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Blackspider BSA15.4

BlackSpider BSA15.4 15000W 4 Channel Amplifier User Manual

Model: BSA15.4

INTRODUCTION

Thank you for choosing the BlackSpider BSA15.4 15000W 4 Channel Amplifier. This amplifier is designed to deliver high-efficiency power and precision audio performance for your car audio system. Please read this manual thoroughly before installation and operation to ensure proper use and to maximize the performance and longevity of your amplifier.

IMPORTANT SAFETY INFORMATION

- Always disconnect the vehicle's battery negative terminal before starting any installation.
- Ensure proper grounding of the amplifier to the vehicle chassis.
- Use appropriate gauge wiring for power, ground, and speaker connections to prevent overheating and damage.
- Install the amplifier in a well-ventilated area to prevent overheating. Avoid mounting in enclosed spaces without airflow.
- Protect all wiring from sharp edges and moving parts.
- Do not operate the amplifier if it is damaged or malfunctioning. Refer to the troubleshooting section or contact support.
- Professional installation is recommended for optimal performance and safety.

PACKAGE CONTENTS

Verify that all items are present in the package:

- BlackSpider BSA15.4 4 Channel Amplifier
- Fuses (pre-installed or spare)
- Mounting Brackets
- Screws
- User Manual (this document)



Image: The BlackSpider BSA15.4 amplifier shown alongside its included accessories, which typically consist of fuses, mounting screws, and the user manual.

PRODUCT OVERVIEW

The BlackSpider BSA15.4 is a 4-channel Class AB amplifier featuring a high-efficiency MOSFET power amplifier design. It is engineered for reliable high-power output and flexible system setups.

Key Features:

- High Efficiency MOSFET Power Amplifier design
- 2Ω Stable Circuitry for reliable high-power output
- Bridgeable Channel Configuration for flexible system setups
- Variable High & Low Pass Crossover to fine-tune your audio
- Rear Channel Bass Boost for enhanced low-end response
- Integrated Cooling Fan for consistent thermal control
- Built-in Protection Circuitry against thermal overload, short circuits, and excessive current

Amplifier Layout:



Image: Top view of the BlackSpider BSA15.4 amplifier, highlighting its sleek design and branding.



Image: Rear panel of the amplifier, detailing the power input (GND, REM, +12V), fuse slots, and speaker output terminals (L/R for front and rear channels, and bridgeable option).



Image: Front panel of the amplifier, showing the control knobs for Crossover (HPF, LPF, FULL), Bass Boost, and Gain for both front and rear channels, along with input RCA jacks.



Image: Bottom view of the amplifier, clearly showing the integrated cooling fan designed for consistent thermal control during operation.

INSTALLATION AND SETUP

Proper installation is crucial for optimal performance and safety. If you are unsure about any steps, consult a professional installer.

1. Mounting Location:

- Choose a location that is dry, well-ventilated, and protected from direct sunlight and excessive heat.
- Ensure sufficient space around the amplifier for airflow, especially around the cooling fan.
- Avoid mounting the amplifier where it could be exposed to moisture or excessive vibration.
- Securely mount the amplifier using the provided mounting brackets and screws to prevent movement.

2. Wiring Connections:

Before making any connections, disconnect the vehicle's negative battery terminal.

- **Power (+12V):** Connect a heavy-gauge power cable directly from the positive terminal of the vehicle's battery to the +12V terminal on the amplifier. Install an in-line fuse holder (not supplied) within 18 inches (45 cm) of the battery.
- **Ground (GND):** Connect a heavy-gauge ground cable from the GND terminal on the amplifier to a clean, unpainted metal surface of the vehicle's chassis. Ensure a solid, low-resistance connection.
- **Remote (REM):** Connect a remote turn-on wire from your head unit's remote output to the REM terminal on the amplifier. This wire turns the amplifier on and off with your head unit.
- **RCA Input:** Connect RCA cables from your head unit's pre-amp outputs to the amplifier's RCA input jacks (Front L/R, Rear L/R).
- **Speaker Output:** Connect your speakers to the appropriate speaker output terminals. Observe correct polarity (+ to + and - to -).
- **Bridged Mode:** For higher power output to a single speaker (e.g., a subwoofer), you can bridge two channels. Refer to the "Operating Instructions" section for details on bridging.

Caution: Ensure all connections are secure and properly insulated to prevent short circuits.

OPERATING INSTRUCTIONS

1. Initial Power-Up and Basic Settings:

1. After all connections are made, reconnect the vehicle's negative battery terminal.
2. Turn on your head unit. The amplifier should power on (indicated by a power LED).
3. Start with all gain controls on the amplifier set to minimum.
4. Set your head unit's volume to about 75% of its maximum.
5. Slowly increase the gain controls on the amplifier until you hear distortion, then back off slightly. This sets the maximum clean output level.

