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› DS18 CANDY-XXL4B Candy Compact Full-Range Class D 4-Channel Amplifier User Manual

DS18 CANDY-XXL4B

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User Manual

1. INTRODUCTION

Thank you for choosing the DS18 CANDY-XXL4B Candy Compact Full-Range Class D 4-Channel Amplifier. This amplifier is designed to deliver powerful and clear audio performance in a compact form factor, making it ideal for various vehicle audio installations. This manual provides detailed instructions for installation, operation, and maintenance to ensure optimal performance and longevity of your amplifier.



Figure 1: Front view of the DS18 CANDY-XXL4B Amplifier, showcasing its compact design and matte black finish with red accents.

2. SAFETY INFORMATION

Please read all instructions carefully before installing and operating your amplifier. Failure to follow these guidelines may result in damage to the amplifier, speakers, or vehicle, and may void your warranty.

- Always disconnect the vehicle's battery negative terminal before making any electrical connections.
- Ensure all wiring is properly routed and secured to prevent pinching or damage.
- Use appropriate gauge wiring for power and ground connections as specified in this manual.
- Install the amplifier in a location that allows for adequate ventilation to prevent overheating.
- Do not expose the amplifier to moisture or extreme temperatures.
- If you are unsure about any installation steps, consult a professional car audio installer.

3. PRODUCT FEATURES

The DS18 CANDY-XXL4B amplifier incorporates advanced features for superior audio performance and ease of integration:

- **High Power Output:** Delivers 3200W Peak / 400W RMS x 4 @ 2 Ohm.
- **Compact Design:** Sleek 13-inch frame for easy installation in tight spaces.
- **Pro-Level Tuning:** Built-in Low Pass Filter (LPF), High Pass Filter (HPF), and FULL range crossover options (40Hz–2kHz).
- **Adjustable Bass Boost:** Options for 0dB, 6dB, or 12dB boost at 50Hz.
- **Hi-Level Inputs with Auto Turn-On:** Simplifies integration with factory stereo systems without a remote turn-on wire.
- **Class D Efficiency:** High-efficiency digital design minimizes heat generation.
- **Comprehensive Protection:** Features thermal, overload, short circuit, and voltage protection (9V–16V safe range).
- **Durable Construction:** Matte black finish with quality-tested components.

4. PACKAGE CONTENTS

Upon unpacking, please verify that all items are present and in good condition:

- DS18 CANDY-XXL4B 4-Channel Amplifier
- High-Level Input Harness
- Mounting Screws
- Allen Wrenches (for terminal connections)
- Mounting Spacers/Washers

