or thin screw driver) into one of the four holes and apply gentle pressure. This will in turn apply pressure to the back of the grille, dislodging it from the Subwoofer frame. (Repeat in each of the four mounting screw holes until the grille is removed).

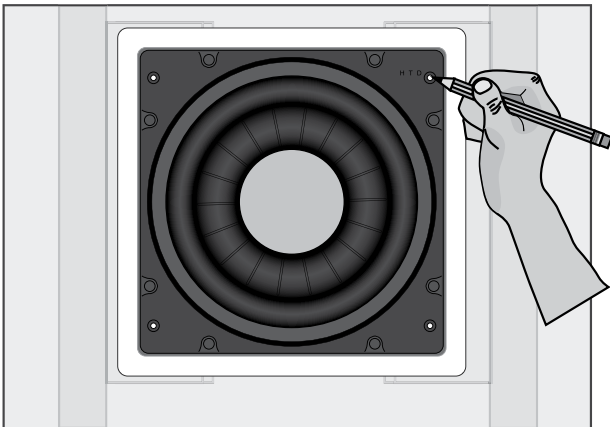
* Paper Clip Method - Bend a paperclip into the shape of a "J" and then insert the "J" through the small holes in the grille, along the outside edge. Pull on the paperclip "J" and the grille will lift out of the Subwoofer.

Already-installed subwoofer:

Use either the Awl Method or the Paper Clip Method above.

Note: The press-fit grille is intentionally very tight inside the frame. A loose grille could buzz or rattle during loud or bass-heavy operation.

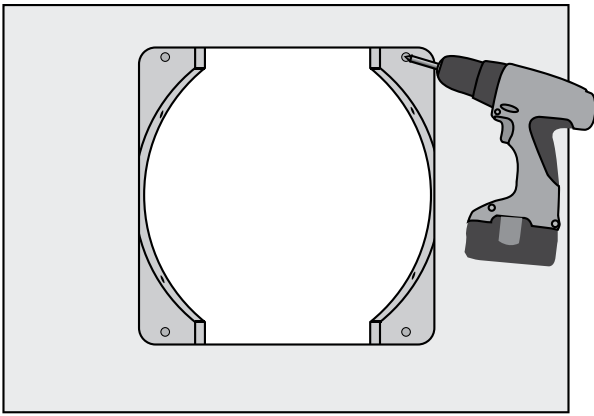
Step 5



With the gold-plated spring-loaded speaker cable connectors positioned at the bottom right of the Subwoofer, insert the Subwoofer into the hole in the drywall. Push the Subwoofer up against the drywall and hold it there with your hand (always hold the Subwoofer by the frame - never by the cone).

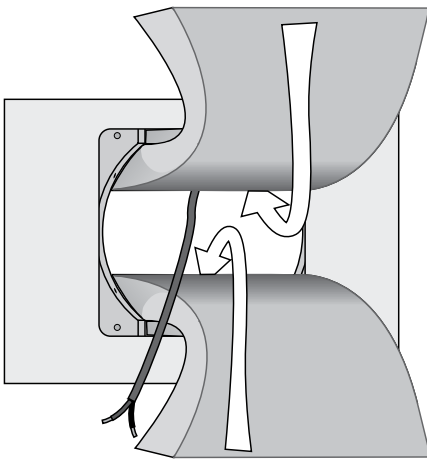
Insert a pencil, awl, or long nail through each of the four holes in the front corners of the Subwoofer to mark each hole location on the wood installation bracket behind each hole. Remove Subwoofer from the drywall and set it aside.

Step 6



Using a 1/16" or 3/32" drill bit, drill pilot holes into the wood brackets at the four previously marked locations. This will help to prevent the wood from splitting when the screws are driven in.

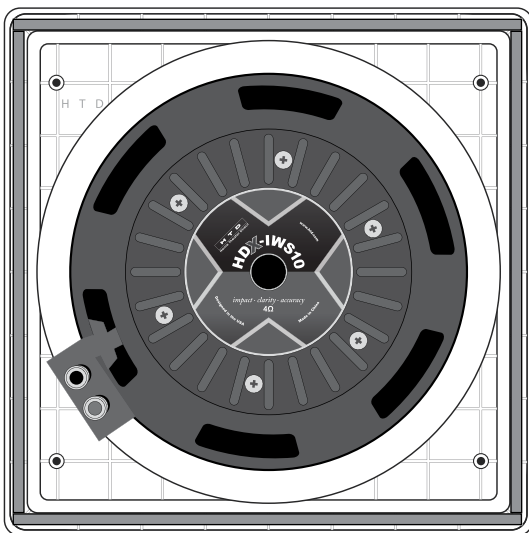
Step 7



If you have not already done so, run the 2-conductor speaker cable from the location of the SDA-120 Amplifier to the in-wall Subwoofer location. Allow some extra cable length at the end for ease of connection. Strip approximately 1/2" of insulation off of the ends of the two wires in the speaker cable (do not connect Subwoofer at this time).

