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DS18 EXL-SQ600.1

DS18 EXL-SQ600.1 Monoblock Amplifier User Manual

Model: EXL-SQ600.1 | Brand: DS18

INTRODUCTION AND SAFETY INFORMATION

Thank you for choosing the DS18 EXL-SQ600.1 Monoblock Amplifier. This manual provides essential information for the proper installation, operation, and maintenance of your amplifier. Please read this manual thoroughly before attempting installation or operation to ensure optimal performance and safety.

Important Safety Precautions:

- Always disconnect the vehicle's battery negative terminal before installing or servicing any audio components.
- Ensure proper grounding to prevent electrical hazards.
- Use appropriate wire gauges for power and speaker connections as specified in this manual.
- Avoid installing the amplifier in areas exposed to direct sunlight, excessive heat, moisture, or dust.
- Do not attempt to open or modify the amplifier. Refer all servicing to qualified personnel.
- Keep the volume at a level that allows you to hear outside sounds, especially when driving.

PRODUCT OVERVIEW AND FEATURES

The DS18 EXL-SQ600.1 is a high-efficiency, compact Class D monoblock amplifier designed to deliver powerful and clear sound quality. Its robust design and advanced features make it suitable for various car audio applications.



Image: Top view of the DS18 EXL-SQ600.1 Monoblock Amplifier, showcasing its compact design and heat sink fins.

Key Features:

- **Impressive Power:** Capable of 1200 Watts Max power, utilizing state-of-the-art technology for high efficiency.
- **Wide Range of Applications:** Operates from 1-4 ohms, allowing compatibility with various speaker configurations.
- **Full Range Capability:** Designed to handle the full frequency range, suitable for midranges, tweeters, drivers, and coaxial speakers.
- **Bass Knob Included:** Comes with a remote bass knob for convenient control over bass levels.
- **Compact Design:** High efficiency Class D design in a compact form factor.

PACKAGE CONTENTS

Please check the box for the following items:

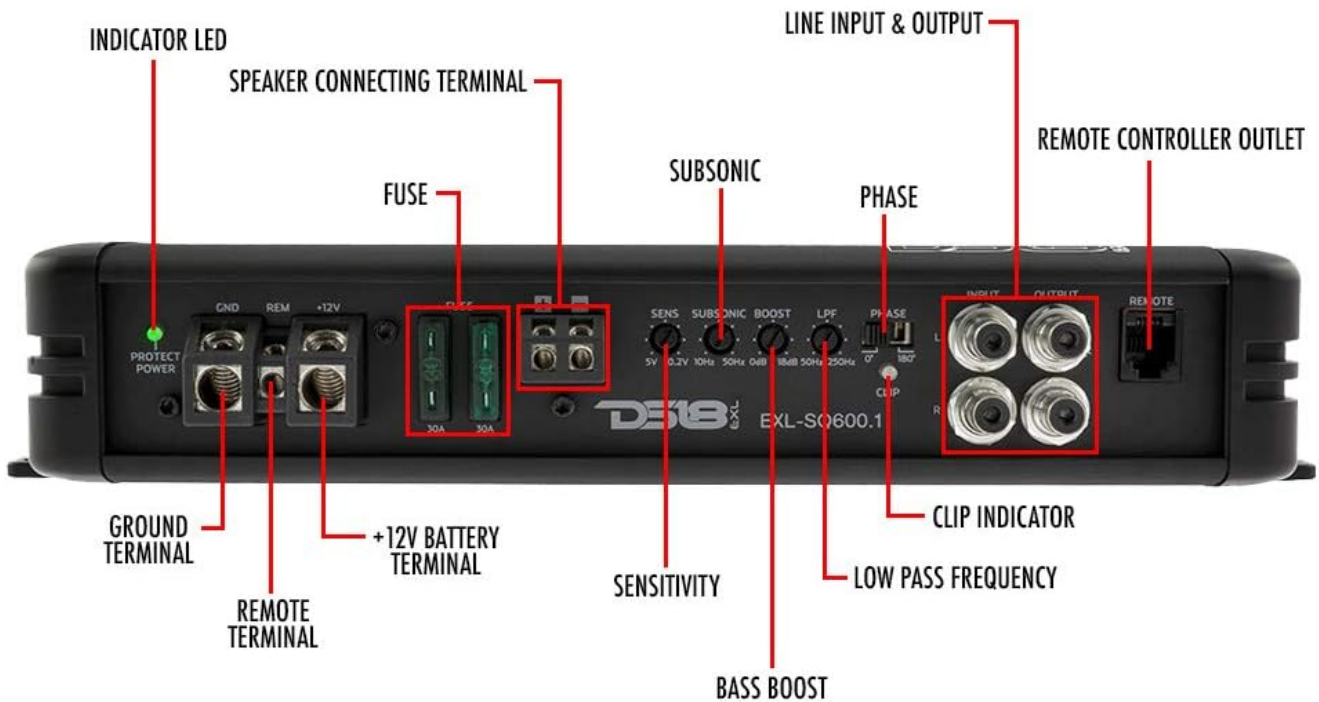
- DS18 EXL-SQ600.1 Amplifier
- Remote Bass Knob
- Mounting Hardware
- User Manual (this document)