2. Crossover Settings:

The BSA15.4 features variable high-pass (HPF) and low-pass (LPF) crossovers to optimize sound for different speakers.

- **HPF (High Pass Filter):** Allows frequencies *above* the set point to pass through. Use for full-range speakers or tweeters to protect them from low bass frequencies.
- **LPF (Low Pass Filter):** Allows frequencies *below* the set point to pass through. Use for subwoofers to ensure they only reproduce bass.
- **FULL:** Disables the crossover, allowing the full frequency range to pass.
- Adjust the HPF/LPF knobs according to your speaker types and desired sound. Typical settings:
 - Full-range speakers: HPF set between 80Hz - 120Hz.
 - Subwoofers (when bridged): LPF set between 80Hz - 120Hz.

3. Bass Boost:

The rear channels feature a variable Bass Boost control to enhance low-end response.

- Adjust the Bass Boost knob to your preference. Use sparingly to avoid distortion and speaker damage.

4. Bridged Channel Configuration:

The BSA15.4 allows bridging of two channels to create a single, higher-power output for a subwoofer.

- To bridge channels, connect the positive (+) terminal of the subwoofer to the positive (+) terminal of one channel (e.g., R+ of Rear) and the negative (-) terminal of the subwoofer to the negative (-) terminal of the adjacent channel (e.g., L- of Rear). Refer to the amplifier's rear panel diagram for specific bridging connections.
- When bridging, ensure the subwoofer's impedance is within the amplifier's stable operating range (e.g., 4Ω bridged).
- Set the crossover for the bridged channels to LPF for subwoofer operation.

MAINTENANCE

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure the cooling fan and heatsink fins remain free of dust and debris to maintain proper airflow and prevent overheating.
- **Connections:** Occasionally check all wiring connections for tightness and corrosion. Loose connections can cause performance issues or damage.
- **Fuses:** If a fuse blows, replace it only with a fuse of the same type and rating. Using an incorrect fuse can lead to damage or fire.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No Power / Amplifier not turning on	<ul style="list-style-type: none">◦ Blown fuse◦ Loose power or ground connection◦ No remote turn-on signal◦ Vehicle battery low	<ul style="list-style-type: none">◦ Check and replace fuses (use correct rating).◦ Verify all power, ground, and remote connections are secure.◦ Check remote wire connection to head unit.◦ Charge or replace vehicle battery.
No Sound Output	<ul style="list-style-type: none">◦ RCA cables disconnected or faulty◦ Speaker wires disconnected or shorted◦ Gain set too low◦ Head unit volume too low or muted	<ul style="list-style-type: none">◦ Check RCA connections and test cables.◦ Inspect speaker wiring for shorts or disconnections.◦ Increase gain slowly.◦ Increase head unit volume and check mute status.
Distorted Sound	<ul style="list-style-type: none">◦ Gain set too high◦ Improper crossover settings◦ Speaker impedance mismatch◦ Poor ground connection	<ul style="list-style-type: none">◦ Reduce gain until distortion disappears.◦ Adjust HPF/LPF settings appropriately for speakers.◦ Ensure speaker impedance matches amplifier's stable range.◦ Verify ground connection is clean and secure.

Problem	Possible Cause	Solution
Amplifier Overheating (Protection Mode)	<ul style="list-style-type: none"> ◦ Insufficient ventilation ◦ Speaker impedance too low ◦ Prolonged high volume operation ◦ Internal fault 	<ul style="list-style-type: none"> ◦ Ensure adequate airflow around the amplifier. ◦ Check speaker impedance; ensure it's not below 2Ω (4Ω bridged). ◦ Reduce volume or allow amplifier to cool down. ◦ If problem persists, contact customer support.

SPECIFICATIONS

Feature	Detail
Model Name	BSA15.4
Amplifier Type	4 Channel Class AB
Power Output (4Ω)	95W x 4 CH
Power Output (2Ω)	150W x 4 CH
Power Output (4Ω Bridged)	300W x 2 CH
Circuitry	2Ω Stable
Crossover	Variable High & Low Pass
Bass Boost	Rear Channel (Variable)
Cooling	Integrated Cooling Fan
Protection	Thermal Overload, Short Circuit, Excessive Current
Product Dimensions	29.4D x 18.4W x 5.5H centimetres
Included Components	Amplifier, Fuses, Mounting Brackets, Screws, User Manual

WARRANTY AND SUPPORT

The BlackSpider BSA15.4 amplifier comes with a manufacturer's warranty of **1 Year** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

The warranty does not cover damage caused by:

- Improper installation or wiring.
- Accident, abuse, or misuse.
- Exposure to moisture or extreme temperatures.
- Unauthorized repair or modification.

For warranty claims or technical support, please contact your authorized BlackSpider dealer or visit the official BlackSpider website for contact information. Please have your proof of purchase and product model number (BSA15.4) ready when contacting support.

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