OPTIONAL - Cut two 12" - 24" pieces of fiberglass batted insulation. Completely insert one piece into the wall cavity above and one piece below the Subwoofer location.

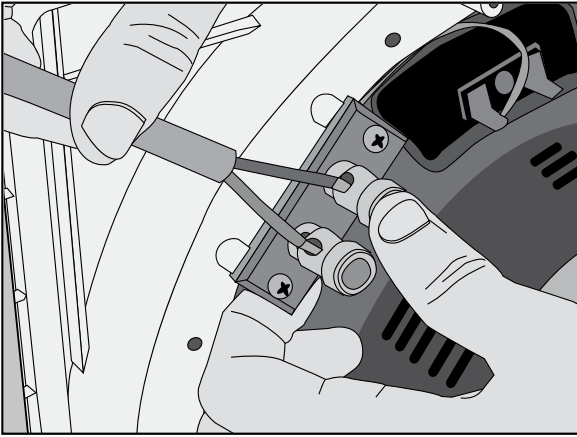
Step 8 - Optional



OPTIONAL - If your walls are heavily textured, this may prevent a tight seal between the Subwoofer and the drywall. In this case, you may want to install foam tape (available from most home improvement stores) around the inner edge of the Subwoofer frame. Peel the backing off of the foam tape to expose the adhesive. Attach the foam tape around the **BACK** surface of the Subwoofer's outer frame (leave approximately 1/8" in from the outer edge). The non-sticky side of the foam tape should be facing out as this will be in contact with the drywall. The foam tape will be out of sight when the Subwoofer is installed, and it will help seal the gap between the Subwoofer frame and the drywall to prevent vibration.

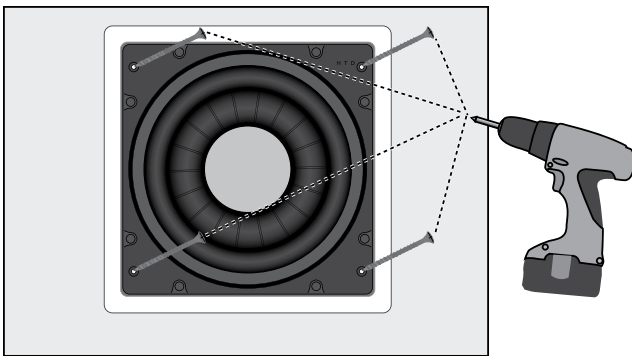
Note: The press-fit aluminum grille, the magnetic grille, and the Subwoofer frame can all be painted to better match your decor. You will need to remove the acoustically transparent cloth attached to the grille before painting to avoid clogging the grille with paint. We also include a convenient paint shield to assist you in painting the Subwoofer frame. If you choose to paint them, please do so before installation of the Subwoofer.

Step 9



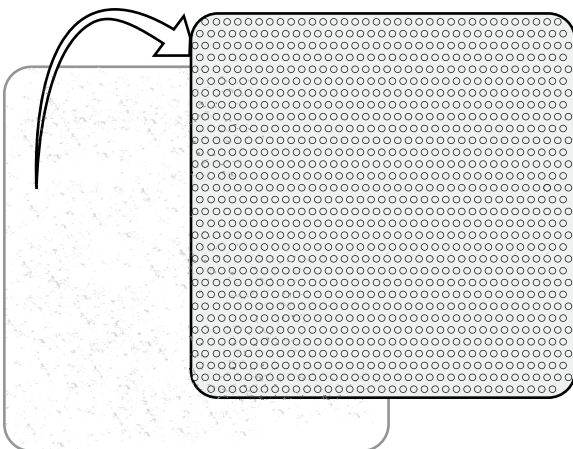
Pick up the Subwoofer and position it near the hole in the drywall. Connect the speaker wires to the Subwoofer by pressing down on the gold-plated spring-loaded cable connectors on the rear of the Subwoofer, then inserting the stripped ends into the proper connector. Be sure to connect the speaker wires to the correct Red (+) and Black (-) connectors.

