

HiVi-Swans DIY3.1A

HiVi-Swans DIY 3 Way Passive Bookshelf Speakers Pair - Model DIY3.1A Instruction Manual

Your guide to assembling and enjoying your Hi-Fi speaker kit.

INTRODUCTION

Thank you for choosing the HiVi-Swans DIY 3 Way Passive Bookshelf Speakers Pair, Model DIY3.1A. This kit provides a rewarding experience for audio enthusiasts to build their own high-fidelity speakers. This manual will guide you through the assembly process, operational guidelines, and maintenance to ensure optimal performance and longevity of your speakers.

The DIY3.1A speakers feature a three-way, fourth-order speaker system with a 6.5-inch Kevlar fiber mid-bass unit, a professional DN Series soft dome midrange unit, and an isodynamic ribbon tweeter for detailed and natural sound reproduction.

WHAT'S IN THE BOX

Upon unpacking, please verify that all components listed below are present and in good condition. If any items are missing or damaged, please contact customer support.

- Speaker Cabinets (Pair)
- Instruction Manual
- 6.5-inch Kevlar Mid-Bass Drivers (Pair)
- DN Series Soft Dome Midrange Drivers (Pair)
- Isodynamic Ribbon Tweeters (Pair)
- Crossover Boards (Pair)
- Speaker Wire
- Mounting Hardware (Screws, etc.)
- Grill Fabric and Mounting Hardware
- Damping Foam



ENJOY WOODWORKING

Have fun building your own
speakers

Image: All components of the HiVi-Swans DIY3.1A speaker kit laid out, including cabinets, drivers, crossover boards, and wiring.

SETUP AND ASSEMBLY

Building your HiVi-Swans DIY3.1A speakers requires careful attention to detail. Basic woodworking skills and soldering experience are recommended. Refer to the provided diagrams and videos for visual guidance.

Tools Required (Not Included):

- Wood glue
- Soldering iron and solder
- Screwdriver set
- Wire strippers
- Clamps (for cabinet assembly)
- Optional: Sandpaper, veneer, paint/stain for finishing the cabinets

Assembly Steps:

1. **Cabinet Assembly:** Carefully assemble the pre-cut cabinet panels using wood glue. Ensure all joints are tight and square. Use clamps to hold the panels in place while the glue dries. Allow sufficient drying time as per the glue manufacturer's instructions.
2. **Crossover Assembly:** Solder the components onto the provided crossover boards according to the circuit diagram in the manual. Ensure correct polarity and secure connections.
3. **Internal Wiring:** Cut the provided speaker wire to appropriate lengths. Connect the crossover board to the input terminals and to each driver (tweeter, midrange, woofer) inside the cabinet. Ensure proper polarity (+ to + and - to -) for all connections.
4. **Damping Material Installation:** Line the interior walls of the speaker cabinet with the provided damping foam. This helps to reduce internal reflections and improve sound quality.
5. **Driver Installation:** Mount the tweeter, midrange, and woofer drivers into their respective cutouts on the front baffle. Secure them with the provided screws. Ensure a snug fit to prevent air leaks.
6. **Terminal Cup Installation:** Install the terminal cup on the rear panel of the cabinet. Connect the internal wiring from the crossover to the terminal posts on the cup.
7. **Finishing (Optional):** Once assembled, you can apply a finish to your speaker cabinets, such as paint, stain, or veneer, to match your aesthetic preferences.



Image: Diagram showing the step-by-step assembly process of the HiVi-Swans DIY3.1A speaker, from components to finished product.



Image: Speaker cabinet with drivers and crossover components ready for assembly.

Assembly Video Guide:

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Video: Official HiVi-Swans assembly guide for the DIY 3 Way Passive Bookshelf Speakers Pair, demonstrating the construction process.

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Video: Preview of the crossover assembly process for the HiVi-Swans DIY speakers, showing key steps and components.

OPERATING INSTRUCTIONS

Connecting to an Amplifier:

The DIY3.1A speakers are passive and require an external amplifier or receiver. Use high-quality speaker cables to connect the speakers to your amplifier. Ensure that the positive (+) terminal on the speaker is connected to the positive (+) terminal on the amplifier, and the negative (-) terminal on the speaker is connected to the negative (-) terminal on the amplifier. Incorrect polarity can result in poor sound quality and imaging.