Image: The included remote bass knob, used for adjusting bass levels.

CONTROLS AND CONNECTIONS

Familiarize yourself with the various terminals and controls on your amplifier before installation.



CLASS D MONOBLOCK AMPLIFIER 1200 WATTS

Image: Detailed diagram of the DS18 EXL-SQ600.1 amplifier's controls and connection terminals.

- **Indicator LED:** Shows power and protection status.
- **Ground Terminal (GND):** Connects to the vehicle's chassis ground.
- **Remote Terminal (REM):** Connects to the head unit's remote turn-on output.
- **+12V Battery Terminal (+12V):** Connects to the vehicle's positive battery terminal via an inline fuse.
- **Fuse:** Integrated fuses for protection (e.g., 30A x 2).
- **Speaker Connecting Terminal:** Connects to your subwoofer or speakers.
- **Sensitivity (SENS):** Adjusts the input gain to match the head unit's output voltage (0.2V - 5V).
- **Subsonic Filter (SUBSONIC):** Filters out ultra-low frequencies below the audible range to protect subwoofers.
- **Bass Boost (BOOST):** Adjusts the bass level at a specific frequency (e.g., 0dB - 18dB).
- **Low Pass Frequency (LPF):** Adjusts the crossover frequency for the low-pass filter.
- **Phase:** Adjusts the phase of the output signal (0° or 180°).
- **Clip Indicator:** Illuminates when the output signal is clipping.
- **Line Input & Output (RCA):** RCA inputs for audio signal from the head unit and RCA outputs for daisy-chaining to another amplifier.

- **Remote Controller Outlet:** Connects the included remote bass knob.