Step 10



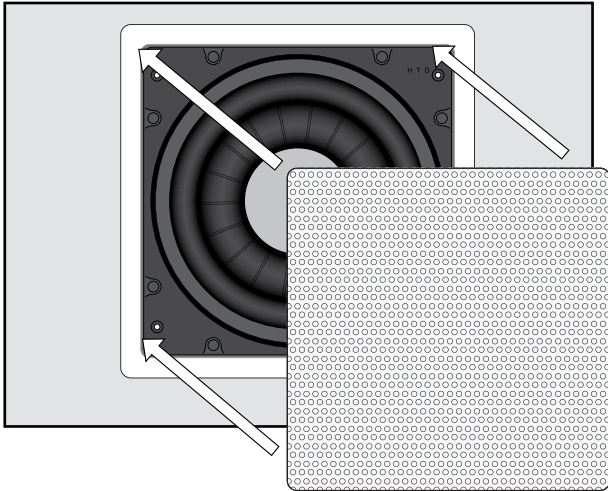
Insert the Subwoofer into the wall opening with the speaker connectors located at the bottom right. Using the four included **short** black Phillips-head screws (included), insert one through each of the four holes in the corners of the front of the Subwoofer and screw them into the wood brackets. This will compress the foam tape (if used) and pull the Subwoofer snugly against the dry-wall. Tighten the screws just enough to pull the Subwoofer snug, but do not over-tighten them enough to warp the outer frame – hand-tightening is recommended.

Step 11



Place the included acoustically transparent fabric on the back-side of the grille if it was removed previously for painting. While not required, this material prevents seeing through the holes in the grille and enhances visual appearance.

Step 12



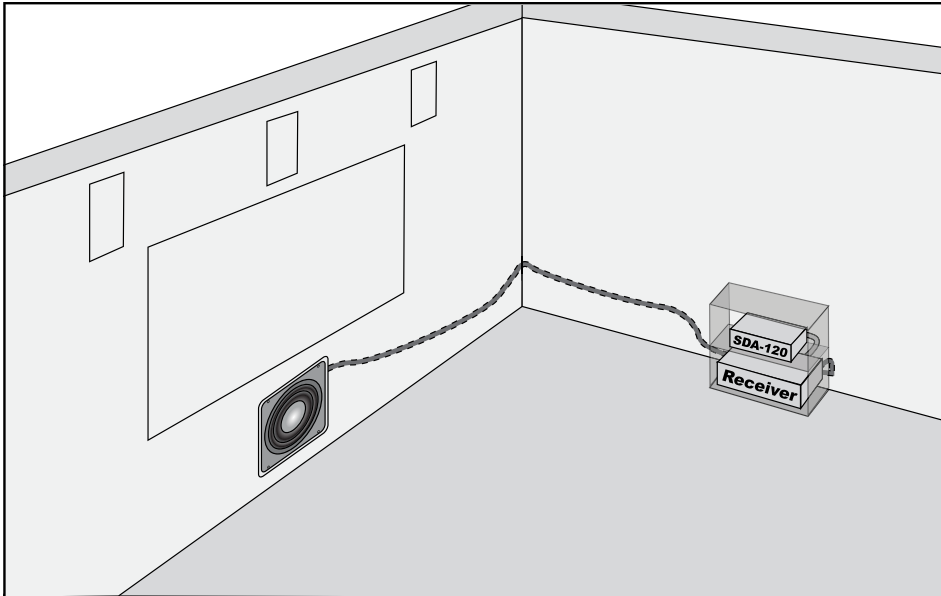
Press-Fit Grille - Insert the grille into the groove around the front of the Subwoofer, gently pushing it in and working your way around the edges until it sits flush with the outer frame.

OR

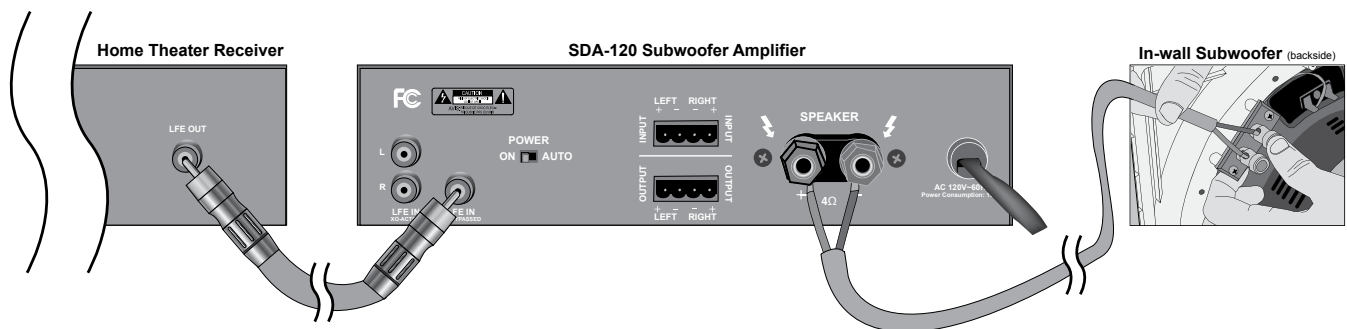
Magnetic Grille – Align the edge of the grille with the edge of the frame and press into place.

