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Ground Zero GZHW 20XSPL-D1

Ground Zero GZHW 20XSPL Subwoofer User Manual

Model: GZHW 20XSPL-D1

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Ground Zero Hydrogen GZHW 20XSPL passive subwoofer. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of your product.



Figure 1: Side view of the Ground Zero GZHW 20XSPL Subwoofer, showcasing its robust construction and yellow basket.

2. SAFETY INFORMATION

Always observe the following safety precautions:

- Ensure all connections are secure and properly insulated to prevent short circuits.
- Do not expose the subwoofer to excessive moisture or extreme temperatures.
- Always disconnect power before making any connections or performing maintenance.
- Consult a professional installer if you are unsure about any installation steps.
- Operating at excessively high volumes can cause hearing damage.

3. SETUP AND INSTALLATION

The Ground Zero GZHW 20XSPL is a passive subwoofer designed for integration into car audio systems or home theater setups. Proper installation is crucial for optimal performance.

3.1 Unpacking

Carefully remove the subwoofer from its packaging. Inspect for any signs of damage during transit. Retain the packaging for future transport or storage.

3.2 Mounting Considerations

This subwoofer is designed for flush mounting. Ensure the mounting surface is sturdy enough to support the subwoofer's weight (approximately 8.7 kg) and withstand vibrations. The mounting diameter required is 187 mm, and the mounting depth is 145 mm.



Figure 2: Side profile of the subwoofer, illustrating its compact depth for flush mounting.

3.3 Wiring and Connections

The GZHW 20XSPL features a dual voice coil design with an impedance of 2 x 1 Ohm or 2 x 2 ohms. Proper wiring is

essential to match your amplifier's capabilities and achieve the desired impedance. Refer to your amplifier's manual for compatible impedance loads.

- **Parallel Wiring (0.5 Ohm or 1 Ohm total):** Connect positive terminals of both voice coils together, and negative terminals of both voice coils together. Then connect to the amplifier. This configuration results in a lower impedance.
- **Series Wiring (2 Ohm or 4 Ohm total):** Connect the positive terminal of one voice coil to the negative terminal of the other voice coil. The remaining positive and negative terminals connect to the amplifier. This configuration results in a higher impedance.

Always use high-quality speaker wire of appropriate gauge for the power levels involved. Ensure all connections are tight and free from corrosion.



Figure 3: Rear view of the subwoofer, showing the robust magnet structure and speaker terminals for wiring.

4. OPERATING INSTRUCTIONS

Once installed, the GZHW 20XSPL subwoofer operates as part of your audio system. Its performance is dependent on the amplifier and audio source it is connected to.

4.1 Power Handling

The subwoofer has a recommended power handling of 300-1500 W, with an RMS power of 700 W and a peak power of 1500 W. It is crucial to match the amplifier's output to these specifications to prevent damage. Underpowering can be as damaging as overpowering, as it can lead to amplifier clipping, which produces distorted signals harmful to the subwoofer.

4.2 Break-in Period

Allow a break-in period of approximately 20-30 hours of normal listening before operating the subwoofer at high volumes. This allows the suspension components (surround and spider) to loosen up and reach their optimal compliance, improving overall performance and longevity.

4.3 Audio Settings

Adjust the low-pass filter (LPF) on your amplifier or head unit to properly integrate the subwoofer with your main speakers. A typical LPF setting for subwoofers is between 60 Hz and 100 Hz. Experiment with phase settings (0° or 180°) to achieve the best blend with your other speakers.



Figure 4: Front view of the subwoofer cone, highlighting the reinforced paper cone and 3D logo dustcap.

5. MAINTENANCE

The Ground Zero GZHW 20XSPL subwoofer requires minimal maintenance to ensure its longevity.

- **Cleaning:** Use a soft, dry cloth to wipe down the cone and surround. Avoid using harsh chemicals or abrasive cleaners.
- **Inspection:** Periodically check the speaker terminals for secure connections and signs of corrosion. Inspect the surround for any cracks or tears.
- **Environment:** Keep the subwoofer in a dry environment, away from direct sunlight and extreme temperatures. While not waterproof, it is designed for robust use within typical vehicle or home environments.

6. TROUBLESHOOTING

If you experience issues with your GZHW 20XSPL subwoofer, consult the following table before seeking professional assistance.

Problem	Possible Cause	Solution
No Sound from Subwoofer	Loose or incorrect wiring Amplifier not powered on or in protect mode Head unit settings incorrect (e.g., subwoofer output off) Damaged voice coil	Check all wiring connections for security and correct polarity. Verify amplifier power and check fuses. Ensure subwoofer output is enabled and volume is up on head unit. Test voice coil continuity with a multimeter. If open, replacement may be needed.
Distorted Sound	Amplifier clipping (overdriving) Incorrect gain settings Subwoofer enclosure issues Damaged cone or surround	Reduce amplifier gain or head unit volume. Adjust amplifier gain to match head unit output without clipping. Check enclosure for air leaks or loose panels. Inspect cone and surround for physical damage.
Weak Bass Output	Incorrect phase setting Low-pass filter set too high or too low Underpowered amplifier	Toggle phase switch (0°/180°) on amplifier/head unit. Adjust LPF to blend better with main speakers (e.g., 80 Hz). Ensure amplifier power matches subwoofer's RMS rating.

7. TECHNICAL SPECIFICATIONS

Detailed specifications for the Ground Zero GZHW 20XSPL Subwoofer:

Feature	Specification
Model Name	Ground Zero Hydrogen GZHW 20XSPL
Model Number	39733433139379
Type	Passive Subwoofer
Size	8 inches (20 cm)

Feature	Specification
RMS Power Handling	700 W
Peak Power Handling	1500 W
Recommended Amplifier Power	300-1500 W
Impedance	2 x 1 Ohm or 2 x 2 Ohm (Dual Voice Coil)
Efficiency (SPL)	80 dB
Voice Coil	63 mm Copper
Cone Material	Reinforced Paper
Surround	Long-throw Sandwich Surround
Basket Type	Solid Cast Aluminum
Maximum Excursion (Xmax)	40 mm
Mounting Diameter	187 mm
Mounting Depth	145 mm
Resonant Frequency (Fs)	38.3 Hz
Total Q (Qts)	0.381
Equivalent Air Volume (Vas)	4.77 liters
Product Dimensions (L x W x H)	200 x 200 x 150 cm (approx. 8 x 8 x 6 inches)
Product Weight	8.7 kg (approx. 19.2 lbs)

8. WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the official Ground Zero website or contact your authorized Ground Zero dealer. Warranty terms and conditions may vary by region and retailer. It is recommended to retain your proof of purchase for warranty claims.

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Related Documents - GZHW 20XSPL-D1

Comprehensive manual for the Ground Zero GZIA 135.4 Iridium Series 4-channel Class AB amplifier, covering features, installation, specifications, troubleshooting, and safety instructions.