SETUP AND INSTALLATION

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

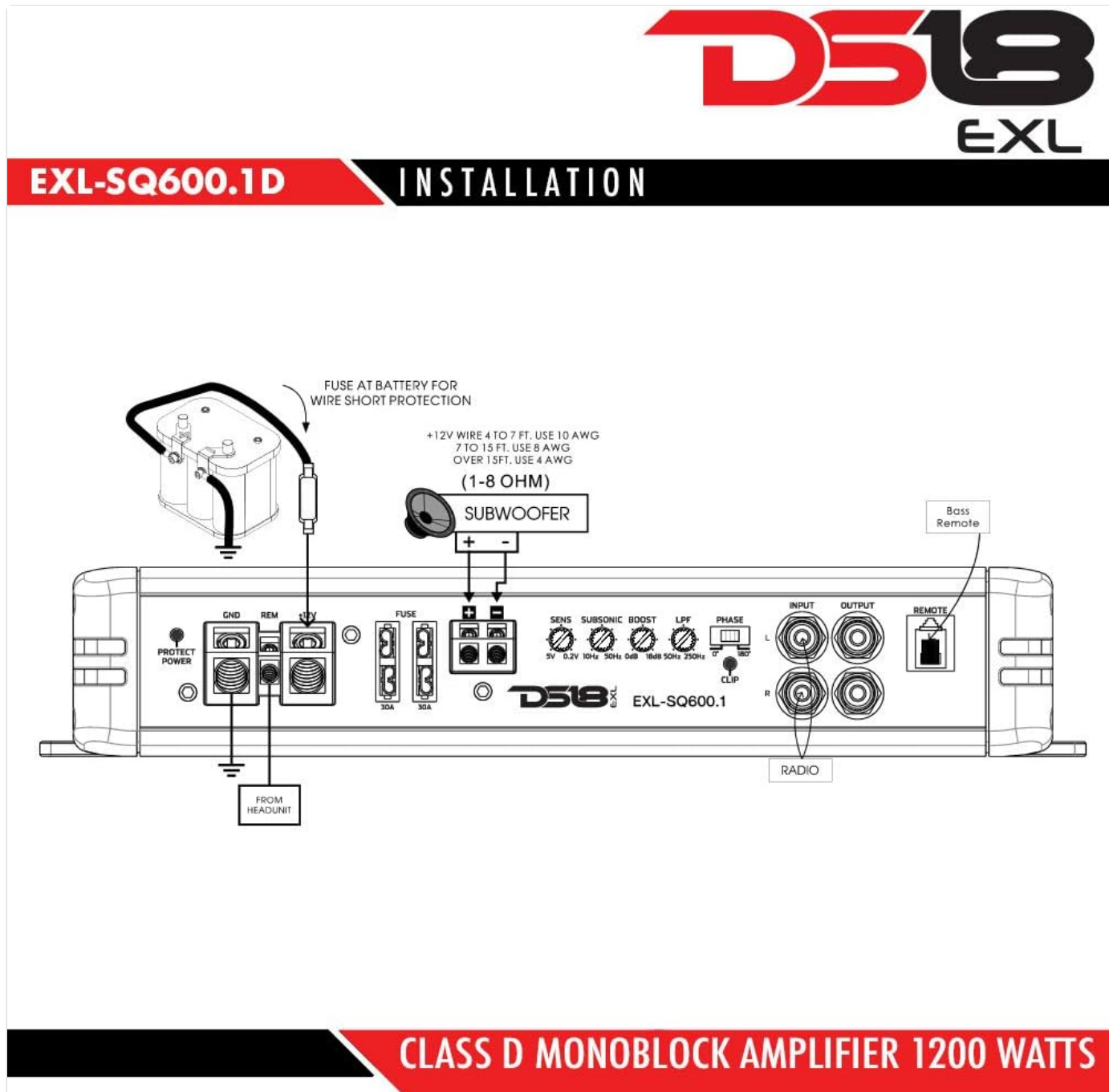


Image: Wiring diagram illustrating the connection of the DS18 EXL-SQ600.1 amplifier to the car battery, head unit, and subwoofer.

Wiring Guidelines:

- **Power Wire (+12V):** Run a power wire directly from the vehicle's positive battery terminal to the amplifier's +12V terminal. Use an appropriate gauge wire (e.g., 8 AWG for runs up to 7 ft, 4 AWG for longer runs) and install an inline fuse (e.g., 60A) within 18 inches of the battery.
- **Ground Wire (GND):** Connect a short (less than 3 ft) ground wire of the same gauge as the power wire from the amplifier's GND terminal to a clean, unpainted metal surface on the vehicle's chassis. Ensure a good electrical connection.
- **Remote Turn-On Wire (REM):** Connect a thin wire (e.g., 18 AWG) from the head unit's remote turn-on output to the amplifier's REM terminal. This wire turns the amplifier on and off with the head unit.
- **RCA Cables:** Connect high-quality RCA cables from the head unit's RCA outputs to the amplifier's LINE INPUT.

- **Speaker Wires:** Connect your subwoofer(s) to the amplifier's speaker terminals. Ensure correct polarity (+ to + and - to -). Refer to your subwoofer's impedance and wiring configuration for optimal performance (e.g., 1-8 Ohm).