Your In-wall Powered Subwoofer installation is now complete. Enjoy!

Installation Idea #1



The diagram to the left shows the SDA-120 Amplifier located near the surround sound receiver and connected to the In-Wall Subwoofer using 2-conductor, in-wall speaker cable (14 gauge cable recommended).

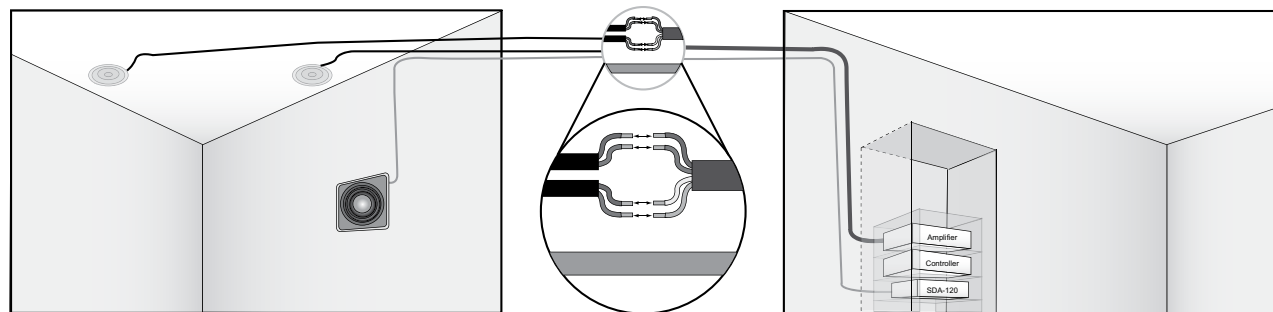


The connection of the in-wall Subwoofer in this example is simple and straightforward: the SDA-120 amplifier is connected to a receiver's LFE/Subwoofer Out connector using a shielded Subwoofer cable (available from HTD), then the SDA-120 amplifier is connected to the In-Wall Subwoofer using standard 2-conductor, in-wall speaker cable.

