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**DS18 FRP-8K/BL**

# DS18 FRP-8K/BL Compact Monoblock Full-Range Class-D Amplifier User Manual

Model: FRP-8K/BL

## 1. Introduction

Thank you for choosing the DS18 FRP-8K/BL Compact Monoblock Full-Range Class-D Amplifier. This amplifier is designed to provide high-power audio output for car audio systems, featuring a compact design, efficient Class-D operation, and advanced protection circuits. This manual provides detailed instructions for proper installation, operation, and maintenance to ensure optimal performance and longevity of your amplifier.

Please read this manual thoroughly before attempting installation or operation. Keep this manual for future reference.




*Image 1.1: DS18 FRP-8K/BL amplifier with its included remote level control knob.*

## 2. Safety Information

To prevent injury or damage to the amplifier, vehicle, or other property, please observe the following safety precautions:

- Always disconnect the vehicle's battery negative terminal before making any electrical connections.
- Ensure all wiring is properly routed and secured to prevent pinching, cutting, or short circuits.
- Use appropriate gauge wiring for power and ground connections as specified in this manual.
- Install the amplifier in a dry, well-ventilated location away from direct sunlight, heat sources, and moisture.
- Do not operate the amplifier if it is damaged or malfunctioning. Refer to the troubleshooting section or contact technical support.
- Avoid exposing the amplifier to extreme temperatures or vibrations.
- Professional installation is recommended for optimal performance and safety.

## 3. Package Contents

Verify that all items are present in the package:

- DS18 FRP-8K/BL Monoblock Full-Range Class-D Amplifier
- Remote Level Control Knob with Cable
- Power & Ground Terminals (0GA compatible)
- Mounting Hardware (Screws)
- User Manual (This Document)




*Image 3.1: The amplifier includes 0GA compatible power and ground terminals.*

## 4. Product Overview and Features

The DS18 FRP-8K/BL amplifier is engineered for high-performance car audio applications. Key features include:

- **High Power Output:** Provides 8000W RMS at 1 Ohm.
- **Compact Class-D Design:** Efficient power delivery in a space-saving form factor.
- **Smart Cooling System:** Integrated thermal management and cooling fans to maintain optimal operating temperature.
- **LED Indicators:** Power (PWR), Clipping (CLIP), and Protection (PRT) indicators for system status monitoring.
- **Variable Filters:** Adjustable Low-Pass Filter (LPF), High-Pass Filter (HPF), and Subsonic Filter for precise audio tuning.
- **Bass Boost:** Up to 12dB of adjustable bass boost at 50Hz.
- **0GA Power Terminals:** Designed for maximum current flow and secure connections.
- **Comprehensive Protection:** Includes short circuit, thermal, DC offset, and high/low voltage protection.
- **Tiffany RCA Inputs:** High-quality RCA connections for signal integrity.




*Image 4.1: The compact design of the FRP-8K/BL amplifier allows for flexible installation.*




*Image 4.2: The amplifier features smart cooling and comprehensive protection circuits.*

## 5. Setup and Installation

### 5.1 Mounting Location

Choose a mounting location that is:

- Dry and free from moisture.
- Well-ventilated to allow for proper heat dissipation.
- Secure, preventing movement or damage during vehicle operation.
- Accessible for wiring and adjustments.

Avoid mounting the amplifier directly on carpet or in enclosed spaces without airflow.

### 5.2 Wiring Connections

Before making any connections, disconnect the vehicle's battery negative terminal. Ensure all connections are secure and properly insulated.

#### 5.2.1 Power and Ground Connections

1. **+12V (Power):** Connect a 0-gauge power cable directly from the positive terminal of the vehicle's battery to the +12V terminal on the amplifier. Install an appropriate fuse (not included) within 18 inches (45 cm) of the battery.
2. **GND (Ground):** Connect a 0-gauge ground cable from the GND terminal on the amplifier to a clean, unpainted metal surface of the vehicle chassis. Ensure a solid, low-resistance connection.
3. **REM (Remote Turn-On):** Connect a 18-gauge 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.




*Image 5.1: Power, Remote, and Ground connections on the amplifier.*

### 5.2.2 Audio Input Connections (RCA)

Connect RCA cables from your head unit's pre-amp outputs to the RCA INPUT terminals on the amplifier. Ensure correct left (L) and right (R) channel connections.

### 5.2.3 Speaker Output Connections

Connect your speakers to the SPEAKER OUTPUT terminals. This is a monoblock amplifier, so ensure your speakers are wired to present a stable impedance to the amplifier (minimum 1 Ohm). Refer to the specifications for recommended speaker configurations.