Mounting:

- Choose a mounting location that is dry, well-ventilated, and away from direct heat sources or moving parts.
- Ensure sufficient airflow around the amplifier for cooling.
- Use the provided mounting hardware to securely fasten the amplifier to a solid surface.

OPERATING INSTRUCTIONS

Initial Setup and Gain Adjustment:

1. After all connections are made, reconnect the vehicle's battery.
2. Turn on your head unit. The amplifier's power indicator LED should illuminate.
3. Set all amplifier crossover and gain controls to their minimum settings.
4. Set your head unit's volume to about 75% of its maximum level.
5. Slowly increase the amplifier's SENSITIVITY (gain) control until you hear distortion or the clip indicator illuminates. Then, back off slightly until the sound is clear and the clip indicator is off.
6. Adjust the SUBSONIC filter to protect your subwoofer from frequencies below its resonant frequency (typically 20-30Hz).
7. Adjust the LPF (Low Pass Filter) to control the upper frequency limit of the subwoofer (typically 80-120Hz).
8. Use the BASS BOOST control sparingly. Excessive bass boost can cause distortion and damage to speakers.
9. Adjust the PHASE control (0° or 180°) for optimal bass response and integration with other speakers.
10. Use the remote bass knob for convenient real-time bass level adjustments.

Always listen for distortion. If you hear distortion, reduce the volume or gain setting immediately to prevent damage to your speakers and amplifier.

MAINTENANCE

The DS18 EXL-SQ600.1 amplifier requires minimal maintenance. Follow these guidelines to ensure its longevity:

- Keep the amplifier clean and free of dust. Use a soft, dry cloth to wipe the exterior.
- Ensure proper ventilation around the amplifier. Do not block the heat sink fins.
- Periodically check all wiring connections to ensure they are secure and free from corrosion.
- Avoid exposing the amplifier to extreme temperatures or moisture.
- Do not spray cleaning liquids directly onto the amplifier.

TROUBLESHOOTING

If you experience problems with your amplifier, refer to the following troubleshooting guide. Most issues can be resolved by checking the connections and settings.

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	Blown fuse; Loose power/ground/remote wire; No remote signal from head unit; Faulty wiring.	Check and replace fuses; Verify all power, ground, and remote connections are secure; Test remote wire for +12V when head unit is on; Check wiring for shorts or breaks.

Problem	Possible Cause	Solution
Protection LED is on	Speaker short circuit; Overheating; Low voltage; Overload.	Check speaker wiring for shorts; Ensure proper ventilation; Verify battery voltage; Check speaker impedance matches amplifier's capabilities.
No Sound Output	RCA cables disconnected/faulty; Speaker wires disconnected/faulty; Gain too low; Head unit issue.	Check RCA and speaker connections; Increase gain setting; Test head unit output.
Distorted Sound	Gain set too high; Improper crossover settings; Speaker impedance mismatch; Damaged speakers.	Reduce gain; Adjust LPF/Subsonic settings; Verify speaker impedance; Inspect speakers for damage.
Engine Noise / Whining	Poor grounding; RCA cables too close to power wires; Ground loop.	Improve ground connection; Reroute RCA cables away from power wires; Install a ground loop isolator.

If the problem persists after following these steps, contact DS18 customer support or a qualified service technician.

SPECIFICATIONS

Detailed technical specifications for the DS18 EXL-SQ600.1 Monoblock Amplifier.