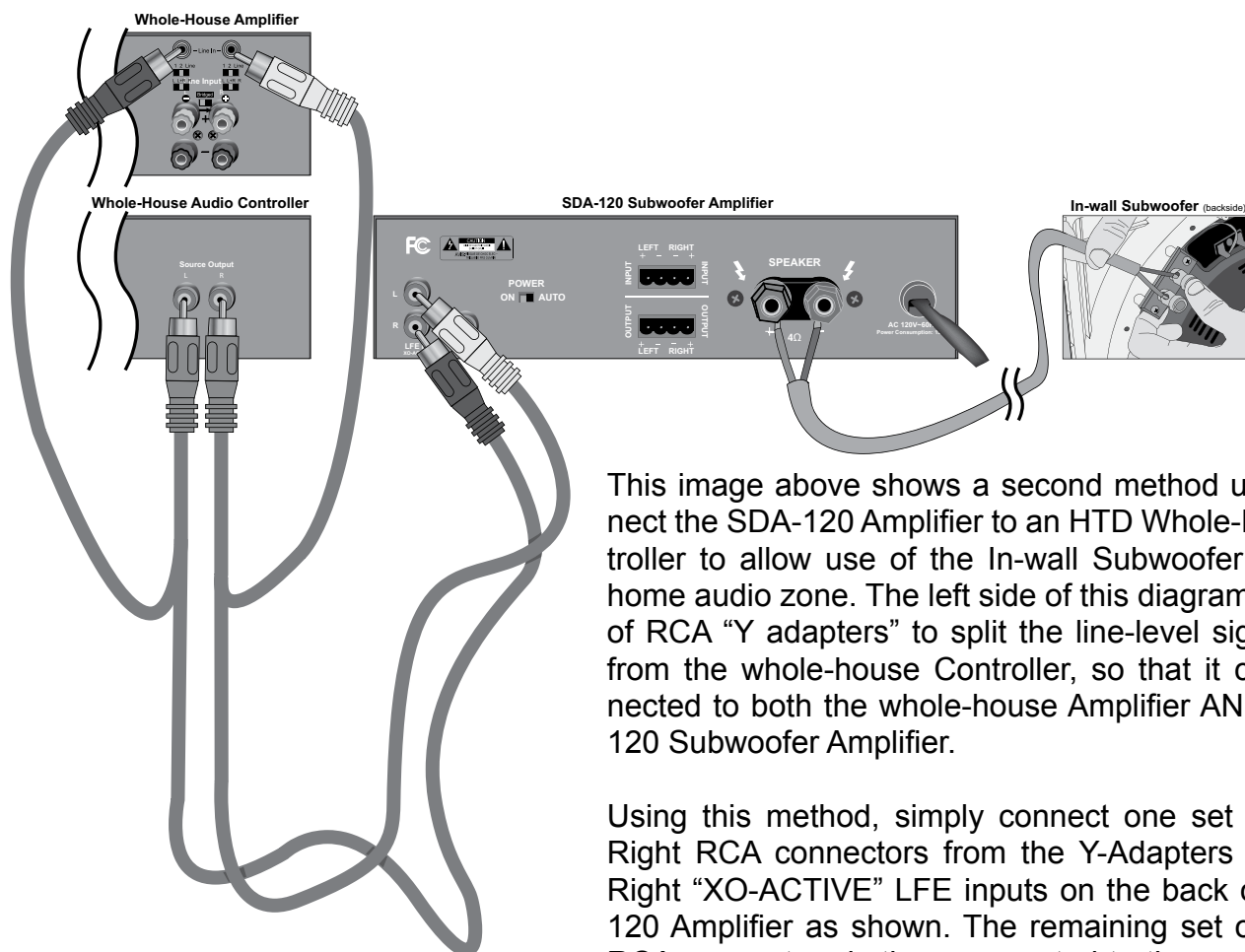
Installation Idea #2

This arrangement is ideal for situations where one would like to add a Subwoofer to a specific whole home audio zone within a multi-room audio system.

The image below illustrates one method of connecting the in-wall Subwoofer for use in another area/room using the speaker-level input/output connections on the SDA-120 amplifier. In this case the SDA-120 Amplifier is located near the multi-room audio controller and is connected to the In-Wall Subwoofer using 2-conductor, in-wall speaker cable. Please see **“Removable Speaker Cable Input and Output Connectors”** under **“Product Features”** for additional information.



A separate run of 2-conductor speaker cable connects the In-Wall subwoofer directly to the SDA-120 Subwoofer Amplifier. The other two speakers in that zone are connected to the whole home audio system amplifier as usual.



This image above shows a second method used to connect the SDA-120 Amplifier to an HTD Whole-House Controller to allow use of the In-wall Subwoofer in a whole home audio zone. The left side of this diagram shows use of RCA “Y adapters” to split the line-level signal coming from the whole-house Controller, so that it can be connected to both the whole-house Amplifier AND the SDA-120 Subwoofer Amplifier.

Using this method, simply connect one set of the Left/Right RCA connectors from the Y-Adapters to the Left/Right “XO-ACTIVE” LFE inputs on the back of the SDA-120 Amplifier as shown. The remaining set of Left/Right RCA connectors is then connected to the amplifier channels powering the main Left and Right channel speakers.

Specifications:

10" aluminum cone with butyl rubber surround for long life

Power handling: 120 watts RMS, 150 watts program

Frequency response: 34 Hz - 150 Hz

Flush-mount/magnetic grille options and frame provides clean, professional appearance

Reinforced resonance-absorbing ABS polymer frame

Moisture-resistant design includes powder-coated aluminum press-fit grille that will not rust

Grilles and frame can be painted to match any decor

Impedance: 4 ohms

Sensitivity: 88dB

Dimensions: 12-3/8" H x 12-3/8" W x 3-7/8 D

Hole Cutout: 11-1/4" x 11-1/4" template included with speakers

Special wood braces included and required; will work with wood studs spaced 15" to 18" on center (note: most walls are built with studs spaced at 16" on center)

Minimum install depth: 4.00"

Weight (Subwoofer only): 9.5 lbs

Includes 120 Watt RMS High Efficiency Digital Amplifier with:

LFE (Subwoofer) RCA-type Input

Hi Level (speaker level) inputs and outputs

Level Control

Phase Switch

Auto-on capability with dual color LED indicator (amber:stand-by / blue:on)

Warranty

All HTD electronics carry a two-year parts and labor warranty. Details can be found at www.htd.com/info/warranty.
Warranty registration occurred automatically at the time your order was placed. There is no need to complete or mail in additional paperwork.

If you have any questions, we can be reached at...
info@htd.com or toll free 1-866-HTD-AUDIO (483-2834)

Also Note that the amplifier that is packaged with this subwoofer complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