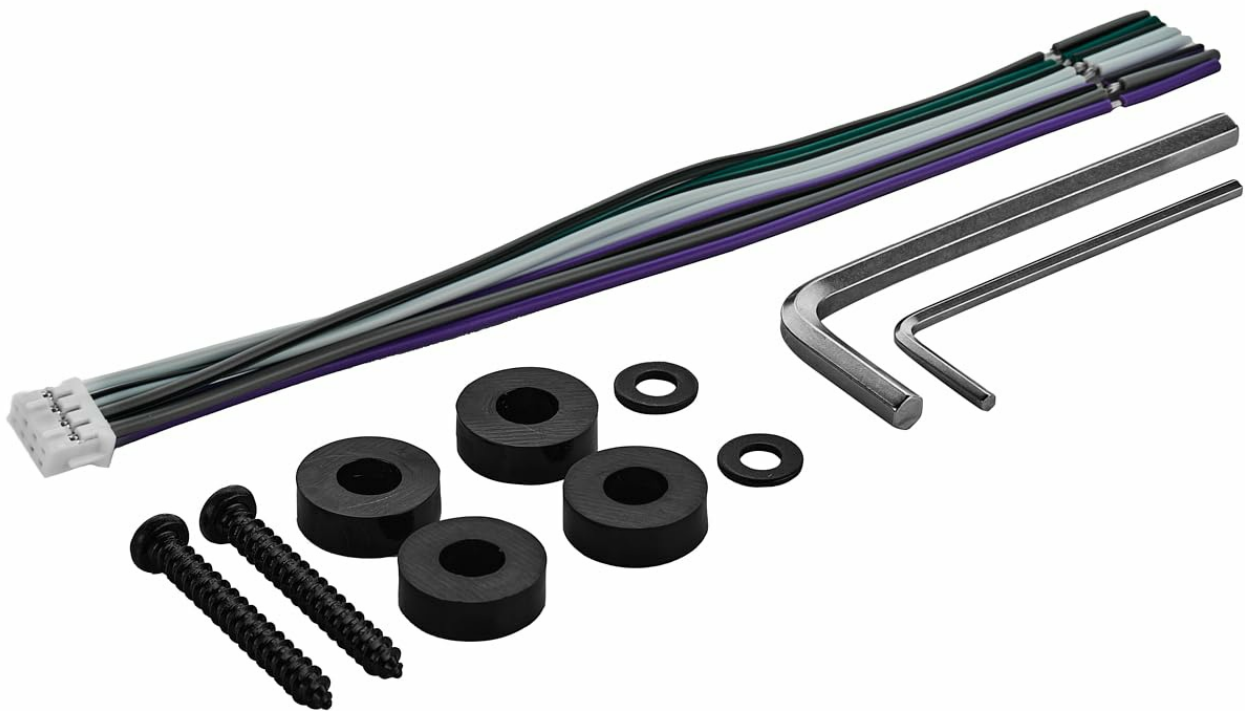


Figure 2: Contents of the amplifier package, including the high-level input harness, mounting hardware, and Allen wrenches.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your amplifier. Follow these steps carefully:

5.1 Mounting Location

- Choose a dry, well-ventilated location away from direct sunlight or heat sources.
- Ensure the mounting surface is sturdy enough to support the amplifier's weight.
- Allow at least 2 inches (5 cm) of clearance around the amplifier for proper airflow.
- Avoid mounting the amplifier directly on subwoofer enclosures, as vibrations can cause damage.

5.2 Wiring Connections

Before making any connections, disconnect the vehicle's negative battery terminal. Refer to Figure 3 for terminal layout.



Figure 3: Rear view of the amplifier, detailing the power input, ground, remote, fuse, and speaker output terminals.

1. Power Connection (+12V):

Connect a 4 GA power cable from the vehicle's positive battery terminal to the +12V terminal on the amplifier. Install an in-line fuse holder (not included) within 18 inches (45 cm) of the battery. The amplifier requires two 50A fuses (total 100A), so ensure your in-line fuse matches or exceeds this rating.

2. Ground Connection (GND):

Connect a 4 GA ground cable from the GND terminal on the amplifier to a clean, unpainted metal surface on the vehicle's chassis. Ensure a solid, low-resistance connection. The ground cable should be as short as possible, ideally less than 3 feet (1 meter).

3. Remote Turn-On (REM):

Connect a remote turn-on wire from your head unit's remote output to the REM terminal on the amplifier. If using high-level inputs, the amplifier features an auto turn-on function, and a remote wire connection may not be necessary.

4. Input Connections (RCA / High-Level):

RCA Input: Connect RCA cables from your head unit's pre-amp outputs to the RCA input jacks on the amplifier

(CH1/2 and CH3/4). Ensure correct channel matching (Left/Right).

High-Level Input: If your head unit does not have RCA outputs, use the supplied high-level input harness. Connect the speaker wires from your head unit's speaker outputs to the corresponding wires on the high-level input harness. Plug the harness into the amplifier's high-level input port. The amplifier will automatically turn on when it detects an audio signal.

5. **Speaker Connections:**

Connect your speakers to the speaker output terminals (CH1, CH2, CH3, CH4). Ensure correct polarity (+ to + and – to –). The amplifier supports 2 Ohm stereo and 4 Ohm bridged configurations. Refer to the "Specifications" section for power ratings based on impedance.

Bridged Mode: For bridging channels (e.g., CH1 and CH2 for a single speaker), connect the speaker's positive (+) terminal to CH1+ and the speaker's negative (-) terminal to CH2-. Ensure the speaker impedance is 4 Ohms when bridging.

6. OPERATING AND TUNING

Once all connections are secure, you can power on the amplifier and begin tuning. Refer to Figure 4 for control layout.



Figure 4: Top view of the amplifier, highlighting the input, gain, crossover, and bass boost controls for channels 1/2 and 3/4.

- **Power/Protection LED Indicator:**

A blue LED indicates the amplifier is powered on and operating normally. A red LED indicates the amplifier is in protection mode due to an issue (e.g., overheating, short circuit, voltage anomaly).

- **Gain Control (MIN/MAX):**

Adjusts the input sensitivity of the amplifier to match the output voltage of your head unit. Start with the gain at minimum (MIN). Play a familiar track at about 75% of your head unit's maximum volume. Slowly increase the amplifier's gain until you hear slight distortion, then back off slightly. This ensures maximum clean output.

- **Crossover Selector (LPF / FULL / HPF):**

This switch determines the frequency range that the amplifier will output to the speakers.

- **LPF (Low Pass Filter):** Allows only frequencies below the set frequency to pass. Ideal for subwoofers.
- **FULL:** Allows all frequencies to pass. Ideal for full-range speakers.
- **HPF (High Pass Filter):** Allows only frequencies above the set frequency to pass. Ideal for component speakers or tweeters to prevent low-frequency distortion.