EXL Amplifiers	MAX Power (Watts)	Channels	RMS Power @ 14V				Speaker Impedance	THD	Input Sensitivity
			4 OHMS	2 OHMS	1 OHM	4 OHMS Bridged			
EXL-SQ160.2	160W	2	2 x 80W	2 x 125W	N/A	1 x 250W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ300.2	300W	2	2 x 150W	2 x 250W	N/A	1 x 500W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ600.2	600W	2	2 x 300W	2 x 420W	N/A	1 x 840W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ1200.2	1200W	2	2 x 600W	2 x 850W	N/A	1 x 1700W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ320.4	320W	4	4 x 80W	4 x 125W	N/A	2 x 250W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ600.4	600W	4	4 x 150W	4 x 250W	N/A	2 x 500W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ1000.4	1000W	4	4 x 250W	4 x 500W	N/A	2 x 720W	2 - 8 OHMS	0.07%	0.2~5V
EXL-SQ600.1	600W	Class D	250W	400W	600W	N/A	1 - 4 OHMS	0.07%	0.2~5V
EXL-SQ1000.1	1000W	Class D	440W	730W	1000W	N/A	1 - 4 OHMS	0.07%	0.2~5V
EXL-SQ1600.1	1600W	Class D	700W	1120W	1600W	N/A	1 - 4 OHMS	0.07%	0.2~5V
EXL-SQ3000.1	3000W	Class D	1300W	2000W	3000W	N/A	1 - 4 OHMS	0.07%	0.2~5V

EXL Amplifiers	Crossover & Switching			Signal to Noise Ratio	Frequency Response	Fuse Size	Dimensions
	High Pass	Low Pass	Bass Boost				
EXL-SQ160.2	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	1 x 25A	184 x 170 x 51mm
EXL-SQ300.2	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	1 x 40A	214 x 170 x 51mm
EXL-SQ600.2	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	2 x 40A	264 x 170 x 51mm
EXL-SQ1200.2	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	4 x 40A	334 x 170 x 51mm
EXL-SQ320.4	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	2 x 25A	264 x 170 x 51mm
EXL-SQ600.4	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	2 x 40A	314 x 170 x 51mm
EXL-SQ1000.4	40Hz-2KHz	40Hz-2KHz	N/A	>90dB	20Hz - 20KHz	4 x 40A	334 x 170 x 51mm
EXL-SQ600.1	40Hz-2KHz	50Hz - 250Hz	0dB - 18dB	>90dB	20Hz - 500Hz	2 x 30A	264 x 170 x 51mm
EXL-SQ1000.1	40Hz-2KHz	50Hz - 250Hz	0dB - 18dB	>90dB	20Hz - 500Hz	3 x 30A	294 x 170 x 51mm
EXL-SQ1600.1	40Hz-2KHz	50Hz - 250Hz	0dB - 18dB	>90dB	20Hz - 500Hz	4 x 40A	384 x 170 x 51mm
EXL-SQ3000.1	40Hz-2KHz	50Hz - 250Hz	0dB - 18dB	>95dB	20Hz - 500Hz	N/A	534 x 170 x 51mm

Image: Table showing detailed specifications for various DS18 EXL series amplifiers, including power, impedance, THD, and dimensions.

Specification	Value
Model	EXL-SQ600.1
Channels	1 (Monoblock)
RMS Power @ 4 Ohms	1 x 250W
RMS Power @ 2 Ohms	1 x 400W
RMS Power @ 1 Ohm	1 x 600W
Max Power	1200W
Frequency Response	20Hz - 500Hz
Signal to Noise Ratio	>90dB
Total Harmonic Distortion (THD)	0.07%
Input Sensitivity	0.2V - 5V
Low Pass Filter (LPF)	50Hz - 250Hz
Subsonic Filter	10Hz - 50Hz
Bass Boost	0dB - 18dB
Fuse Size	2 x 30A
Dimensions (L x W x H)	10.78 x 6.69 x 2 inches (274 x 170 x 51 mm)
Item Weight	5 pounds

WARRANTY AND SUPPORT

DS18 products are designed and manufactured to the highest quality standards. For specific warranty information, please refer to the warranty card included with your product or visit the official DS18 website. Keep your purchase receipt as proof of purchase for warranty claims.

Customer Support:

For technical assistance, troubleshooting, or service inquiries, please contact DS18 customer support:

- **Website:** www.ds18.com
- **Email:** Refer to the website for contact email.
- **Phone:** Refer to the website for contact phone number.

When contacting support, please have your product model number (EXL-SQ600.1) and purchase details ready.