- **Impedance:** The speakers have an impedance of 4 ohms. Ensure your amplifier is stable and capable of driving a 4-ohm load.
- **Power Handling:** These speakers can handle a peak power of 120 watts. Avoid exceeding this rating to prevent damage.

Speaker Placement:

Optimal speaker placement is crucial for sound quality. Consider the following:

- **Stereo Setup:** Place the speakers equidistant from your primary listening position, forming an equilateral triangle.
- **Bookshelf/Stand Mounting:** Position speakers on sturdy bookshelves or dedicated speaker stands at ear level when seated.
- **Distance from Walls:** Experiment with placing speakers a few inches to a foot away from rear and side walls to optimize bass response and soundstage.
- **Home Theater:** These speakers are suitable for front left/right or surround sound applications in a 5.1, 7.1, or 11.1

setup.



Image: A pair of assembled HiVi-Swans DIY3.1A speakers in a black finish, ready for use.

MAINTENANCE

To ensure the longevity and performance of your HiVi-Swans DIY3.1A speakers, follow these maintenance guidelines:

- **Cleaning:** Gently wipe the cabinet surfaces with a soft, dry cloth. Avoid using harsh chemicals or abrasive cleaners, which can damage the finish.
- **Driver Care:** Do not touch the speaker cones or tweeters, as this can cause damage. If dust accumulates, use a soft brush or compressed air from a distance.
- **Environment:** Keep speakers away from direct sunlight, excessive heat, moisture, and extreme temperature changes.
- **Connections:** Periodically check all cable connections to ensure they are secure and free from corrosion.

TROUBLESHOOTING

If you encounter issues with your speakers, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No sound from one or both speakers	Loose or incorrect wiring; amplifier issue; damaged driver	Check all speaker cable connections for proper polarity and tightness. Verify amplifier is powered on and input is selected correctly. Inspect drivers for visible damage.
Distorted or unclear sound	Overdriving speakers; incorrect amplifier settings; loose internal wiring; damaged driver	Reduce amplifier volume. Check amplifier tone controls and EQ settings. Re-check internal wiring connections, especially at the crossover. Inspect drivers for damage.
Weak or absent bass	Incorrect speaker placement; phase issue; woofer wiring problem	Adjust speaker placement relative to walls. Double-check woofer polarity. Ensure woofer is securely connected and functioning.
Harsh or overly bright treble	Room acoustics; amplifier settings; tweeter wiring problem	Adjust amplifier treble control. Consider room acoustic treatments. Double-check tweeter polarity and connections.

SPECIFICATIONS

Feature	Detail
Brand	HiVi-Swans
Model Number	DIY3.1A
Speaker Type	3-Way Passive Bookshelf Speaker
Speaker Maximum Output Power	120 watts (Peak)
Frequency Response	20 KHz (Upper limit, full range not specified)
Impedance	4 ohm
Connectivity Technology	Wired
Audio Output Mode	Surround
Mounting Type	Desktop
Enclosure Material	Wood
Woofer Diameter	6.5 inches (Kevlar Mid-Bass)
Tweeter Type	Isodynamic Ribbon
Midrange Type	DN Series Soft Dome
Item Dimensions (D x W x H)	13.54"D x 8.46"W x 16.54"H
Item Weight	52 pounds (per pair)
Number of Items	2 (Pair)
Compatible Devices	Laptop, Desktop, Television, MP3 Player

WARRANTY INFORMATION

The HiVi-Swans DIY3.1A speaker kit comes with a Limited Warranty. Please refer to the warranty documentation included with your purchase for specific terms, conditions, and duration. This warranty typically covers manufacturing defects in components. Damage resulting from improper assembly, misuse, or modification may not be covered.

SUPPORT

For further assistance, technical questions, or to report missing/damaged parts, please contact HiVi-Swans customer support through the retailer where you purchased the product or visit the official HiVi-Swans website for contact information and additional resources.

You can also find additional community support and build guides online by searching for 'HiVi-Swans DIY3.1A assembly' or 'Sehlin crossover mod'.

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