- **Crossover Frequency Control (FREQ):**
When LPF or HPF is selected, this knob adjusts the cutoff frequency from 40Hz to 2kHz. Adjust this based on your speaker type and desired sound. For example, for door speakers, you might set HPF around 80-100Hz to remove bass they cannot reproduce effectively.
- **Bass Boost (0 / 6 / 12dB):**
Provides an adjustable bass boost at 50Hz. Use this feature sparingly, as excessive bass boost can lead to distortion and potential speaker damage. Start at 0dB and increase only if desired.

7. MAINTENANCE

The DS18 CANDY-XXL4B amplifier is designed for reliable operation with minimal maintenance. However, periodic checks can help ensure its longevity:

- **Cleaning:** Use a soft, dry cloth to wipe down the amplifier's exterior. Do not use harsh chemicals or abrasive cleaners.
- **Connections:** Periodically check all power, ground, remote, and speaker connections to ensure they are secure and free from corrosion. Loose connections can cause performance issues or damage.
- **Ventilation:** Ensure that the area around the amplifier remains clear of obstructions to allow for proper heat dissipation.

8. TROUBLESHOOTING

If you experience issues with your amplifier, consult the following troubleshooting guide before contacting support:

Problem	Possible Cause	Solution
No Power (Blue LED Off)	Blown fuse, loose power/ground connection, no remote signal.	Check amplifier fuses and in-line battery fuse. Verify +12V, GND, and REM connections. Ensure head unit is on and sending remote signal.
Protection Mode (Red LED On)	Overheating, short circuit in speaker wiring, speaker impedance too low, voltage outside operating range.	Turn off amplifier and allow to cool. Check speaker wiring for shorts. Verify speaker impedance matches amplifier's minimum. Check vehicle's battery voltage (9V-16V).
No Sound Output	Input cables disconnected, gain too low, speaker wires disconnected, head unit settings.	Check RCA/high-level input connections. Adjust gain control. Verify speaker connections. Check head unit's volume and output settings.
Distorted Sound	Gain set too high, improper crossover settings, poor ground connection, damaged speaker.	Reduce gain. Adjust crossover settings. Check ground connection for cleanliness and security. Inspect speakers for damage.
Engine Noise / Whine	Poor ground connection, RCA cables too close to power wires, faulty RCA cables.	Ensure amplifier and head unit have solid, separate ground points. Route RCA cables away from power cables. Try different RCA cables.

9. SPECIFICATIONS

Detailed technical specifications for the DS18 CANDY-XXL4B amplifier:

Category	Specification
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Category	Specification
General Specs	
Total Peak Power	3200W
RMS Power @ 4 Ohm	220W x 4
RMS Power @ 2 Ohm	400W x 4
RMS Power @ 4 Ohm (Bridged)	750W x 2
Audio Performance	
Frequency Response	20Hz – 20KHz
Signal-to-Noise Ratio	70dB
Efficiency @ 4 Ohm	>75%
Damping Factor	26
Input Impedance	10K Ohm
Channel Separation	50dB
Total Harmonic Distortion (THD)	0.50%
Low-Level Input Range	0.2V – 6V
High-Level Input	Yes (2V – 10V)
Selectable Crossover	LPF / FULL / HPF
Crossover Filter Range	40Hz – 2kHz
Bass Boost	0 / 6 / 12dB
Bass Boost Frequency	50Hz
Infrasonic Filter	No
Phase Selector	No
Features	
Amplifier Class	Digital (Class D)
Type	Stereo Full Range
Channels	4
Minimum Impedance	2 Ohm Stereo / 4 Ohm Bridged
LED Indicator	Power / Protection
Power Input Terminal Size	4 GA
Fuse Size	50A x 2
Remote Level Control	Not Included

Category	Specification
Cooling Fan	No
Voltmeter	No
Thermal Protection	Yes (>158°F)
Overload Protection	Yes
DC Output Protection	No
Short Circuit Output Protection	Yes
Voltage Input Protection	Yes (9V – 16V)
Clipping Protection	No
Finish	Matte Black
Extra Features	
Hi-Level Input with Auto Turn-On	Yes
Input Selector	No
Compact Design for Easy Installation	Yes
Surface Mount Component Technology	Yes
Precision QC Testing (Audio Precision Instruments)	Yes
Physical Dimensions	
Overall Length	13" / 330mm
Overall Width	5.9" / 150mm
Overall Height	2.16" / 55mm
Heatsink Length	11.8" / 300mm
Gross Weight	2.8 Kg

10. WARRANTY AND SUPPORT

DS18 products are designed and manufactured to the highest quality standards. For specific warranty information and terms, 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.

For technical support, troubleshooting assistance beyond this manual, or warranty inquiries, please contact DS18 customer service through their official website or the contact information provided with your product.

DS18 Official Website: ds18.com

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