*Image 5.2: RCA input, control panel, and speaker output terminals.*




*Image 5.3: Detail of the Tiffany RCA inputs and speaker output connections.*

## 6. Operating Instructions

### 6.1 Control Panel Adjustments

The amplifier features several controls for fine-tuning your audio system:

- **GAIN:** Adjusts the input sensitivity of the amplifier to match the output of your head unit. Start with the gain at minimum and slowly increase until desired volume is achieved without distortion.
- **HPF (High-Pass Filter):** Adjusts the frequency above which signals will pass. Useful for protecting mid-range speakers or tweeters from low frequencies. (Range: 10Hz - 2KHz)
- **LPF (Low-Pass Filter):** Adjusts the frequency below which signals will pass. Essential for subwoofers to reproduce only low frequencies. (Range: 40Hz - 15KHz)
- **BASS BOOST:** Increases the bass output at 50Hz. Use sparingly to avoid distortion. (Adjustable up to 12dB)
- **SUBSONIC FILTER:** Filters out extremely low frequencies below the audible range, which can waste amplifier power and damage subwoofers. (Range: 10Hz - 80Hz)




*Image 6.1: Detailed view of the amplifier's control panel for audio adjustments.*

### 6.2 LED Indicators

The amplifier features three LED indicators on its top panel:

- **PWR (Power):** Illuminates blue when the amplifier is powered on and operating normally.
- **CLIP (Clipping):** Illuminates red when the input signal is too high, causing distortion. Reduce the gain or head unit volume to prevent clipping.
- **PRT (Protection):** Illuminates red when the amplifier enters protection mode due to a fault (e.g., short circuit, overheating, low/high voltage). Turn off the system and diagnose the issue.

### 6.3 Remote Level Control

The included remote level control knob allows for convenient adjustment of the amplifier's output level from the driver's seat. Connect the remote knob to the 'REMOTE' port on the amplifier. This control typically adjusts the bass level.

## 7. Maintenance

Regular maintenance ensures the longevity and performance of your amplifier:

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners. Ensure cooling fins are free of dust and debris.
- **Connection Check:** Annually inspect all power, ground, remote, RCA, and speaker connections. Ensure they are tight and free from corrosion. Loose connections can cause power loss or intermittent operation.
- **Ventilation:** Ensure the amplifier's mounting location remains well-ventilated and free from obstructions to airflow.

## 8. Troubleshooting

If you experience issues with your amplifier, refer to the following troubleshooting guide:

| Problem | Possible Cause | Solution |
|---|---|---|
| **Amplifier does not turn on (PWR LED off)** | Blown fuse<br>Loose power or ground connection<br>No remote turn-on signal | Check and replace fuse if necessary.<br>Verify all power, ground, and remote connections are secure.<br>Check head unit's remote output. |
| **Amplifier goes into protection mode (PRT LED on)** | Overheating<br>Speaker short circuit<br>Speaker impedance too low<br>DC offset or voltage issue | Allow amplifier to cool down. Ensure proper ventilation.<br>Check speaker wiring for shorts.<br>Verify speaker impedance is 1 Ohm or higher.<br>Check vehicle's battery voltage and charging system. |
| **No sound output** | RCA cables disconnected or faulty<br>Speaker wires disconnected or faulty<br>Gain set too low<br>Head unit volume too low or muted | Check RCA connections and cables.<br>Verify speaker wiring.<br>Increase gain setting gradually.<br>Check head unit settings. |
| **Distorted sound (CLIP LED on)** | Gain set too high<br>Head unit volume too high<br>Improper filter settings | Reduce gain until CLIP LED is off or flashes minimally.<br>Lower head unit volume.<br>Adjust HPF/LPF/Subsonic filters for optimal sound. |

## 9. Specifications

Technical specifications for the DS18 FRP-8K/BL amplifier:

| Feature | Specification |
|---|---|
| Model Number | FRP-8K/BL |
| RMS Power @ 1 Ohm | 8000W |
| RMS Power @ 2 Ohm | 5000W |
| RMS Power @ 4 Ohm | 2500W |
| Amplifier Class | Class-D |
| Frequency Response | 10Hz - 20KHz |
| Low-Pass Filter (LPF) | 40Hz - 15KHz |
| High-Pass Filter (HPF) | 10Hz - 2KHz |

| Feature | Specification |
|---|---|
| Subsonic Filter | 10Hz - 80Hz |
| Bass Boost | 0-12dB @ 50Hz |
| Input Sensitivity | 0.2V - 6V |
| Signal-to-Noise Ratio | >90dB |
| Minimum Impedance | 1 Ohm |
| Power Input Gauge | 0GA |
| Protection Features | Thermal, Overload, Short Circuit, DC Offset, High/Low Voltage |

## 10. Warranty and Support

### 10.1 Warranty Information

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

### 10.2 Technical Support

If you encounter any issues not covered in the troubleshooting section or require further assistance, please contact DS18 technical support. Contact information can be found on the official DS18 website:

www.ds18.com

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